SECRET 0522422

FMC966/0523867

Reference your Whig 2446 and Mission 7150 experience that
highlights the desirability of an analog recorder to assist in de-
interleaving the digital product of program 77B. In response to our
recent request the contractor has proposed a narrow band analog recorder
installation in Mission 7160 payload as follows:

A. A two-track Leach recorder with a four to one (25 KC to 100 KC)
read-in/read-out ratio, providing 24 minutes read-in capacity. Payload
accept pulses would be stretched and fed to one track; the three-
level RZ data word would be fed to the second track.

B. Modification of payload circuitry to effect pulse stretching.

C. Two additional VHF transmitters to handle the two recorder
tracks, an additional diplexer, and an additional antenna.

D. A new vehicle "J"-box to control and monitor the recorder.

2. The estimated impact of the change on the 7160 launch date is
approximately six weeks or launch by 1 Feb 1966. Involved is:
A. Design, breadboard, fabrication and qualification of the J-box.
B. Design, installation of payload circuitry.
C. Installation design for all hardware.
D. Mockup of vehicle installation and wiring.
E. Procurement of transmitters, diplexer, and antenna with a lead
time of six weeks.

3. Because of the difference between the Leach capacity of 24
minutes and the payload-on time, which can be 60 minutes or more
between some read-out passes, we could retrieve Leach recordings to
correlate with only about 60 percent of the total digital payload output.
It is our understanding that such correlation must at present be
done manually by the processor and that the correlation effort for
Mission 7160 has barely begun.

4. We will continue to scrub the engineering, tests, and
projected schedule impacts associated with the change. I am convinced
that we should add the recorder on Mission 7160 if it can be done with
out serious slippage of this flight (say-beyond 1 Feb) or impact upon
the first multi-group flight.

5. Request your comments.

SECRE

The 0906 EARPOP will re-run on request

Control No.
FROM: WHIG 0440

TO: 

REF 8096

ANALOG 7/160 FOR ASSISTING DEINTERLEAVING. REQUEST MINIMUM SCHEDULE IMPACT WITH LAUNCH PRIOR TO 1 FEB IF POSSIBLE. REMOVE STOPPER IF NECESSARY. PLEASE ADVISE NEW SCHEDULE AND NOTIFY 6426.

DATE TIME
8 1620

MONTH YEAR
Oct 1968

PAGE NO. NO. OF PAGES
1 1

50X1

Approved for Release: 2017/08/16 C05099757
T O P S E C R E T  2 2 3 2 7 2
PRIORITY PHIC CITE 4 9 0 5 1
REINDEER-30
A. 7168/7228
B. 4 DEC 1965
C. 7 JANUARY 1966
D. ADDITION OF NARROW BAND RECORDER

FTC #17/1223372

ZERO FIVE TWO
**PRIORITY**

*Approved for Release: 2017/08/16 C05099757*

---

**TOP SECRET 072340Z**

**PRIORITY WHILE INFO**

**REINDEER-X**

**REF. WSN 7160/7220**

1. REINDEER-17 FORMAT IS SIMILAR TO THAT ON PREVIOUS 715X MISSIONS.

<table>
<thead>
<tr>
<th>CARD COLUMN</th>
<th>FUNCTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - 3</td>
<td>REV NUMBER (E.G. 058)</td>
</tr>
<tr>
<td>4 - 8</td>
<td>LONGITUDE OF ASCENDING NODE (E.G. 040W)</td>
</tr>
<tr>
<td>#11</td>
<td>CARD NUMBER FOR ORBIT (IF SEVERAL CARDS ARE REQUIRED FOR ONE ORBIT, THIS COLUMN IS REQUIRED FOR A SEQUENCE NUMBER IN EACH, STARTING WITH ONE (1) FOR THE FIRST (OR ONLY) CARD FOR EVERY ORBIT.)</td>
</tr>
<tr>
<td>18 - 21</td>
<td>7160 ON LATITUDE (E.G., 05N0 OR 10S0 WHERE A IS ASCENDING AND O IS DESCENDING WITH REFERENCE TO THE NORTH POLE.)</td>
</tr>
<tr>
<td>23 - 26</td>
<td>7160 OFF LATITUDE</td>
</tr>
<tr>
<td>43 - 46</td>
<td>7228 ON LATITUDE</td>
</tr>
<tr>
<td>48 - 51</td>
<td>7228 OFF LATITUDE</td>
</tr>
<tr>
<td>53 - 56</td>
<td>STOPPER ON LATITUDE</td>
</tr>
<tr>
<td>58 - 61</td>
<td>STOPPER OFF LATITUDE</td>
</tr>
<tr>
<td>63 - 66</td>
<td>ANALOG RECORDER ON LATITUDE</td>
</tr>
<tr>
<td>68 - 71</td>
<td>ANALOG RECORDER OFF LATITUDE</td>
</tr>
<tr>
<td>73 - 76</td>
<td>SUBSEQUENT ORBIT MONITORS PUNCH A &quot;ONE&quot; IF OFF LATITUDE OCCURS ON ORBIT SUBSEQUENT TO THE ONE SHOWN ON CARD</td>
</tr>
</tbody>
</table>

---

**SAFSS-4**

<table>
<thead>
<tr>
<th>ACTION</th>
<th>INFO</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>ADMIN</td>
<td></td>
</tr>
</tbody>
</table>

---

*Approved for Release: 2017/08/16 C05099757*
COLUMN 74  7228
COLUMN 75  STOPPER
COLUMN 76  ANALOG RECORDER

177 - 80  CARD SEQUENCE NUMBER

AT LEAST ONE OR THE OTHER (COLUMN 11 OR COLUMNS 77-80) MUST
SHOW CORRECT CARD SEQUENCE FOR EACH ORBIT.

BURST NUMBERS FOR EACH PAYLOAD ARE ASSIGNED IN THE ORDER IN
WHICH CARDS APPEAR IN THE INPUT DECK. CARDS OUT OF SEQUENCE
ON ANY GIVEN ORBIT WILL BE PROGRAMMED CORRECTLY, BUT THE
BURST NUMBERS WILL BE REVERSED RELATIVE TO THE SEQUENCE
OF EVENTS.

2. CRITERIA FOR PROGRAMMING ANALOG RECORDER:
   A. R/I TIME 24 MIN, R/O TIME 6 MIN.
   B. MINIMUM READIN BURST 30 SECONDS.
   C. READOUT WILL BE POSSIBLE AT STATION CONTACTS WHERE
      DURATION ABOVE FIVE DEG. ELEV. IS GREATER THAN 360 SECONDS.
      ENTIRE TAPE WILL BE READOUT AT EACH OF THESE READOUTS.
   D. THE MAIN TICG PAYLOAD MUST BE PROGRAMMED ON WHENEVER
      THE ANALOG TAPE RECORDER IS ON.

3. REQUIRE REINDEER-17 NLT 8 NOV 65.

4. REQUEST MISSION NUMBER ASSIGNMENT FOR THE "STOPPER"
   PAYLOAD.

TOP SECRET
CFM 6426 REINDEER-X WILL RERUN UPON REQUEST

TOP SECRET
Handle via BYEMAN
Control System
1. NOTE IN REF. 3 THAT PROGRAMMING FOR 7160 - DIGITAL IS IDENTICAL TO 7220 EXCEPT ON REV. 14, 98, 113, 150, 234, 289, 286, 370, 388, 422, AND 506 WHERE 7160 IS PROGRAMMED TO COR FROM 75N LAT. AND 7220 TO COR FROM 78N LAT. IF THIS IS A PUNCHING ERROR, WE CAN CORRECT THE CARDS HERE.

2. REQUEST PERMISSION TO PROGRAM PAYLOAD READINGS OVER ALASKA FOR ENGINEERING EVALUATION. ALASKA PROVIDES A LIVELY KNOWN ENVIRONMENT WITH VARIED TERRAIN. THE RADARS THAT HAVE BEEN INTERCEPTED ON PREVIOUS FLIGHTS WILL ESPECIALLY BE USEFUL IN EVALUATING THE PERFORMANCE OF THE NEW SETTER PAYLOAD. THE READINGS REQUESTED ARE:

A. WSN 7160 (DIGITAL ONLY)

<table>
<thead>
<tr>
<th>REV</th>
<th>ON LAT.</th>
<th>OFF LAT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>72 ND</td>
<td>57 ND</td>
</tr>
<tr>
<td>10</td>
<td>55 NA</td>
<td>71 NA</td>
</tr>
<tr>
<td>16</td>
<td>73 ND</td>
<td>58 ND</td>
</tr>
<tr>
<td>25</td>
<td>37 NA</td>
<td>70 NA</td>
</tr>
<tr>
<td>92</td>
<td>70 ND</td>
<td>55 ND</td>
</tr>
<tr>
<td>192</td>
<td>73 ND</td>
<td>58 ND</td>
</tr>
</tbody>
</table>

B. WSN 7220

<table>
<thead>
<tr>
<th>REV</th>
<th>ON LAT.</th>
<th>OFF LAT.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>72 ND</td>
<td>57 ND</td>
</tr>
<tr>
<td>10</td>
<td>55 NA</td>
<td>71 NA</td>
</tr>
<tr>
<td>16</td>
<td>73 ND</td>
<td>58 ND</td>
</tr>
<tr>
<td>25</td>
<td>37 NA</td>
<td>70 NA</td>
</tr>
<tr>
<td>31</td>
<td>72 ND</td>
<td>59 ND</td>
</tr>
<tr>
<td>46</td>
<td>72 ND</td>
<td>59 ND</td>
</tr>
<tr>
<td>71</td>
<td>59 NA</td>
<td>72 NA</td>
</tr>
<tr>
<td>92</td>
<td>70 ND</td>
<td>55 ND</td>
</tr>
<tr>
<td>122</td>
<td>71 ND</td>
<td>56 ND</td>
</tr>
<tr>
<td>137</td>
<td>72 ND</td>
<td>57 ND</td>
</tr>
<tr>
<td>152</td>
<td>73 ND</td>
<td>58 ND</td>
</tr>
<tr>
<td>167</td>
<td>72 ND</td>
<td>59 ND</td>
</tr>
<tr>
<td>228</td>
<td>70 ND</td>
<td>55 ND</td>
</tr>
<tr>
<td>303</td>
<td>72 ND</td>
<td>59 ND</td>
</tr>
</tbody>
</table>

TOP SECRET
CMRT 6731 REINDEER-X WILL RERUN UPON REQUEST
SUMMARY OF MEETING AT 11-12 NOV 65, TO DISCUSS MSN 7160/722
STF AND EXPANDED CTF FOR FUTURE MISSIONS.

1. FOR MISSIONS 7160 AND 7228 ONLY, THE FOLLOWING ADDITIONAL DEFINITIONS WERE AGREED TO FOR STF HEADER RECORD #1 (H001):

A. WORD 14 - INTEGER BINARY COUNT OF TRANSMISSION NUMBER.
   (FOR ORIGINAL TRANSMISSION OF A BURST ONE WILL BE USED; FOR ANY RERUN(S), TWO, THREE, ETC. WILL BE USED)

B. WORD 6 - (OPERATING MODE INDICATORS)
   1) FOR MSN 7228 ONLY: BITS 17-23 WILL BE AN INTEGER BINARY COUNT AS FOLLOWS:
      
      | COUNT | DEFINITION          |
      |-------|---------------------|
      | 1     | NORMAL              |
      | 2     | ALTERNATE MODE #1   |
      | 3     | ALTERNATE MODE #2   |
      | 4     | ALTERNATE MODE #3   |
      | 5     | ALTERNATE MODE #4   |

2) FOR MSN 7160 ONLY:
   BIT 0: 0 - INHIBIT ON (NORMAL)
          1 - INHIBIT OFF
   BIT 1: 0 - NORMAL
          1 - SINGLE PULSE MODE

2. COUNTS RECEIVED FROM THE PAYLOADS WILL BE CONVERTED TO ENGINEERING UNITS AS FOLLOWS: ("N" EQUALS COUNT)

A. MSN 7160 (GROUP 3-O)
   1) PULSE WIDTH (PW)
FOR WIDE PULSE ALARM EQUAL TO ZERO:
PW EQUALS 0.5 N (MICROSECONDS)
FOR WIDE PULSE ALARM EQUAL TO ONE:
N EQUALS ZERO: PW EQUALS 40 (MICROSECONDS)
N NOT EQUAL ZERO: PW EQUALS 3.4 PLUS 32 N (MICROSECONDS)

2) PULSE REPETITION FREQUENCY (PRF)
PRF EQUALS 14,000/N (PPS)

6. MSG 7220 (SETTER)
1. PRF
N EQUALS ZERO: PRF EQUALS 1,000,000/18.74 (PPS)
N EQUALS 1 TO 11: PRF EQUALS 1,000,000/7807.0 (PPS)
N EQUALS 1 TO 510:
PRF EQUALS 1,000,000/(N(4.36) PLUS 13.42) (PPS)

2) PULSE AMPLITUDE (PA):
PA EQUALS -83.75 PLUS 2.5N (DBIO)

3) FREQUENCY (F)
F EQUALS N PLUS 2680 (MCS)

4) PULSE WIDTH

<table>
<thead>
<tr>
<th>N</th>
<th>RANGE</th>
<th>OUTPUT VALUE</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>.5 - 1.43</td>
<td>1.0 (MICROSECONDS)</td>
</tr>
<tr>
<td>1</td>
<td>1.43 - 2.86</td>
<td>2.1</td>
</tr>
<tr>
<td>2</td>
<td>2.86 - 5.72</td>
<td>4.2</td>
</tr>
<tr>
<td>3</td>
<td>5.72 AND UP</td>
<td>5.7</td>
</tr>
</tbody>
</table>

3. SAFSP WILL COMPILAE A "GLOSSARY" OF ALL KNOWN PARAMETERS, TO REPLACE THE PRESENT 120 - PARAMETER COMMON TAPE FORMAT. A DRAFT OF THIS GLOSSARY WILL BE PRESENTED TO REPRESENTATIVES FROM AT A MEETING TO TAKE PLACE BEFORE 1 JAN 66, IF POSSIBLE, TIME AND PLACE WILL BE ESTABLISHED LATER. AT THIS MEETING, REVISIONS TO "TRANSMISSION FORMAT" WILL BE DISCUSSED.

SECRET
CFH: WILL RUN UPON REQUEST
TOP SECRET

PRIORITY WHIG INFO CITE 6433

REINDEER-2

C. TELCO LAROCQUE/KOHLHAAS 8 OCT 65
D. WHIG 1446
E. WHIG 1447 REINDEER-6, NOT SENT

1. RE REF D, PARA 2.C. ALTHOUGH ENTIRE TAPE WILL BE READOUT ANY TIME THERE IS ANY DATA ON IT (BY REAL TIME COMMAND), IF THERE IS LESS THAN 360 SEC OF DATA TO READOUT, A PROPORTIONATELY SHORTER DURATION PASS MAY BE USED FOR READOUT. (E.G. IF THERE ARE 280 SEC OF DATA OF READOUT, A PASS WITH 280 SEC. DURATION ABOVE 5 DEG. IS ACCEPTABLE.
2. WILL TAKE REF, D, FOR ACTION.
3. RE, REF E, PARA H, WHAT IS MAXIMUM NUMBER OF REVS YOU DESIRE ON A SINGLE MAP PLOT? ALSO, SINCE ORBIT VERY NEARLY REPEATS ITSELF EVERY 137 REVS, WOULD X-Y PLOTS FOR REVS 1-138 ONLY BE ACCEPTABLE?

TOP SECRET

CFH-6433

REINDEER-X

REF A, MSH 7148
C. TELCO LAROCQUE/KOHLHAAS 8 OCT 65
D. WHIG 1446
E. WHIG 1447 REINDEER-6, NOT SENT

1. RE REF D, PARA 2.C. ALTHOUGH ENTIRE TAPE WILL BE READOUT ANY TIME THERE IS ANY DATA ON IT (BY REAL TIME COMMAND), IF THERE IS LESS THAN 360 SEC OF DATA TO READOUT, A PROPORTIONATELY SHORTER DURATION PASS MAY BE USED FOR READOUT. (E.G. IF THERE ARE 280 SEC OF DATA OF READOUT, A PASS WITH 280 SEC. DURATION ABOVE 5 DEG. IS ACCEPTABLE.
2. WILL TAKE REF, D, FOR ACTION.
3. RE, REF E, PARA H, WHAT IS MAXIMUM NUMBER OF REVS YOU DESIRE ON A SINGLE MAP PLOT? ALSO, SINCE ORBIT VERY NEARLY REPEATS ITSELF EVERY 137 REVS, WOULD X-Y PLOTS FOR REVS 1-138 ONLY BE ACCEPTABLE?
SECRET 1720237
WIS CITE 9355
PROGRAM 776

1. FOLLOWING INFORMATION IS FURNISHED TO ALERT YOU TO THE POSSIBILITY
OF A SAFSP-NASA CONFLICT IN PAD LOADING AT AFB IN THE PERIOD JANUARY-
MAY 1966.

2. NASA USES PAD 75-1 AND PROGRAM 776 USES PAD 75-2 BUT THEY SHARE
A COMMON BLOCKHOUSE. SSD HAS CONTRACTED FOR AN AGE IMPROVEMENT PROGRAM
BY DOUGLAS, LUSC AND KELLOG. WORK IS UNDER WAY ON PAD 75-1, AND THE
CURRENT SCHEDULE CALLS FOR WORK ON PAD 75-2 AND RELATED BLOCKHOUSE
WORK TO BEGIN IMMEDIATELY AFTER THE PROGRAM 776 LAUNCH SCHEDULED FOR
8 JAN 66 AND TO BE COMPLETED IN TIME TO ACCOMMODATE THE NASA NIMBUS
LAUNCH IN APRIL 1966. SSD ADVISES THAT IF THE PROGRAM 776 LAUNCH SLIPS
BEYOND 15 JANUARY, THERE WILL BE A DAY TO DAY SLIP IN THE NIMBUS LAUNCH.
WE UNDERSTAND THE NIMBUS LAUNCH IN APRIL IS FIRM AT THIS TIME AND THAT
IT WILL BE FOLLOWED BY THE FIRST NASA DELTA LAUNCH IN MAY 1966.

3. The only reasonable alternatives appear to be:

A. CONTINUE AS PLANNED, AND IF PROGRAM 776 SLIPS BEYOND 15 JANUARY,
INFORM NASA THEY WILL HAVE TO SLIP NIMBUS AND POSSIBLY DELTA. (IT DOES
NOT APPEAR POSSIBLE TO PROTECT THE NASA LAUNCH DATES THROUGH USE OF
VERIFIED.)

B. RELOCATE THE 8 JAN 66 PROGRAM 776 LAUNCH TO ANOTHER PAD. THIS
WILL COST AT LEAST $300K TO RELOCATE PROGRAMPECULAR AGE AND MIGHT
ALSO INTERFERE WITH PROJECT 241. THIS IS MOST UNDESIRABLE SINCE IT
WOULD UNAVOIDABLE CONFLICT WITH THE EFFORT NECESSARY FOR THE FIRST
MULTI-CRIP FLIGHT.

4. WE ARE CURRENTLY ON SCHEDULE FOR A 7 JANUARY LAUNCH, SO THE
PROBLEM MAY NOT MATERIALIZE. HOWEVER IF IT SHOULD, I RECOMMEND THE
ALTERNATIVE IN 3A AND AM CURRENTLY TAKING THE POSITION WITH SSD.

SECRET

унштреллс

\[ \text{\textbf{\textit{Uncertain}}} \]

\[ \text{3-4} \]
1. The mission 7160 orbital life table supplied in 8997 does not consider the additional power drain associated with the leach narrow-band recorder and its data links. Computations indicate that maximum use of the recorder, based on readout at Cook and dogs only will impose an approximate 1.5 day reduction of the life figures in the table. If no additional readouts at HILA per day are programmed, the reduction becomes 3.5 days; if three additional readouts per day are programmed for HILA, the reduction is 4.5 days.

2. The baseline of the above is a 25-day lifetime. Using less or greater lifetime as a basis produces minor variations in the reductions for HILA programming.

3. On the same basis full programming of the uses approximately three days of operation.

SECRET
OFF 999 WIP 8997 REF 8997 WHIG 1446 1. 7160 8997 NOT CONSIDER COOK DOGS 1.5 DAY HILA 3.5 DAYS HILA 3.5 DAYS 2. 25-DAY HILA 3.5 DAYS
### Control System

**DISTRIBUTION**

<table>
<thead>
<tr>
<th>SAFSS</th>
<th>SS-1</th>
<th>SS-2</th>
<th>SS-3</th>
<th>SS-4</th>
<th>SS-5</th>
<th>SS-6</th>
<th>SS-7</th>
<th>SS-8</th>
<th>SS-9</th>
</tr>
</thead>
<tbody>
<tr>
<td>SJW1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJW2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJW3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJW4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJW5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJW6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJW7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJW8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>SJW9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**FTC169/030032Z**

This page contains a table and a chart with orbital life data. The chart updates and replaces a similar chart presented in reference. Revision is necessary due to incorporation of the Leach recorder for the primary payload.

1. The following column headings are in SETTER READ-IN HOURS PER DAY, and are set in SETTER READ-IN HOURS PER DAY and at intersection entries are the expected days of orbital life. All other considerations remain the same.

<table>
<thead>
<tr>
<th></th>
<th>5.0</th>
<th>4.5</th>
<th>4.0</th>
<th>3.5</th>
<th>3.0</th>
<th>2.5</th>
<th>2.0</th>
<th>1.5</th>
<th>1.0</th>
<th>0.5</th>
<th>0.0</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.0</td>
<td>24</td>
<td>26</td>
<td>29</td>
<td>32</td>
<td>35</td>
<td>37</td>
<td>39</td>
<td>43</td>
<td>45</td>
<td>45</td>
<td>45</td>
</tr>
</tbody>
</table>

### Approved for Release: 2017/08/16 C05099757
SECRET 042330Z
PRIORITY INFO WHIG CITE 6640

EARPOP

FOR R. POTTS, J. GORMAN, S. HUGHES
FOR MAJ MARKS, MAJ SASSER
FOR MAJ TRUPPEN, MAJ SCIOTTO
FOR J. CHRISTIANSON, A. FOX, MAJ MCKILLIP

50X1

SUBJECT: COMMON TAPE FORMAT AND SELECTED TAPE FORMAT FOR TRANSMISSION OF DIGITAL INTERCEPT DATA.

1. THERE WILL BE A MEETING TO DISCUSS STF FOR HOMEBASE TRANSMISSION FOR MSN 7160/7228, AND ALSO TO DISCUSS AN EXPANDED CTF CONCEPT FOR MULTI-GROUP MISSIONS, ON THURS-FRI, 11-12 NOVEMBER AT

2. REQUEST PERSONNEL FAMILIAR WITH DATA PROCESSING TECHNIQUES FROM AND BE PRESENT. SEND ATTENDEES AND CLEARANCES TO ATTN: COL YUNDT, INFO

3. SHOULD ANYONE BE UNABLE TO ATTEND BOTH DAYS, PLEASE ADVISE AND WE CAN ADJUST AGENDA ACCORDINGLY.

SECRET
CFNS WILL RERUN ON REQUEST.
FOUR ITEM ONE

SIX

FOUR FIVE FIVE

ZERO ONE SIX

PASS

TOP SECRET 302134Z

CONFIDENTIAL

WORTHWHILE

CITE

6786

REINDEER-X

REF A. NSN 7169/7228
B. 2435-5

1. REQUEST REINDEER-24 FOR REF A AS SOON AS POSSIBLE, SO THAT SYSTEM TEST DATA MAY BE SENT AS SOON AS IT IS READY.

2. REINDEER-24 SHOULD INCLUDE

(1) PARAMETERS FOR SELECTED TAPE FORMAT BY ITEM NUMBER FROM TECHNIS 1381 AS MODIFIED BY LMSC AA 02145, ADDENDUM 1, 28 OCT 65

(2) RECORDINGS FROM PAYLOAD ANALOG RECORDER (PREASSUMED A HINCHON RECORDING AFTER PHASE CORRECTION HAS BEEN MADE.)

(3) OTHER COMPUTER-PREPARED DATA

(4) DETAILS ON REINDEER-67 XYZ EPHEMERICIS DATA, IF REQUIRED (NUMBER OF POINTS, INTERVAL, FREQUENCY OF SUBMISSION)

(5) DETAILS OF REINDEER-50 POST-FLIGHT SUMMARY (INFO SIMILAR TO THAT IN REF B.)

TOP SECRET

CITE

6786

REINDEER-X

REF A. NSN 7169/7228
B. 2435-5

1. REQUEST REINDEER-24 FOR REF A AS SOON AS POSSIBLE, SO THAT SYSTEM TEST DATA MAY BE SENT AS SOON AS IT IS READY.

2. REINDEER-24 SHOULD INCLUDE

(1) PARAMETERS FOR SELECTED TAPE FORMAT BY ITEM NUMBER FROM TECHNIS 1381 AS MODIFIED BY LMSC AA 02145, ADDENDUM 1, 28 OCT 65

(2) RECORDINGS FROM PAYLOAD ANALOG RECORDER (PREASSUMED A HINCHON RECORDING AFTER PHASE CORRECTION HAS BEEN MADE.)

(3) OTHER COMPUTER-PREPARED DATA

(4) DETAILS ON REINDEER-67 XYZ EPHEMERICIS DATA, IF REQUIRED (NUMBER OF POINTS, INTERVAL, FREQUENCY OF SUBMISSION)

(5) DETAILS OF REINDEER-50 POST-FLIGHT SUMMARY (INFO SIMILAR TO THAT IN REF B.)
1. PARA E. OF REF B. IS NOT IN ACCORDANCE WITH APPENDIX I TO LMRC DOCUMENT AA 82148, 29 OCT 65, WHICH DESCRIBES MODIFICATIONS TO CTF FOR HHN 15AM. PLEASE CONSULT WITH MR. AND MRS. WHO WERE AT MEETING ON 11 NOV 65 AT WHERE THESE CHANGES WERE THOROUGHLY DISCUSSED, AND THEN RESEND PARA E.

2. RE PARA B. WE HAD UNDERSTOOD FROM MR. POTTS THAT, RATHER THAN ORIGINAL MISSION, A RED WITH PHASE CORRECTION WAS DESIRED. PLEASE ADVISE.

3. REQUEST DETAILS OF POST-FLIGHT SUMMARY MEASUREMENT AND SPECIFIES FOR REINDEER-67 (SEE REF. C.)

TOP SECRET

Control System
The recent CONOR recommendations to the NRO, as stated in NSR-91-00672 (COMOR-0-6951), should now be considered in light of the preceding collection guidance on missions 7160/7228 which the CONOR intelligence group provided to NRO. These recommendations, emphasizing the capabilities and significance of mission 7228 and de-emphasizing mission 7160, have an obvious effect upon the actual methods in which these payloads are to be operated and the collected data analyzed.

It is generally agreed that the quality of locations to be expected from mission 7160 is insufficient to meet the current NP-2559E location accuracies called for in the current USIP-approved satellite-jamming collection requirements document, much less the improved overall goal of 10 nmi, expressed by COMOR. However, the design specifications for mission 7228 are expected to enable production of emitter locations to within 7.5 nmi and, for this reason, the COMOR has recommended (1) that the missions be operated so as to maximize collection by mission 7228 and (2) that the data collected by mission 7228 enjoy priority in processing and reporting. The COMOR further suggests that processing of mission 7160 data should be accomplished so as not to conflict with EOB production from Poppy or similar missions.

Regarding the lesson learned from missions 7158/7226 therein the early failure and disabling of mission 7226 facilitated the extraordinary lifetime of mission 7158. It would seem advisable, at this juncture, to determine in which areas of the Sino-Soviet Bloc so far east again most productive use can be made of mission 7160.

The ultimate coverage of mission 7162 should then be limited to those areas. This should provide extended availability of mission 7228.
In accordance with the power usage vs. lifetime matrix previously provided by the OPCO, considering the points made by LT. COL. GINN, JSTPS, in his briefing of the OCPG and the CONOPS, it appears to the NSA/SWG that the best use of Mission 7160 can be made in those geographic areas in which the most inadequate data base is available (i.e., it appears that it is in these areas that the future of the quality of results anticipated from Mission 7160 could be made.

The NSA/SWG recommends, therefore, that the collection guidance for missions 7160/7223 be amended to read as follows:

"The SWG recommends that Mission 7160/7223 be tasked as follows:

A. 7223 - Full time coverage border-to-border when over

B. 7160 - Coverage of events and to the maximum availability. It is understood that those selected to fulfill this coverage may also cover the peripheral areas over which the collector must pass in order to reach the defined target areas. Maximum analog backup to mission 7160 should be provided with emphasis on those areas of the

Alternate Member:

Signed: NSA/SWG

TOP SECRET

dandle via tailored keyhole channels. only

Approved for Release: 2017/08/16 C05099757
MEMORANDUM FOR GENERAL STEWART

SUBJECT: SAC Message 3714

This is another case where a consumer, (SAC) who has a man, (Barthel), (CIA does the same thing with [redacted]) with free access to all levels of a contractor, gets distorted opinionated information and uses it to try to run the program. We will, with support from [redacted] answer SAC, again pointing out the technical errors in their message. Meanwhile we will have [redacted] establish a single point of contact within the contractor's plant for Barthel and hopefully move his office out of the contractor's building.

The subject of Mission 7160 is on the agenda at the CSWG tomorrow. We presented the mission description last week and will discuss it in detail with them tomorrow, again reviewing the logic of the present schedule and what intelligence it is expected to yield.

The 696EX missions have never been sold on their location finding capability; it is certainly less than required. Mission 7160 is the last 696EX mission prior to the first MULTIGROUP. MULTIGROUP, the result of over two years development, will have significantly better emitter locations. The on-board processing equipment also is to be much improved.

Admittedly, we need more on-orbit experience with the 696EX/MULTIGROUP types of payloads. Meanwhile, if SAC would prefer not to get the raw unprocessed SARPOP data, NSA could easily arrange that and process it all themselves.