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INFO [REDACTED] CITE [REDACTED]

REF: A. [REDACTED]

1. IN THE CONSIDERATION OF AN ORBIT FOR A-21, THE FOLLOWING SHOULD BE INCLUDED:

A. THERE IS SOME PROBABILITY OF AN INJECTION DISPERSION WHICH WOULD PRECLUDE COMPLETION OF ANTICIPATED COVERAGE IN THE INITIALLY CONTEMPLATED NUMBER OF REVOLUTIONS. (EQUATORIAL SPACING TOO CLOSE). ONE SOLUTION TO THIS IS TO PROVIDE FOR SUFFICIENT FILM AND BATTERY POWER TO ENABLE OPERATION FOR APPROXIMATELY ONE ADDITIONAL DAY IF REQUIRED.

B. ANALYSIS OF MANY AGENA FLIGHTS HAS SHOWN THAT THROUGHOUT THE FIRST TEN TO SIXTEEN REVOLUTIONS, IT IS SUBJECTED TO A NON-LINEAR AND UNPREDICTABLE FORCE OF UNKNOWN ORIGIN (PERHAPS OUTGASSING FROM A RESIDUE IN THE ENGINE). THIS PERTURBS THE ORBIT SUFFICIENTLY IN THIS PERIOD TO POSSIBLY PREVENT THE HIGHLY PRECISE ORBIT DETERMINATION REQUIRED IN ARGON DATA REDUCTION. ONE SOLUTION TO THIS IS TO EXTEND THE FLIGHT IN ORDER TO REPEAT THE FIRST DAYS COVERAGE ON THE LAST DAY OF FLIGHT.

2. THE ORBITS PROPOSED FOR A-21 REF A (BOTH 5 AND 6 DAY SYNCHRONOUS) ARE AT SUCH AN ALTITUDE THAT THE REQUIRED COVERAGE

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Declassified and released by the NRO

In Accordance with E.O. 12958

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CAN BE OBTAINED WITH A FIVE DAY SYNCHRONOUS ORBIT AND STILL MAINTAIN SIDELAP THROUGHOUT, ASSUMING NO DISPERSION. PENDING A MORE THOROUGH REVIEW OF FILM REQUIREMENTS, NOW IN PROGRESS BY SE, IT APPEARS THAT THE FILM SUPPLY MAY BE SUFFICIENT FOR A SIX DAY MISSION, ESPECIALLY IF SOME OPEN-WATER AREAS ON THE BEGINNING AND END OF PASSES ARE PROGRAMMED OUT. BATTERY POWER ALSO APPEARS ADEQUATE FOR A SIX DAY MISSION. ACCORDINGLY, FOR THE REASONS OUTLINED IN PARA I, IT IS RECOMMENDED THAT A-21 BE FLOWN FOR SIX DAYS ON A FIVE (5) DAY SYNCHRONOUS ORBIT. THIS WILL PROVIDE FOR THE DISPERSION MENTIONED, AND IN THE EVENT THAT NOMINAL IS ACHIEVED, WILL ALLOW REPETITION OF FIRST DAY COVER: THIS INCREASES THE PROBABILITY OF A MORE USEFUL MISSION.

3. THIS RECOMMENDATION DOES NOT PROVIDE FOR AN ORBIT DISPERSION WHEREIN THE EQUATORIAL SIDELAP DROPS BELOW NOMINAL. HOWEVER, ON THIS MISSION THE SATELLITE WILL CROSS THE EQUATOR ONLY AT DUSK AND DAWN APPROXIMATELY, AND SINCE IT WILL NOT BE PHOTOGRAPHING THE EQUATOR, DUE TO THE INSUFFICIENT SOLAR ANGLE, NOTHING WOULD BE LOST FROM THIS TYPE OF DISPERSION.

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END OF MESSAGE

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[REDACTED]