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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION



SATURN V PROGRAM DIRECTIVE

NUMBER: 39

SUBJECT: PROCEDURE FOR REPORTING SATURN V OPEN WORK AND ACTION ITEMS TO APOLLO PROGRAM DIRECTOR

ORIGINAL ISSUE DATE: Jan. 13, 1967 **REVISION NUMBER:** _____

DATE OF REVISION: _____ **PREPARED BY:** SATURN V TEST MANAGEMENT OFFICE (I-V-T)
PHONE: 876-1574/McLaughlin

I. PURPOSE

This Program Directive establishes:

PROCEDURE FOR REPORTING SATURN V OPEN WORK AND ACTION ITEMS TO APOLLO PROGRAM DIRECTOR.

II. DEFINITIONS

A. Open work referred to herein is stage (including IU) and LVGSE work which:

- Is required to be completed by the Certificate of Flight Worthiness (COFW), but is listed as incomplete in the COFW Log of Exceptions and/or
- Must be completed after manufacturing checkout and which adversely affects a launch date or mission objective.

B. Action items referred to herein cover launch vehicle open work which is identified:

- At the Apollo Program Director's Flight Readiness Review (PDFRR)
- Subsequent to the PDFRR and which adversely affects a launch date or mission objective.

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III. SCOPE

This Program Directive is applicable to all MSFC elements responsible for Saturn V hardware design, fabrication, assembly, test, manufacturing checkout, pre-firing checkout, captive (acceptance) firing, post-firing checkout, acceptance, shipment, prelaunch checkout, and launch operations.

IV. REFERENCES

- A. NPC 500-10, dated May 20, 1964, subject: Apollo Test Requirements.
- B. I-IB/V-TD Nr 100, dated March 16, 1966, subject: Procedure for Certification of Flight Worthiness.
- C. Apollo Program Directive Nr 14, dated January 6, 1966, subject: Change Control of Apollo Space Vehicles at KSC.
- D. Apollo Program Directive Nr 15, dated January 25, 1966, subject: Status Reporting on FRR Part I Open Actions and Significant Open Actions Identified Subsequent to the FRR.
- E. MSFC/KSC Sub-Agreement for Program Control, dated April 1, 1966.

V. POLICY

- A. Apollo Program Director shall be notified of:
 - Stage open work which:
 - Cannot be completed prior to the shipment of a stage from:
(See References IV.A. and IV.B.)
 - + Manufacturing site.
 - + Post-firing checkout site.

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V. POLICY (Continued)

- Stage and LVGSE open work which must be completed after manufacturing checkout and which adversely affects:
(See Reference IV.C.)
 - Launch dates.
 - Mission objectives.
 - Launch vehicle action items which adversely affect a launch date or mission objective and which are identified after the PDFRR.
(See Reference IV.D.)
 - Launch vehicle action items open at the initiation of the Flight Readiness Test. (See Reference IV.D.)
 - Closeout of launch vehicle action items which are: (See Reference IV.D.)
 - Assigned at the Apollo Program Director's Flight Readiness Review (PDFRR).
 - Identified after the PDFRR.
- B. After turnover of a stage to KSC or KSC signoff for LVGSE, reporting of open work will be in accordance with KSC procedure. (See References IV.B., IV.C., and IV.E.)

VI. RESPONSIBILITIES

A. The Launch Vehicle Manager shall:

- Effect coordination of stage and LVGSE open work and launch vehicle action items to:

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VI. RESPONSIBILITIES (Continued)

- Assure timely reporting.
- Expedite closeout.
- Maintain a log and file of Saturn V messages to the Apollo Program Director on:
 - Stage open work prior to turnover of stage from MSFC to KSC.
(See Reference IV.B.)
 - LVGSE open work prior to KSC signoff for LVGSE (on MSFC form 57) from MSFC.
 - Launch vehicle action items subsequent to PDFRR.

B. Saturn V Stage and LVGSE Managers shall:

- Assure timely identification and reporting of open work prior to:
 - Turnover of the stage from MSFC to KSC.
(See Reference IV.B.)
 - KSC signoff for LVGSE from MSFC.
- Coordinate open work messages with:
 - Launch Vehicle Manager.
 - Others as applicable.

C. Responsibilities for the preparation and approval of Saturn V open work and action item messages are as follows:
(See matrix on page 5.)

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VI. RESPONSIBILITIES (Continued)

MESSAGE FORMAT NUMBER	MESSAGE SUBJECT	WHEN	REQUIRED BY	PREPARED BY	APPROVED BY	ADDRESSEES
1 See Enc. 1	Stage open work: • Manufacturing checkout site. • Post-firing checkout site.	Prior to shipment	NPC 500-10 I-B/V TD Nr 100	Stage Mgr	LV Mgr for Prog Mgr	MSF, KSC
1 See Enc. 1	Stage and LVGSE open work which must be completed after manufacturing checkout and which adversely affects: • Launch dates. • Mission objectives.	When detected prior to turnover of stage to KSC & signoff of LVGSE by KSC.	Apollo Prog Dir Nr 14	Stage Mgr	Prog Mgr	MSF, KSC
2 See Enc. 2	Launch vehicle action items which are identified after the PDFRR & which adversely affect: • Launch dates. • Mission objectives.	When detected after the PDFRR	Apollo Prog Dir Nr 15	Launch Vehicle Mgr	Prog Mgr	MSF, KSC, MSC
3 See Enc. 2	Closeout of launch vehicle action items after the PDFRR.	At closeout	Apollo Prog Dir Nr 15	Launch Vehicle Mgr	LV Mgr for Prog Mgr	MSF, KSC, MSC
4 See Enc. 2	Composite list of launch vehicle open action items.	At initiation of Flight Readiness Test	Apollo Prog Dir Nr 15	Launch Vehicle Mgr	Prog Mgr	MSF, KSC MSC

VII. PROCEDURE

- A. Open work and action item messages shall:
- Be prepared on GSA Standard Form 14. (See Enclosures 1 and 2.)
 - Conform to the message formats shown in Enclosures 1 and 2.
- B. Open work and action item messages shall be numbered sequentially as shown on page 6.

Enc.
1 & 2

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VII. PROCEDURE (Continued)

- Numbering of Saturn V Messages for STAGE and LVGSE open work prior to PDFRR. (See Enclosure 1.)

Example:

IC - 501 - R - 2
 └─ Message Nr (number sequentially for each mission)
 └─ Saturn V Code Letter
 └─ Mission Number
 └─ Stage or LVGSE Identification

Enc.
1

- Numbering of Saturn V Messages for LAUNCH VEHICLE action items identified at the PDFRR or subsequent to the PDFRR. (See Enclosure 2.)

Example:

501 - R - 8
 └─ Message Nr (number sequentially for each mission)
 └─ Saturn V Code Letter
 └─ Mission Number

- C. Saturn V Action Items are coded at the time of and subsequent to the PDFRR. (See Reference IV.D. and Enclosure 2.)

Example:

501 - H - 14
 └─ Action Item Code (number sequentially for each mission)
 └─ MSFC Code Letter
 └─ Mission Number

Enc.
2

- D. Evaluation of open work to determine if it adversely affects a launch date shall be based on its impact on the following key milestones at KSC:

- Applying power to launch vehicle in VAB.
- Spacecraft mechanical and electrical mating to launch vehicle.

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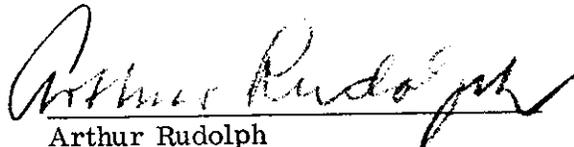
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VII. PROCEDURE (Continued)

- Transfer of space vehicle from VAB to Pad.
- Countdown Demonstration Test (CDDT).
- Flight Readiness Test (FRT).



Arthur Rudolph
Manager, Saturn V Program

2 Enclosures:

1. Message Format Nr 1, Stage and LVGSE Open Work Reports (Prior to PDFRR)
2. Message Format Nr 2 through 4, Launch Vehicle Action Item Reports (After PDFRR)

Distribution: See Page 8

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OFFICE (I-V-T)

PHONE: 876-1574/McLaughlin

(Continued)

Distribution for Action:

MSFC:

I-V-MGR, Dr. Rudolph
 I-V-SIC, Mr. Urlaub (3)
 I-V-SII, Col. Yarchin (3)
 I-V-SIVB, Mr. Godfrey (3)
 I-V-IU, Mr. Duerr (3)
 I-V-G, Mr. Smith (3)
 I-V-T, Mr. Burns
 I-V-T, Mr. Frye
 I-V-T, Mr. Webb
 I-V-T, Mr. Hyfield

Distribution for Information:

MSFC:

DIR, Dr. von Braun
 DEP-T, Dr. Rees
 I-DIR, Gen. O'Connor
 I-DIR, Mr. Hueter
 I-DIR, Dr. Mrazek
 I-V-MGR-O, Mr. Bramlet
 I-V-MGR-M, Mr. Murphy
 I-V-P, Mr. Sneed
 I-V-F, Mr. Rowan
 I-V-Q, Mr. Moody
 I-V-E, Mr. Bell
 I-MO-MGR, Dr. Speer
 I-MT-MGR, Mr. Balch
 I-E-MGR, Mr. Brown
 I-E-T, Mr. Mitchell
 I-MICH-MGR, Dr. Constan
 I-I/IB-T, Mr. Fikes
 I-V-SII, Mr. Gengelbach
 I-V-SIVB, Mr. Young
 I-V-SIVB, Mr. Hall
 I-V-IU, Mr. Powell

Distribution for Information:

MSFC:

I-V-M, Mrs. Hartlein
 I-K, Mr. Montgomery
 I-K-V, Col. Murphy
 R-DIR, Mr. Weidner
 R-DIR, Mr. Cook
 R-TO, Mr. Richard
 R-OM, Col. Fellows
 R-S, Mr. Dannenberg
 R-AERO-DIR, Dr. Geissler
 R-P&VE-DIR, Dr. Lucas
 R-TEST-DIR, Mr. Heimburg
 R-ME-DIR, Mr. Kuers
 R-ASTR-DIR, Dr. Haeussermann
 R-QUAL-DIR, Mr. Grau

KSC:

DA, Gen. Shinkle
 DG, Mr. Mathews
 DG, Mr. Lambert
 HA, Col. Petrone
 JA, Dr. Gruene

MSC:

PA, Dr. Shea
 PR, Mr. Bland

MSF:

MA, Gen. Phillips
 MAT, Mr. Day

NAME OF AGENCY NASA-MSFC	PRECEDENCE	
	ACTION:	Priority
	INFO.:	
ROUTING CLASSIFICATION	TYPE OF MESSAGE	
	<input type="checkbox"/> SINGLE	<input type="checkbox"/> BOOK
	<input checked="" type="checkbox"/> MULTI-ADDRESS	

SECURITY CLASSIFICATION

STANDARD FORM 14 REV. MARCH 15, 1957
GSA REGULATION 2-IX-203.04
14-303

TELEGRAPHIC MESSAGE

OFFICIAL BUSINESS
U. S. GOVERNMENT

THIS BLOCK FOR USE OF COMMUNICATIONS UNIT

MESSAGE FORMAT NR 1 (See Page 5)
STAGE AND LVGSE OPEN WORK REPORTS
(Prior to PDFRR)

MESSAGE TO BE TRANSMITTED (Use double spacing and all capital letters)

TO: Apollo Program Director, MA
National Aeronautics and Space Administration
Washington, D. C.

Chief, Saturn Systems Office, DG
John F. Kennedy Space Center
Kennedy Space Center, Florida

MESSAGE NR: IC-501-R-1 (Number sequentially for each mission.)

SHIPMENT INFO: Date and mode of transportation, as applicable.

SUMMARY OF OPEN WORK to include:

- Total number of items.
- Total installation man-hours to complete.

COORDINATION:

- Summary of coordination effected with:
 - Responsible organization at next work station.
 - Other agencies affected by open work on this hardware.
- As applicable, statement of KSC concurrence on hardware to be shipped to KSC with open work.

ASSESSMENT:

- Summary of schedule impact of open work.
- Summary of stage readiness for work at next station.
- Overall schedule, mission, and cost impacts, if any.

THIS COL. FOR AGENCY USE

DO NOT TYPE MESSAGE BEYOND THIS LINE

PAGE NO.	NO. OF PAGES
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NAME AND TITLE OF ORIGINATOR (Type)	ORIGINATOR'S TEL. NO.	DATE AND TIME PREPARED
I certify that this message is official business, is not personal, and is in the interest of the Government.		
(Signature)		

SECURITY CLASSIFICATION

NAME OF AGENCY NASA-MSFC	PRECEDENCE ACTION: INFO.: Priority
COUNTING CLASSIFICATION	TYPE OF MESSAGE <input type="checkbox"/> SINGLE <input type="checkbox"/> BOOK <input checked="" type="checkbox"/> MULTI-ADDRESS

SECURITY CLASSIFICATION

STANDARD FORM 14 REV. MARCH 15, 1957
GSA REGULATION 24X-203.04
14-303

TELEGRAPHIC MESSAGE

**OFFICIAL BUSINESS
U. S. GOVERNMENT**

THIS BLOCK FOR USE OF COMMUNICATIONS UNIT

**MESSAGE FORMAT NR 2 THROUGH 4 (See Page 5)
LAUNCH VEHICLE ACTION ITEM REPORTS (After PDFRR)**

MESSAGE TO BE TRANSMITTED (Use double spacing and all capital letters)

THIS COL. FOR AGENCY USE

PRINT MESSAGE ADDRESS HERE

DO NOT TYPE MESSAGE BEYOND THIS LINE

MESSAGE FORMAT NR 2
ACTION ITEMS IDENTIFIED SUBSEQUENT TO PDFRR:

ADDRESSEES: MSF/MA, KSC/DG, MSC/_____.

MESSAGE NR: 501-R-1 (Number sequentially for each mission.)

ACTION ITEM CODE: 501-H-1 (Affix action item code assigned at PDFRR or subsequently.)

ACTION ITEM IDENTITY:

- Summary of problem.
- Overall schedule, mission, and cost impacts, if any.

MESSAGE FORMAT NR 3
ACTION ITEM CLOSEOUT: (PDFRR & SUBSEQUENT)

ADDRESSEES: As above.

MESSAGE NR: As above.

ACTION ITEM CODE: As above.

CLOSEOUT INFO: Indicate time of closeout.

MESSAGE FORMAT NR 4
ACTION ITEMS OPEN AT INITIATION OF FLIGHT READINESS TEST: (FRT)

ADDRESSEES: As above.

MESSAGE NR: As above.

OPEN ACTION ITEMS: List action item code of all action items open at initiation of FRT.

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NAME AND TITLE OF ORIGINATOR (Type)	ORIGINATOR'S TEL. NO.	DATE AND TIME PREPARED
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(Signature)