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SECRET
HANDLE VIA BYEMAN

CONTROL SYSTEM

DISTRIBUTION

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S E C R E T 022335Z MAR 77 CITE CHARGE 2999
WHIG
HANDLE VIA BYEMAN CHANNELS ONLY
HEXAGON/EARPOP
FOR: [redacted] 25X1
SUBJECT: HEXAGON SUB-SATELLITE AVAILABILITY
REF: WHIG 0359
1. SUB-SATELLITE SPACE IS AVAILABLE ON HEXAGON VEHICLES 16, 17, AND 18. HOWEVER, BOOSTER LIMITATIONS SEVERELY RESTRICT THE CAPABILITY TO SUPPORT EITHER SUB-SATELLITE OR PALLET RIDERS, OR BOTH. BOTH BOOSTER AUTOPILOT STABILITY AND BOOSTER THROW-WEIGHT CAPABILITY MUST BE CONSIDERED IN DETERMINING RIDER AVAILABILITY ON A PER-VEHICLE BASIS.
2. BOOSTER THROW-WEIGHT CAPABILITY IS DETERMINED BY GROUND TEST FIRING OF BOOSTER ENGINES, WHICH HAS NOT OCCURRED FOR BOOSTERS ALLOCATED FOR SV-17 AND 18. PRELIMINARY ANALYSES OF SV-16'S BOOSTER ENGINE FIRING DATA INDICATES THAT SV-16 COULD ACCOMMODATE EITHER A P-989 SUB-SATELLITE OR A 250-300 LB

PAGE 2 CHARGE 2999 S E C R E T
SUB-SATELLITE BUT NOT BOTH.
3. BOOSTER AUTOPILOT STABILITY ANALYSIS FOR SV-16 AND UP CAN ONLY BE ACCOMPLISHED AFTER DETAILED SATELLITE VEHICLE (INCLUDING RIDERS) WEIGHT AND CENTER-OF GRAVITY ARE DETERMINED. RESULTS OF THIS ANALYSIS COULD LEAD TO A MINOR AUTOPILOT MODIFICATION (APPROXIMATELY $200-300K) OR TO A MAJOR AUTOPILOT RE-DESIGN (APPROXIMATELY $2M).
4. ASSUMING THAT BOOSTER THROW-WEIGHT AND AUTOPILOT CONSIDERATIONS ARE OVERCOME, THE FOLLOWING RIDER ALLOCATION CAN BE PLANNED.
SV-14 SAMSO (S77-2) PALLET AND RACQUEL 1A (P-989)
SV-15 URSALA IV (P-989)
SV-16 LORRI PALLET AND PROJECTED S/S NBR 1
SV-17 FARRAH (P-989)
SV-18 PROJECTED S/S NBR 2
5. HEXAGON RIDER AVAILABILITY CAN ONLY BE ACCURATELY DETERMINED WHEN ALL BOOSTER, SATELLITE VEHICLE AND RIDER FACTORS ARE KNOWN AND ANALYZED. ALSO, IT SHOULD BE APPARENT FROM PARAGRAPH 4 ABOVE THAT IF ANY RIDER FAILS TO MEET THE ASSIGNED RIDE, OR IF

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PAGE 3 CHARGE 2999 S E C R E T
THE BOOSTER CONSTRAINTS FURTHER RESTRICT RIDER AVAILABILITY, [redacted]

SCHEDULE COMPLI[illegible] LOWEST-PRIORITY
RIDER.POSSIBLE MISSING A RIDE.
E-2 IMPDET
S E C R E T
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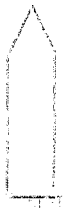

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