



15 March 1962

**MEMORANDUM FOR THE RECORD**

**SUBJECT: COMRA Post Flight Data Requirements**

1. **PURPOSE:** To record the action being taken as a result of an informal meeting held at NPIC on 13 March 1962 to discuss the data requirements between LMBC to NPIC.

2. **ATTENDANCE:**



DR/SPD  
NPIC  
NPIC  
LMBC

3. **DESCRIPTION OF DATA:** The following items are currently being exchanged between LMBC and NPIC (in addition to the [redacted] series of messages):

a. **Instrument Data Book:** A tabulation of calibration of instruments, flight performance estimates, and pertinent flight information. This data is used primarily as reference and backup for data transmitted by [redacted] during flight. The book must be hand carried to customer offices. This book is the primary data for the users, and must therefore be both complete and accurate.

b. **Preliminary Ephemeris and Performance Estimate:** A single copy of the printed ephemeris compiled from the twice daily ephemeris computed during the flight for the next twelve hours of flight; this is the best available ephemeris at Recovery plus 1 day.

(1) The performance estimate is a tabulation of the geo-position of the instrument operations during the flight, exposure times, number of frames per pass, and other pertinent data to assist processing.

(2) This data is turned over to Lt. Col. Murphy by LMBC and NPIC feels it can now make this item a part of the [redacted] series. [redacted] will coordinate this requirement with [redacted]

Declassified and Released by the N R O

In Accordance with E. O. 12958

on NOV 26 1997

c. Best Guess Ephemeris: Two copies, including one reproducible, are supplied, of the standard STC listing of the final ephemeris that is normally generated, after critical evaluation of all radar tracking data. Ephemeris is at one minute or five minute intervals from injection to separation. The listings are individually bound in Acco-Press binders.

d. Evaluation of Best Guess Ephemeris: Two copies, including one reproducible, are supplied. The evaluation is an estimate, based on internal consistencies and quality of the radar fits, of the probable errors in the best guess ephemeris. The evaluation is bound with the Best Guess Ephemeris. (See Para. 3c)

e. Card Ephemeris: Based on time readings of individual frames, a single copy of the ephemeris is generated; one set of data for each frame. The output consists of IBM cards in an agreed format; each card contains pertinent data for one frame. In event of poor time data on recovered material, an estimate is made of the frame time, and equivalent data is presented. Ephemeris to be compatible with the Best Guess Ephemeris. Hand carried to Hq.

f. Final Ephemeris: At such times as LMSC produces ephemerides having lesser estimated errors, they can supply duplicates of the Best Guess Ephemeris, Evaluation of Best Guess, and the Card Ephemeris. The availability of this improvement is uncertain at the present and is above the current scope of data exchange. Also applications of type exchange in lieu of card decks is dependent upon further development of "in-house" NPIC capabilities and additional coordination.

4. CURRENT SCHEDULE:

a. Instrument Data Book: Due to be ready at LMSC on recovery plus one day. Will be shipped with the material by one of the couriers to [redacted] and turned over to the NPIC "Team Captain" at [redacted] for first phase read-out for return to NPIC in Washington. This way it should arrive at NPIC several days ahead of the first priority duplicates of the mission and save having to send by special courier.

b. Preliminary Ephemeris: Due to be ready at LMSC on recovery plus one day and can be sent by [redacted]

c. Best Guess Ephemeris and Evaluation of The Best Guess: Due to be ready at LMSC at recovery plus five days. This should beget NPIC at least by the time the first "take" arrives from [redacted]. Since



this data is "white" and unclassified it is sent via registered mail to NPIE through "air" mail channels. This data is handled as "Confidential" by the NMF until recovery plus one hour, then it is downgraded to "Unclassified." The only problem in contact of this information, and it is felt that the U. S. mail system is adequate protection. This means a courier and insures timely arrival in Washington.

4. Card Exchange This data is generated at NPIE on card decks and sent to LINC for verification and correlation. With a good clock (time correlation) and reliability, this deck can be ready for return to NPIE about three days after receipt by LINC. With poor clock or reliability, this deck will be ready for return to NPIE about 10 days after receipt by LINC. No set procedure has been established for transmitting these card decks, but rather I believe they have been mailed from Np. to LINC, but (when the data is correlated with the ephemeris) it is held at LINC until someone is coming to Washington. It is felt that this is all right, within reason, but emphasis should be placed on the package to insure that it is sent back to Np. within about 48 hours of its being ready for shipment.

5. RECOMMENDATIONS

a. SR/SFS sent a message to Rick on 15 March 1962 requesting inclusion of calibration data on the timing camera into the Instrument Data Book. This to be available at LINC by launch day of each mission.

b. SR/SFS (in coordination with Security, SFS and NPIE) sent a message to LINC, with info to [redacted] requesting that the Instrument Data Book be shipped in accordance with paragraph 4c.

c. NPIE plans to review the Preliminary Ephemeris data with SFS and incorporate this report into the [redacted] System. If it turns out to be too long for convenient transmission, registered air mail should suffice. Action should be between NPIE, SFS and Security.

d. Security should take action, as required, to insure that the Card Ephemeris is not delayed in shipment for an excessive time. I suggest that Security verify the actual card decks with NPIE [redacted] in case it may be possible to send transmitting these items via registered air mail as "Secret" data.

[REDACTED]

This would reduce the counter problem completely. I feel sure that when we change from code to tape this is easily adaptable protection.

c. Hq/SS plans no further action in this area.

[REDACTED]

[REDACTED] (15 March 1962)

Distribution  
Copy

[REDACTED]