GAMBIT HEXAGON [redacted] DAMON [redacted] (b)(1) (b)(3)

THE DAMON PROGRAM

Background:

The use of Shuttle to place NRO satellites into orbit represents the most extensive change that the National Reconnaissance Program (NRP) has undergone in twenty years. The impact of this far-reaching change will be experienced in all phases of the NRO mission preparation and execution process, i.e., ground processing, launch and on-orbit operations. There are a number of open issues and questions which should be answered before full scale NRP Shuttle operations are initiated with operational spacecraft [redacted] DAMON offers a low risk and an inexpensive means to obtain answers to many of these critical questions as well as to provide useful search imagery. (b)(1) (b)(3)

Objectives:

The major objectives of the DAMON experiment are:

1) To act as a precursor/pathfinder for major NRO/STS payloads [redacted] (b)(1) (b)(3)

2) To serve as a backup/gap filler in the 82-84 timeframe when we will be operating with limited resources (GAMBIT, HEXAGON [redacted] (b)(1) (b)(3)

3) Lastly, it may serve as a testbed to determine if metric data for mapping, charting and geodesy can be obtained from a sortie flight.

Scope:

1) The DAMON program will establish the procedures for use of the STS for reconnaissance operations. These procedures must be developed and validated to ensure that NRO missions are accomplished with the high level of success which is demanded of them. In addition, the STS operation procedures must satisfy the BYEMAN and DOD security requirements for NRO payloads. The integration of complex paylods on the Shuttle will be a technically demanding and critical task. The payload-launch vehicle integration will involve every aspect of planning, analysis, scheduling, interfacing and physical interaction

between the Shuttle and payload. The process can be planned in great detail but only when actual hardware is processed and integrated does the final readiness status become apparent. Often the NRO has employed pathfinder operations to uncover serious problems in vehicle configurations, procedural deficiencies and facility incompatibilities. Without the benefit of DAMON, the more important and expensive NRO projects will be subjected to increased risk (performance, schedule and cost).

2) The DAMON program can provide a significant amount of useful search-type imagery. A single sortie mission will be capable of imaging cloud free approximately 7 million square nautical miles of ground in stereo and will have a capability for mixed mono-stereo operations. The quality of the data will be NIIRS 3 to 5. In addition to black and white, DAMON has the potential for collecting color [redacted] for economic and drug traffic analyses. (b)(1) (b)(3)

3) The DOD has requested that we consider adding the additional hardware to evaluate whether metric data can be collected from a Shuttle sortie mission. This stems from the concern over satisfying DMA requirements in the late 1980's.

Summary:

In summary, it is essential to continue the DAMON program on schedule.

The roles of DAMON as a Shuttle pathfinder, a backup search collector and a possible MC&G experiment make it a critical program for the NRO. The costs are minimal, but the payoff is great.