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QUESTION: Should DAMON Be Terminated?

THE DAMON PROGRAM

DAMON is an early shuttle experiment--to understand management, technical and operational shuttle interfaces for NRO payloads.

Closed end program with flights scheduled for Summers of 1982 and 1983.

ISSUES

1. NRO Benefits

    a. Sets National Security precedent for the Shuttle.

    b. Develop transition to Shuttle experience.

       - Payload planning/integration/flight development.

       -- Transition of existing complex payload--concentrated integration aspects--minimize technical risks.

       -- Flight operatives of STS/Johnson and payload operations through Sunnyvale.

       - Security protection--NASA security education development/exercises security system.

       -- Control mode operation at JSC.

       -- Payload access during integration and at pad.

       -- Launch announcements--classified DOD payload.

       - Integrated operational procedures.

       -- Coordinated shuttle payload activities.

       -- Interactive payload specialist/payload operation and evaluation.

       - Shuttle support capability (mechanical, electrical).

       -- Stability and loading, structural bending.

       -- Degree of regulation of shuttle power must be ascertained.

       - Shuttle enviroment.

       -- Thermal, acoustical, contamination and EMI environments.

DAMON [   ] HEXAGON **Handle via BYEMAN Control System**

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

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

     d. DAMON shuttle experiment is built around a film based imagery payload.

     - Use of HEXAGON camera: Inexpensive, spares available, known and proven system.

     - Demonstrate ability to integrate and operate a complex sensitive payload.

     -- Determine if camera can be reflown with minimum refurbishment.

     -- Learn how last camera can be prepared for reflight.

     - Provide useful supplemental search imagery--may serve as a temporary backup imagery system.

     -- Capable of imagery 12-15 million square nautical miles of ground in stereo in a single sortie mission.

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-- Quality of data will be NIIRS 3 to 5.

-- Color film [   ]   (b)(1)

capability for economic and drug traffic analyses.   (b)(3)

    2.   Shuttle

        a. Shuttle will become the sole avenue to space. The NRO will be completely reliant on the shuttle for launches of satellites beyond the mid 1980s.

        - Evaluate shuttle benefits as well as limitations.

        -- Advantages of shuttle will become clearer as we gain experience with it through the DAMON experiment.

        -- Limitations of the shuttle will be highlighted and compromises will have to be made.

        - Possible shuttle schedule slips.

        -- DAMON is flexible with regard to shuttle schedule changes.

        --- DAMON could fly on the first operational flight or evan an operational test flight.

        --- DAMON can respond to schedule changes with little impact.

        --- DAMON program includes no-cost storage contingency if shuttle is delayed.

        --- Whenever DAMON flies it still precedes and benefits [   ] and all other NRO programs.   (b)(1)

    3.   Costs   (b)(3)

        a. DAMON termination only saves $21.7M in FY81.

        - Potential vlaue of knowledge far exceeds budget cost.

        - Experience gained could save [   ] and   (b)(1)

others from serious technical security impacts.   (b)(3)

        b. DAMON delay for one year is not a technically or fiscally wise move.

        - It will cost more to slip a year than to finish building and store the payload until shuttle is available for integration.

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- If DAMON is delayed and the shuttle slips less
than one year we would miss the schedule flight.
- Prelaunch planning and integration "lessons
learned" will not accrue to [   ]   (b)(1)
4. Conclusions   (b)(3)
        a. DAMON is a cost-effective NRO experiment to:
        - Enhance NRO programs' shuttle use (security,
planning, integration).
        - Maximize NRO programs' shuttle exploitation
(data bank).
        b. DAMON schedule flexible with respect to shuttle
schedule adjustments. Little cost impact for slips.
        c. DAMON will provide useful search type imagery.
DAMON could serve as a temporary backup.
        d. Recommend continuation of DAMON.
            - Benefits to NRO programs are:
                -- Timely, vital and necessary.
                -- Inexpensive.
                -- Provides temporary backup capability through
1984.

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Press Point Paper
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QUESTION: Should DAMON Be Terminated?

THE DAMON PROGRAM

   DAMON is an early <u>shuttle</u> experiment--to understand
technical and operational shuttle interfaces for NRO payloads.

ISSUES

   1.   NRO Benefits

       a.   Sets National Security precedent for the Shuttle.

       b.   Develop transition to shuttle experience.

           - payload planning/integration/flight development.

           - security protection.

           - integretated operational procedures.

           - shuttle support capability (mechanical, electrical)

           - shuttle environment (contamination, thermal

acoustics).

       c.   Data Bank - "Lessons Learned"

           - acquires knowledge which will benefit [   ]
[   ] all other NRO (as well as DOD) programs.   (b)(1) (b)(3)

           - knowledge gathered early with inexpensive
experiment rather than later with [   ]   (b)(1) (b)(3)
[   ].

           - DAMON leads [   ] adequately to preclude
serious problems or compromise.

       d.   DAMON shuttle experiment is built around a film-
based imagery payload.

           - HEXAGON spares: known system, inexpensive.

           - demonstrate ability to integrate, operate a
complex, sensitive payload (non-trivial experiment).

           - Corollary benefit:

             -- useful supplemental search imagery.

             -- possible temporary backup imagery system.

[   ] HEXAGON DAMON   **Handle via BYEMAN**   (b)(1)
                                         Control System   (b)(3)

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2. Shuttle

    a. Shuttle will become the sole avenue to space.

    - evaluate shuttle benefits, limitations.

    b. Possible shuttle schedule slips.

    - DAMON is not completely sensitive to shuttle schedule.

    -- could fly on first operational flight or even an operational test flight.

    c. DAMON program includes no-cost storage contingency if shuttle is delayed.

    d. Whenever DAMON flys--it still precedes--and benefits-- NRO programs (and DOD programs).

3. Costs

    a. DAMON termination

    - only saves $21.7M in FY81.

    - potential value of shuttle knowledge exceeds cost; could save [   ] from costly technical, procedural, or security impact.   (b)(1) (b)(3)

    b. DAMON delay

    - program stretch costs more than payload completion and no-cost storage.

    - may miss shuttle availability with minimum shuttle schedule slip.

    - prelaunch planning/integration "lessons learned" may not accrue to near term NRO launches.

CONCLUSIONS

1. DAMON is a cost-effecitve NRO experiment to:

    a. Enhance NRO programs' shuttle use (security, planning, integration).

    b. Maximize NRO programs' shuttle exploitation (data bank).

2. DAMON is not completely sensitive to shuttle schedule adjustments.

3. DAMON will provide useful imagery; may serve as a temporary backup.

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4. Recommend continuation of DAMON.

    a. Most cost effective regardless of shuttle schedule adjustments.

    b. Benefits to NRO programs are:
   - timely, vital, and necessary.
   - inexpensive.

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