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NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

GEORGE C. MARSHALL SPACE FLIGHT CENTER

SATURN V PROGRAM DIRECTIVE

NUMBER: 31

SUBJECT: INTEGRATION OF SATURN V ACTIVITIES TO BE ACCOMPLISHED AT KSC

ORIGINAL ISSUE DATE: April 28,1966 **REVISION NUMBER:**

DATE OF REVISION: **PREPARED BY:** SATURN V TEST OFFICE
PHONE: 876-6940/Burns

I. PURPOSE

This Program Directive establishes:

- Policy
- Responsibilities
- Procedures
- Channels

for integrating and committing activities at KSC.

II. SCOPE

This Program Directive is applicable to all MSFC elements involved in the Saturn V Program.

III. REFERENCES

A. Memorandum from Manager, Saturn V Program, to Distribution, dated April 19, 1965, subject: Integration of Saturn V Activities to be Accomplished at KSC.

B. Memorandum from Manager, Saturn V Program, to Distribution, dated September 22, 1965, subject: Same as A. above.

C. Saturn V Program Directive Nr. 32, dated April 28, 1966, subject: Establishment of a Launch Vehicle Manager for each Launch Vehicle.

IV. POLICY

A. This Program Directive supersedes References III A. and B. above.

I-V-FORM NO. 53B HARTLEIN JAN. 3, 1966 (OT)

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IV. POLICY (Continued)

B. The Chief, Saturn V Test Management Office, shall act in my behalf as the single point of overall commitment and overall integration of Saturn V activities to be accomplished at KSC.

C. Under the overall responsibility of the Chief, Saturn V Test Management Office, specific responsibilities for commitment and integration have been assigned to each Launch Vehicle Manager, see Reference III C. above.

D. The interfaces for making commitments in accordance with chart number I-V-T-72-66, dated April 22, 1966 (see pages 6 - 12) are as follows:

Area	MSFC	KSC
Overall commitments	Burns, I-V-T	W. Clearman, PPR-5
S-IC Stage	Urlaub, I-V-SIC	Clearman/ E. Hecker, PPR-51
S-II Stage	Yarchin, I-V-SII	Clearman/ J. Powell, PPR-52
S-IVB Stage	Godfrey, I-V-SIVB	Clearman/ D. Brown, PPR-51
Instrument Unit	Duerr, I-V-IU	Clearman/ R. Selkirk, PPR-51
LVGSE	Smith, I-V-G	Clearman/ D. Scheller, PPR-5
Overall Reliability and Quality	Moody, I-V-Q	R. Body, PPR-6
Overall Resources and Funding	Sneed, I-V-P	B. Greenglass, PPR-3
Other	As noted in Chart I-V-T-72-66 (Page 6 - 12)	Clearman/Fulton, PPR-5

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IV. POLICY (Continued)

E. All correspondence to KSC prepared for my signature will be addressed to:

Kennedy Space Center
Attention: Lt. Colonel Rocco A. Petrone
Director, Plans, Programs and Resources, PPR

Such correspondence shall be routed through the Chief, Saturn V Test Management Office, who will:

- Sign for me, or
- Submit to me with recommendation for signature.

F. All other correspondence to KSC originating in Saturn V Program offices will be addressed to:

Kennedy Space Center
Attention: Mr. William T. Clearman, Jr.
Chief, Apollo Saturn V Systems Office, PPR-5

The concurrence of the Chief, Saturn V Test Management Office, his Deputy Chief, or the appropriate Launch Vehicle Manager, shall be obtained on the original of all correspondence committing activities for which I-V-T is shown to have commitment or concurrence responsibility in chart I-V-T-72-66, dated April 22, 1966 (see pages 6 - 12).

Copies of all correspondence to KSC for any purpose whatsoever shall be forwarded to:

- Howard D. Burns, Office Symbol I-V-T.
- William T. Clearman, Jr., Office Symbol PPR-5.
- Lt. Colonel James P. Murphy, Office Symbol I-K-V.

G. All MSFC correspondence which establishes Saturn V Program policy, guidelines, requirements, or commitments shall be forwarded by the Saturn V Program Office to the KSC Program Office.

All other MSFC elements shall forward any recommendations or requirements relating to Saturn V Program activities to the Saturn V Program Office.

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IV. POLICY (Continued)

H. The Chief, Saturn V Test Management Office, his deputy, or the appropriate Launch Vehicle Manager, shall be notified prior to the following meetings between MSFC and KSC personnel:

- Meetings which are expected to be controversial.
- Meetings which will require decisions in the area for which I-V-T is responsible for commitments per chart I-V-T-72-66, dated April 22, 1966 (see pages 6 - 12).
- Meetings where support of I-V-T is required to accomplish objectives.

I. Interchange of technical and other information between MSFC and KSC personnel is encouraged at all levels.

J. Any person planning a visit to KSC relating to Saturn V activities shall coordinate the visit with the KSC person(s) to be contacted prior to departure from MSFC. All visitors to KSC shall sign in and out at the MSFC Resident Office. (I-K)

K. Lt. Colonel James P. Murphy, Saturn V representative, MSFC Resident Office, will maintain continuous liaison at KSC. Colonel Murphy and those assigned to his office will be kept informed and utilized to the maximum extent feasible.

L. The above policy is not intended to relieve anyone of responsibility to initiate actions deemed necessary. However, the above procedures are required to assure the overall integration of Saturn V activities relating to KSC.

V. RESPONSIBILITIES

Responsibilities are shown in chart I-V-T-72-66, dated April 22, 1966, subject: Saturn V Responsibilities for Committing and Integrating Activities to be Accomplished at KSC (see pages 6 - 12).

Arthur Rudolph
Arthur Rudolph
Manager, Saturn V Program

Distribution:
(See page 5)

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ORIGINAL ISSUE DATE _____ REVISION NUMBER: _____

DATE OF REVISION: _____ PREPARED BY: SATURN V TEST OFFICE

PHONE: 876-6940/Burns

Distribution:
Saturn V Staff and Stage Project Offices (Through Branch Level)
I-K-V, Colonel Murphy
R-DIR, Mr. Weidner
R-AERO-DIR, Dr. Geissler
R-ASTR-DIR, Dr. Haeussermann
R-ME-DIR, Mr. Kuers
R-P&VE-DIR, Dr. Lucas
R-QUAL-DIR, Mr. Grau
R-TEST-DIR, Mr. Heimburg
R-COMP-DIR, Dr. Hoelzer
R-S, Mr. Dannenberg
R-TO-DIR, Mr. Richard
R-OM-DIR, Colonel Fellows
R&DO Laboratories (Through Branch Level)

cc:
DEP-T, Dr. Rees
I-DIR, General O'Connor
E-DIR, Mr. Maus
I-V-MGR, Dr. Rudolph
I-V-MGR, Mr. Bramlet
I-V-MGR, Mr. Murphy
I-V-MGR, Mr. Bradford
I-I/IB-MGR, Colonel James
I-E-MGR, Mr. Belew
I-CO-CH, Mr. Hirsch
I-PL-CH, Mr. Goodrum
I-K, Colonel Montgomery
KSC:
PPR, Colonel Petrone
PPR-5, Mr. Clearman
NASA Hdqtrs:
MAT, Mr. Savage

SATURN V
RESPONSIBILITIES FOR COMMITTING AND INTEGRATING
SATURN V ACTIVITIES TO BE ACCOMPLISHED AT KSC

ACTIVITY	I-V-T	Other Functional Project Offices	Stage Managers	LVGSE Manager	R&DO
1. Stage "on dock" Dates	Commits between MSFC & KSC		Plan, manage, and implement		
2. GSE "on dock" end dates and others which impact vehicle opns.	Commits between MSFC & KSC			Plans; manages.	Suppor
3. GSE delivery dates other than 2. above				• Maintains Master Equipment Record (MER) • Commits between MSFC & KSC	Suppor
4. Computer Program requirements and delivery dates	Commits between MSFC & KSC		IU - Plan, manage and implement		Suppor
5. Prelaunch Checkout & Launch Opns Plans & Schedules	Commits between MSFC & KSC	Support	Support	Support	Suppor
6. Countdown Schedules	Commits between MSFC & KSC	Support	Support	Support	Suppor
7. Daily work schedules	Monitors for Launch Vehicle		Monitors for Stage	Monitors for GSE	
8. Ground Wind Loads Requirements and Schedules	Commits between MSFC & KSC	I-V-E Support	Support		Suppor

Chart I-V-T-72-66, Burns, April 22, 1966

SATURN V
RESPONSIBILITIES FOR COMMITTING AND INTEGRATING
SATURN V ACTIVITIES TO BE ACCOMPLISHED AT KSC

ACTIVITY - Continued	I-V-T	Other Functional Project Offices	Stage Managers	LVGSE Manager	R&DO
9. Special Test Rqmts and Schedules	Commits between MSFC & KSC	I-V-E Support	Support		Support
10. Test & Checkout Rqmts for Prelaunch Checkout and Launch Operations	• Plan and manage integration • Commits between MSFC & KSC	Support	Plans, manages and implements generation of rqmts for stage	Plans, manages and implements generation of rqmts for GSE	Reviews and integrates
11. Test and Checkout Specs & Criteria for Prelaunch Checkout and Launch Operations	• Plan and manage integration • Commits between MSFC & KSC	Support	Plans, manages and implements contractually for Stage	Plans, manages and implements contractually for GSE	Reviews and integrates
12. Catalog of Tests for each Launch Vehicle	Integrate and commit approval to KSC	Support	Submit to contractor for review and supply comments to I-V-T		Reviews and integrates
13. Test and Checkout Procedures	Integrate, review and submit required changes	I-V-E Support	Submit to contractor for review and supply comments to I-V-T		Reviews and integrates
14. Prelaunch Checkout & Launch Operations Overall Philosophy, Policy & Guidelines	Commits between MSFC & KSC	Submits to I-V-T and implements	Submits to I-V-T and implements	Submits to I-V-T and implements	Submits to I-V-T and implements

Chart I-V-T-72-66, Burns, April 22, 1966

SATURN V
RESPONSIBILITIES FOR COMMITTING AND INTEGRATING
SATURN V ACTIVITIES TO BE ACCOMPLISHED AT KSC

ACTIVITY - Continued	I-V-T	Other Functional Project Offices	Stage Managers	LVGSE Manager	R&DO
15. Procedures and methodology for use at KSC:					
a. Configuration Control Procedure	Review and concur in procedures prior to implementation	I-V-P Prepare, coordinate and commit to KSC, and maintain. I-V-E Establish and control ICD's	Implement for Stage	Implement for GSE	Support
b. Logistic Plans and Procedures (includes maintenance, support, spares provisioning, training, and transportation)	Review and concur in procedures prior to implementation	I-V-E Prepare, coordinate and commit to KSC, and maintain	Implement for Stage	Implement for GSE	Support
c. Failure Reporting Procedure	Review and concur in procedures prior to implementation	I-V-Q Prepare, coordinate and commit to KSC, and maintain	Support and initiate corrective action	Support and initiate corrective action	Support
d. Material Review Boards (MRB's) at KSC	Review and concur in charter prior to implementation	I-V-Q Prepare, coordinate and commit to KSC, and maintain (KSC implements)	Participate and support	Participate and support	Support

Chart I-V-T-72-66, Burns, April 22, 1966

SATURN V
RESPONSIBILITIES FOR COMMITTING AND INTEGRATING
SATURN V ACTIVITIES TO BE ACCOMPLISHED AT KSC

ACTIVITY - Continued	I-V-T	Other Functional Project Offices	Stage Managers	LVGSE Manager	R&DO
15. (continued)					
e. Specification Waiver procedures (excludes redline values)	• Review and concur in procedures prior to implementation • Approves overall L.V. deviations and variations	I-V-Q Prepare, coordinate and commit to KSC, and maintain. I-V-E Support	Approves (or obtains approval from Prog Mgr) deviations and variations for stages	Participate and support	Support
f. Redline value waiver procedure	I-V-T prepares, coordinates and commits to KSC, and maintains	I-V-E Support	Support		Support
g. Resources and funding management	Support for negotiating problem areas	I-V-P Integrate, commit and control	Negotiate and commit for stage		Support
16. Stage and GSE Receiving Inspection Rqmts	Review & concur	I-V-Q Prepare, coordinate and commit to KSC, and maintain	Support	Support	Support
17. MSFC Rel. & Qual. Monitoring Plan at KSC	Review and concur	I-V-Q Prepare, coordinate and commit to KSC, and maintain	Support	Support	Support

Chart I-V-T-72-66, Burns, April 22, 1966

SATURN V
RESPONSIBILITIES FOR COMMITTING AND INTEGRATING
SATURN V ACTIVITIES TO BE ACCOMPLISHED AT KSC

ACTIVITY - Continued	I-V-T	Other Functional Project Offices	Stage Managers	LVGSE Manager	R&DO
18. Stage Pre-Delivery Reviews	• Prepare Program Directive • Participate	I-V-E Participate I-V-Q Participate	Implement		Participate
19. Delivery of Mod. Kits, "Ship Short" hardware, etc.	Monitor		• Coordinates directly with KSC • Supplies	• Coordinates directly with KSC • Supplies	Support
20. LC-39 Site Activation Board	Monitor and support		Support	Participates (Member)	Support
21. MSFC Contractor support to KSC		I-V-P Coordinate and integrate between Stage Managers and with KSC	Work directly with KSC in development of scopes of work and negotiation with contractor		
22. Flight Evaluation Plan, including activities of: • Flight Evaluation Panel • Flight Evaluation Working Group • Stage contractor	Prepare and integrate plan (Plan will include overall data rqmts from KSC)	I-V-E Support I-V-Q Support I-V-F Support	Provide inputs and support	Support	Support

Chart I-V-T-72-66, Burns, April 22, 1966

SATURN V
RESPONSIBILITIES FOR COMMITTING AND INTEGRATING
SATURN V ACTIVITIES TO BE ACCOMPLISHED AT KSC

ACTIVITY - Continued	I-V-T	Other Functional Project Offices	Stage Managers	LVGSE Manager	R&DO
23. Operational Analysis (from design viewpoint)	• Monitor • Commit mandatory changes in operations, if any	I-V-E: • Perform • Work directly with KSC in establishing operational interfaces & providing data • Submit mandatory changes which KSC does not voluntarily adopt to I-V-T for action	Support	Support	Support
24. Service Arms	• Continuously review schedules and impacts on program • Concur in test rqmts and schedule changes	I-V-E Support	Provide qualified umbilicals	• Confirm Test Requirements • Monitor Test Program and apprise Prog Mgr of status • Plan, manage, and integrate provision of qualified umbilical plates	Support
25. MSFC/KSC Subagreements	• Implements and updates MSFC/KSC Subagreement for Prelaunch C/O & Launch Operations • Concur in changes to all subagreements prior to submission for approval	I-V-E Implement and updates MSFC/KSC Relations - Logistics. I-V-P: • Implement and update MSFC/KSC Relations - Configuration Management • Implement and update MSFC/KSC Subagreement - Program Control	Support and comply	Support and comply	Support and comply

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SATURN V ACTIVITIES TO BE ACCOMPLISHED AT KSC

ACTIVITY - Continued	I-V-T	Other Functional Project Offices	Stage Manager	LVGSE Manager	R&DO
25. MSFC/KSC Subagreements (Continued)		I-V-Q: Implements and updates MSFC/KSC Relations - Quality & Reliability Assurance			
26. Mission Directives	• Prepare • Coordinate • Submit for Program Manager's approval • Monitor & update	I-V-E Submits Mission Objectives to I-V-T	Support	Support	Support
27. Daily Problem solving • Workarounds • Technical Interchange of information • Replacement of components • Other (which do not impact stage erection, rollout VAB, countdown demonstration test, flight readiness test and launch)	• Monitor	• Works directly with KSC • Commits to KSC	• Works directly with KSC • Commits to KSC	• Works directly with KSC • Commits to KSC	• Support • Free technical interchange short of commitment

Chart I-V-T-72-66, Burns, April 22, 1966