

R. Larson

MIT Management Development Plan Meeting #7

28 November 1967

1. Restart Protection

The policy of Restart Protection was briefly discussed. A more detailed exploration of the subject of restarts will be held at the Engineering Design Review on Powered Flight and a report will be prepared regarding the conclusions. A memo describing restarts for R-60 has been prepared by G. Cherry.

2. Gyro-Compassing

MIT has informed NASA of MIT's plans to provide gyro-compassing in the flight program. Uncertainty still exists as to whether it should remain in fixed memory or be placed into erasable. The assembly control for erasable loads, which is being prepared by Dr. Laning's group, would not be available for use on current programs.

Action - Further study of this problem is required and then a definite decision made as to whether gyro-compassing should be in fixed or erasable storage.

3. Sundance

Level III testing of R-63 was identified as a critical item. The question was raised as to whether D. Keene was responsible for this routine or whether another assignment should be made. Also the survey sheets for Level III testing of this routine have not been prepared.

Action - R. Battin to resolve personnel assignment of R-63.

R-30 was initially assigned to P. Adler but now it will probably be done by R. Aiyawar. The R-30 design now seems to be complete, difficulty was experience in making R-30 compatible with the routine used in the CSM. The Level III survey sheet for R-30 was promised for next weeks' Development Plan update.

R-30 and R-31 probably will be late for the start of Level IV testing, and although they are extended verbs and are not probably required for the start of Level IV testing it was felt that maybe this was establishing a dangerous precedent if allowed. Caution was also expressed that if

Level III testing was not complete at the start of Level IV testing that the scheduling of personnel assignments would be in jeopardy. The possibility of using R. Bairnsfather or people from E. Hall's area was mentioned as a possible solution to improving the completion of Level III testing of R-30.

Action - A criteria for schedule slippage should be established and presented at the next meeting.

Action - E. Copps, A. Kosmala and D. Lickly are to see what additional resources might be applied to R-30.

Action - R. Battin to examine the DAP area for personnel resources.

Action - E. Copps is to take a survey of planned computer usage. This survey should provide some visibility into whether or not computer time will become a problem.

It was stated that the H-1800 simulator is not always being modified with "Astronaut" changes that are taking place in the IBM-360 simulator, thus the capability of simulations on the H-1800 are not comparable with the IBM 360.

Action - R. Battin is to discuss this condition with J.S. Miller.

The question as to what documentation was needed from the level III tests before starting level IV was discussed. A flyer prepared by E. Copps will be attached to this week's survey sheets giving the documentation requirements.

The formulation requirements necessary for the Level III testing of P-51 and P-52 as specified on the survey sheets should be received and updated with group 23C.

The Computer Usage Priority List was reviewed and adjusted for the present work loads and will be posted on 11/28/67.

#### 4. COLOSSUS

Flowcharts could be issued in blue covers and used as the specification for the DAP until the actual Chapter 3 is prepared.

Chapter V of Colossus will go to publication on 11/29/67 for the

preliminary inhouse review copy except for P-15 (TLI) which will probably be about a week late. P-15 was discussed with W. Tindall of NASA/MSC at a separate meeting. W. Tindall is going to check at MSC to see if possibly P-15 should be dropped from the Flight Program of Colossus.

Survey sheets should be distributed for level III testing of Colossus. This should provide a better insight into manloading and simulation computer loads for Colossus.

5. GSOPs

Sundance Chapter 5 - Chapter 5 went to the printer on 11/22/67, it should be available on or about 11/30/67.

Colossus Chapter 5 - Internal copies of Chapter 5 should be available on 11/29/67 except for TLI, a two week review will be completed on 12/15/67 and should be distributed about 12/22/67.

Sundisk Chapter 5 - Chapter 5 is schedule to go to the printer on 12/1/67 and should be distributed about 12/8/67.

Luminary Chapter 5 - Chapter 5 is scheduled to go to the printer on 1/15/68 and should be distributed about 1/22/68.

Chapter 1 Prelaunch - This chapter should contain descriptions of programs contained in the flight programsthat are not described in Chapters' 4 and 5, such as Calibration, Prelaunch and Self Test.

Action - A. Laats should formulate the content for Chapter 1 and supply a supporting schedule for the preparation of Chapter 1 for the current Flight Programs. This schedule should be available for next weeks' updating of the Development Plans.

A discussion of Chapter 1 should be on the agenda for the next week's meeting.

Chapter 3 - Chapter 3 is to be discussed at the 11/29/67 Engineering Meeting by W. Widnall. Delivery schedules should be prepared for preparation of Chapter 3 and added to the next week's update of the Development Plans.

Sundance Chapter 2 - Chapter 2 is schedule to go to the printer on 12/15/67 and should be distributed about 12/22/67.

Colossus Chapter 2 - Chapter 2 is scheduled for distribution on 2/15/68. This date is questionable. The complete status of the Uplink/Downlink effort is presently under review, more detailed information will be presented at the next meeting.

Luminary Chapter 2 - Chapter 2 for Luminary is scheduled for 2/15/68 but the remarks above for Colossus are applicable to Luminary.

Sundance Chapter 4 - Chapter 4 is scheduled to go to the printer on 11/29 or 11/30 and should be distributed about 12/6 or 12/7. Some slight variations in the soft-copy versus the hard copy exist, mainly in the check list area.

Colossus Chapter 4 - The official inhouse work copy of Chapter 4 for Colossus was the issue of 11/24/67 except for TLI and P-37. An inhouse review is underway and distribution is presently set for 12/20/67.

Luminary Chapter 4 - Chapter 4 is presently scheduled for distribution on 1/8/68. R-29 "Rendezvous Radar Power Flight Designate" needs a review inhouse to prepare for a "tiger team" type meeting with NASA/MSC. The routine is undefined so the date of 1/8/68 is questionable.

Action - G. Cherry is to organize the team and study the requirements for R-29.

Sundance Chapter 6 - The planned distribution date of 12/1/67 for Chapter 6 will not be met, due to some inhouse misunderstandings. This item and the schedules for other Chapter 6's are to be discussed at a separate meeting. The schedules developed should be added to next week's Development Plans.

Chapter 7 - Chapter 7 for Colossus and Sundisk are scheduled for distribution on 11/29/67. Schedules for Sundance and Luminary Chapter 7 should be prepared and reflected in next week's Development Plan.

6. Flight Program Specification Controls

A Flowchart of the proposed GSOP Specification Control and Change Procedure was presented and discussed. Further negotiations with NASA/MSC (T. Gibson) is necessary before the firm procedure can be documented and adopted.

7. General

The Summary page of all Development Plans should, in the future, give an explanation for each date that is changed.

The "Original Target" dates that are contained in the Development Plans should be reviewed and where necessary, changed to the "Original Target" dates that were established to support the present development of the Flight Programs.



R. C. Millard

RCM/KG/km

- cc: \*R. Ragan
- \*R. Wiesser
- \*D. Hoag
- \*L. Larson
- \*R. Battin
- \*J. Nevins
- \*D. Lickly
- \*G. Cherry
- \*F. Martin
- \*A. Kosmala
- \*A. Laats
- \*E. Gardner
- \*D. Dolan
- \*J. Williams, NASA
- \*E. Copps
- \*R. Millard
- \*W. Marscher
- \*K. Greene
- \*P. Peck
- \*P. Adler
- \*W. Kupfer
- \*R. Werner
- \*J. Shillingford
- \*J. Dahlen
- \*S. Copps
- \*R. Larson
- \*G. Levine

\* Attendees of Meeting

- N. Sears
- M. Johnston
- J. Sutherland
- J. Henize
- R. Morth
- P. Engle
- M. Hamilton
- L. Linehan
- J.S. Miller
- R. Scholten
- J. Vittek
- J. Kernan
- J. Saponaro
- C. Schulenberg
- P. Felleman
- Files