

KSC APOLLO PROGRAM DIRECTIVE NO. 2

TO: Distribution

FROM: Robert A. Petrone
Director, Plans, Programs
and Resources

SUBJECT: Assignment of Level II and Level III CCB Chairmen

I. PURPOSE

This Directive formally establishes Level II and Level III Configuration Control Boards (CCBs) at KSC for those items which KSC has design responsibility.

II. SCOPE

The KSC organizations involved in the implementation of this Directive are:

Director, Plans, Programs and Resources (PPR)

Assistant Director for Launch Vehicle Operations (LVO)

Assistant Director for Information Services (INS)

Assistant Director for Engineering and Development (EDV)

III. REQUIREMENTS

1. Level II CCBs are established at the System Office level responsible to the Director, Plans, Programs and Resources. Chairmen for the Level II CCBs are:

Saturn IB	E.R. Mathews	PPR-4	Principal	Launch Complexes 34 and 37
	T.S. Goldcamp	PPR-42	Alternate	
Saturn V	W.T. Clearman, Jr.	PPR-5	Principal	Launch Complex 39
	W.L. Halcomb	PPR-52	Alternate	
Spacecraft	H.E. McCoy	PPR-1	Principal	S/C Industrial Area & Launch Complex 16
	J.H. Leet	PPR-11	Alternate	

When the nonavailability of the principal chairman dictates, the alternate chairman may approve/disapprove engineering changes proposed to the Level II and Level III CCBs. Proposed changes to equipments/locations to be accomplished on-site must be coordinated with the Site Activation Board (SAB) prior to submission to the appropriate CCB. Proposed changes to Spacecraft Industrial areas and Complex 16, shall be approved by the Spacecraft Level II CCB. Changes affecting Spacecraft equipment on Launch Complexes 34, 37, or 39 shall be coordinated with the Spacecraft Level II CCB, and approved by the appropriate Systems Office CCB.

2. Level III CCBs are established within the Center Divisions. Chairmen for the Level III CCBs shall be:

Design

Launch Equipment Branch	H. E. Comer R. T. Moore, Jr.	Principal Alternate	EDV-15 EDV-15
Launcher/Transporter Systems Branch	D. D. Buchanan Unassigned	Principal Alternate	EDV-16
Propellant Systems Branch	C. T. Wasileski Unassigned	Principal Alternate	EDV-18
Facilities Engineering	R. P. Dodd A. J. Carraway	Principal Alternate	EDV-2 EDV-2
Electronic Engineering and Instrumentation Systems	G. F. Williams J. J. Fitzgerald (Measuring Systems) D. C. McMath (RF & Telemetry System)	Principal Alternate Alternate	LVO-1 LVO-12 LVO-13
Information Systems (Launch Complex Equipment Only)	To Be Determined		INS-

3. Level III CCB Chairmen are delegated authority to approve those engineering changes to GSE or Facilities under their direct responsibility which comply with the following criteria:
- Mandatory engineering changes.
 - No Level A or Level B interface impact.
 - No inter CCB impact.
 - Change can be implemented without causing a slippage of approved Launch Complex activation and test schedules.
 - The estimated total cost to the government for the design and implementation of the change will not exceed (\$10,000.00).
 - Sufficient funds are available in the contract. If additional funds are required, the approved CCB must be accompanied by a Procurement Request, KSC Form 19-33, must be submitted to PPR-3 for funding approval.

4. Proposed changes exceeding one or more of the above criteria shall be submitted to the Level II CCB via the Center CMO, PPR-36, for action. Upon receipt of Level II changes, PPR-36 will prepare a CCB agenda and coordinate the scheduling of a CCB meeting.
5. Changes proposed by Operating Divisions unable to be satisfactorily resolved by the Level III CCB will be submitted to the Level II CCB for a decision.
6. Information copies of all Level III CCBs shall be transmitted to PPR-36 with additional distribution as follows:
 - (a) Those affecting Spacecraft PPR-1
 - (b) Those affecting LC-34/37 PPR-4
 - (c) Those affecting LC-39 PPR-5

Enclosures: (1) Organization
(2) Guide for Level III Operations

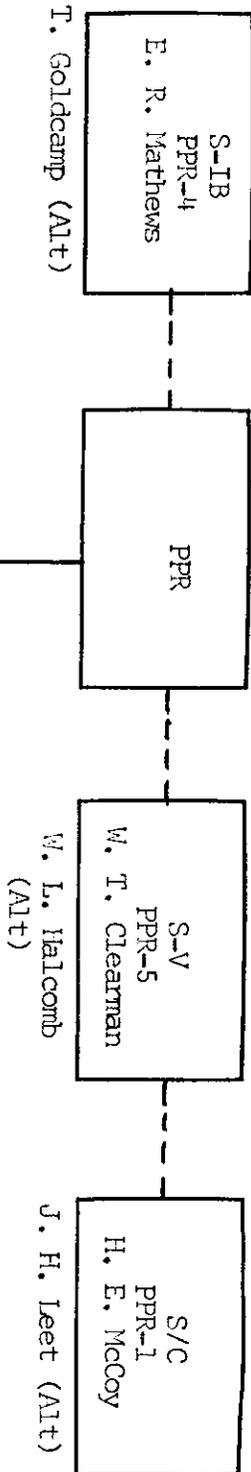
Distribution:

Mr. Clark, SOP
Dr. Gruene, LVO
Mr. Sendler, INS
Mr. J. Williams, SCO
Mr. McDaris, QAS

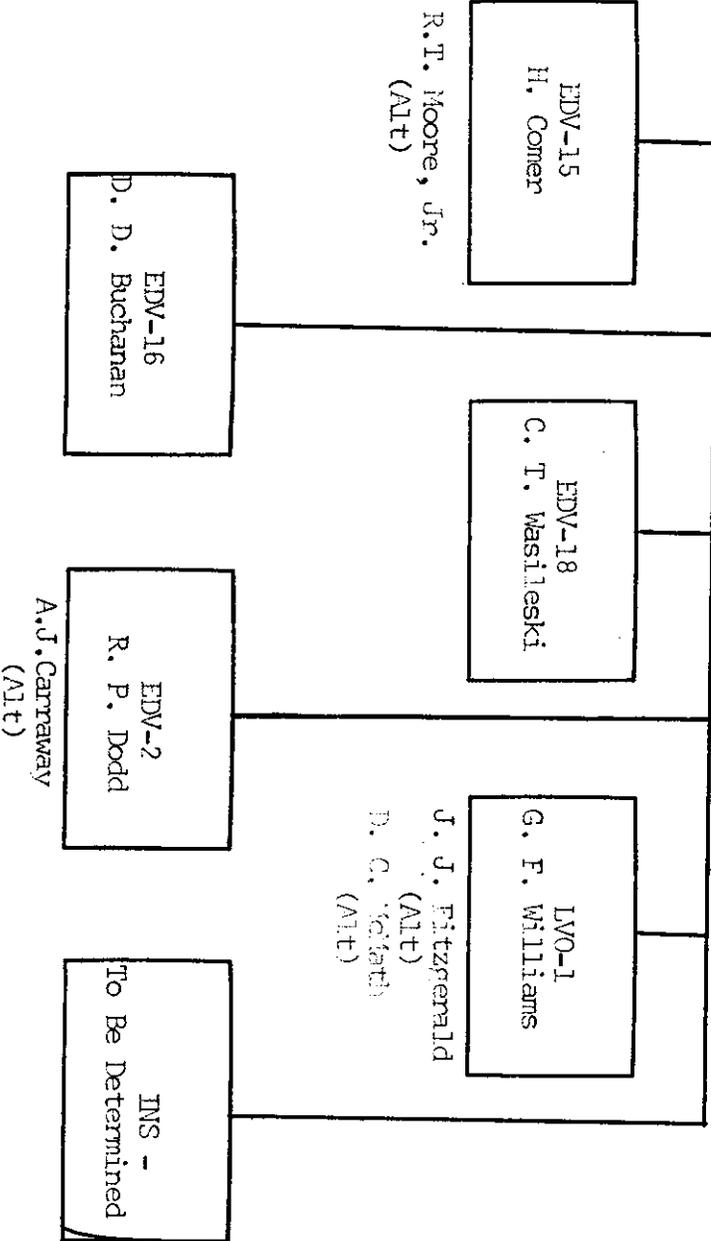
cc:

H.E. McCoy	PPR-1	R.T. Moore, Jr.	EDV-15
J.H. Leet	PPR-11	H. Comer	EDV-15
B. Greenglass	PPR-3	D.D. Buchanan	EDV-16
E.R. Mathews	PPR-4	C.T. Wasileski	EDV-18
W.T. Clearman	PPR-5	R. Yarbrough	EDV-135
Lt.Col. D. Scheller	PPR-5	A.H. Bagnulo	EDV
W.L. Halcomb	PPR-5	G.E. Williams	LVO-1
A.J. Reis	PPR-36	I.A. Rigell	LVO-2
T.S. Goldcamp	PPR-42	A.J. Pickett	LVO-3
R.L. Body	PPR-6	A.D. O'Hara	LVO-7
S.L. Carse	PRO-61	T.D. Greenfield	LVO-22
T.A. Poppel	EDV-1	M.D. Edwards	LVO-71
L.J. Owens	EDV-1	J.T. Humphrey	LVO-73
R.P. Dodd	EDV-2	G.M. Preston	DLO
A.J. Carnaway	EDV-2	R.G. Arbic	DLO-1
		W.F. Barney	INS-5

PROGRAM - CCB
LEVEL II



DIVISION - CCB
LEVEL III



DECISION

Enclosure # 1 - Organization Chart

GUIDE FOR LEVEL III CCB OPERATION

I. General

1. Reference (a) states that KSC will implement the Apollo Configuration Management Manual, NPC 500-1, [reference (c)]. The intent of NPC 500-1 is to establish Configuration Management of the Apollo/Saturn Program in three (3) distinct areas, namely:

- (a) Identification
- (b) Control
- (c) Accounting

2. The Configuration Management Office (CMO), PPR-36, has been assigned the responsibility for interpreting and implementing NPC 500-1 requirements. The Level III CCB's are to establish with KSC-CMO, (PPR-36) divisional procedures for identification, control and accounting.

II. Definitions

The definitions contained in Apollo Configuration Management Manual NPC 500-1 Exhibit XVII apply as written, however, for use of this guideline additional definitions are included herein:

Baseline Configuration

The documented and approved design concept or arrangement of components as established at a given point in the procurement cycle for systems or equipment.

Change Request (CR)

A document used by KSC organizations to request changes to drawings/equipments, prepared and processed in accordance with KSC Procedure 130-40-0016 (K-AM-031/8 ref. B).

Engineering Change Proposal (ECP)

A means of proposing Class I changes to equipment or systems, prepared and submitted in accordance with KSC Configuration Management Procedures 130-40-0010 (K-AM-031/2), and 130-40-0012 (K-AM-031/4).

Engineering Order (E.O.)

A document used by KSC organizations to change released engineering drawings, or the documents referenced therein, that are approved or authorized for applicable articles under NASA contract.

Interface Control Drawing (ICD)

The engineering drawing which graphically or descriptively displays the conditions of the interface which exists between assemblies.

Interface Revision Notice (IRN)

A change document used to identify changes pertaining to an approved Interface Control Document (ICD).

Specification Change Notice (SCN)

A change control document used to record exact changes to an approved specification. An SCN is submitted with a proposed ECP. By definition, all Class I changes require an SCN and vice-versa.

Support Request (SR)

A KSC Form (KSC-19-15) used to request support from either internal KSC organizations or contractors.

III. Identification

1. Contract End Items (CEI's) shall be selected for each system. These CEI's shall be incorporated in a Specification Tree which shall become an integral part of the KSC Apollo/Saturn Top Level Specification Tree, 130-50-0003.
2. Specifications (Part I and II) for the CEI's will be prepared in accordance with Exhibits II through VI, NPC 500-1.
3. Where a Part I of the specification cannot be prepared due to timing or other reasons, a Part II must be prepared. Where technical documentation is available which meets the requirements of a Part II Contract End Item Specification, this technical documentation shall be assembled and identified as the Part II Specification.

IV. Baselines

1. Baselines will be established for all CEI's in accordance with the requirements of Exhibit XIV, NPC 500-1.
2. Baselines defining KSC Facility and Equipment layout will be established by a Drawing Release Authorization (DRA).
3. Changes to the established Baseline will be controlled by the CCB's.

V. Control

1. Control documentation (i.e., specifications and drawings) which establish a baseline must be changed by either approved CR's, ECP/SCN's, or IRN's for Interface Control Documents (ICD).
2. ECP's should be used by contractors to request changes to contractually established baselines.
3. CR's should be used within KSC to request changes to baselines established at KSC.
4. Proposed changes will be processed by the Level II or Level III CCB's within the limitations established by reference (b).
 - (a) Approved ECP's will authorize contractors to make engineering changes in accordance with established change procedures.
 - (b) Documentation (i.e., ECP's, SR's, or equivalent documentation) generated as a result of an approved CR will reference the CR, and will be processed and approved in accordance with KSC procedures.

VI. CCB Level III

1. Each chairman will appoint an alternate chairman and appropriate members.
2. It will be the responsibility of each member to provide any information which may be required by the chairman.
3. A decision by the Level III CCB chairman will be by a documented Configuration Control Board Directive (CCBD). CCBD's shall be numbered sequentially by CCB (e.g., EDV-18-0001, PPR-4-0001). This directive will be binding upon all affected organizations and will authorize PRO to issue, amend or modify a contract within the intent and limitations of paragraph 2.3.1 of ref. (a).
4. The jurisdiction of Level III CCB's is limited to Level C interface (Intra-Divisional). Level A (Inter-Center) and Level B (Inter-Divisional) are under the jurisdiction of the Level II CCB.
5. It is suggested that Level III CCB meetings be held at regular intervals.
6. It is the responsibility of CCB chairmen to ascertain that appropriate contractual requirements be included for any task and that these contractual requirements be enforced for form and procedure.
7. It shall be the responsibility of each Design Division to establish a Configuration Management organization. The CCB Secretariat shall be responsible to keep and maintain adequate records; e.g., logs for CR's, E.O.'s, ECP's and IRN's. The Secretariat shall assign sequential numbers to CR's. (see paragraph 5.2 of reference (e)).

8. It is imperative that flexibility be included in any Divisional CCB procedure to cope with special or emergency situations.

9. All CR's must be processed through PPR-36, in accordance with KSC Procedure 130-40-0016 (K-AM-031/8 rev. B).

10. Copies of all ECP's CCBD's and IRN's must be forwarded to PPR-36 to provide for adequate coordination, reporting and accounting.

11. PPR-36, shall assist in every possible way for a smooth and efficient Level III CCB operations.

VII. Reporting

1. For the purpose of maintaining adequate accounting records, the Level III CCB Chairman shall forward to PPR-36 on a weekly basis, a listing of all changes. This listing shall state the Drawing No., the Assembly Drawing No. and/or CEI, the correct revision, the effectivity of the change and the authority for the change. (CR No., E.O. No., ECP No. or IRN No.)

VIII. List of References

- (a) KSC Apollo/Saturn Configuration Management Program Directive No. 130-40-0001 (K-AM-03/1), dated September 29, 1965.
- (b) NPC 500-1 Apollo Configuration Management Manual.
- (c) Apollo Program Directive No. 6 - No. MA 1400.006, dated August 12, 1965.
- (d) CR Procedure No. (K-AM-031/8 rev. B).
- (e) MSFC/KSC Relations-Configuration Management, dated September 15, 1965.
- (f) Apollo/Saturn Specification Maintenance Procedure No. 130-40-0009, dated August 27, 1965.
- (g) Apollo/Saturn Requirements for Engineering Change Proposals to End Items, No. 130-40-0010 (K-AM-031/2), dated August 27, 1965.
- (h) Apollo/Saturn Preparation of Engineering Change Proposals No. 130-40-0011 (K-AM-031/3).
- (i) Apollo/Saturn KSC Processing of Engineering Change Proposals No. 130-40-0012 (K-AM-031/4), issued August 27, 1965.

Chief, Program Management Systems
Integration, AP-PCO-3

SEP 26 1967

In reply refer to 0299

Chief, Launch Complex Branch, AP-SAT-1

BTKennedy/pf/5590

Comments to Apollo Program Directive #2

1. This office does not concur with the revised subject directive and makes the following comments:

Paragraph IV b (2) - E. R. Mathews, Deputy Apollo Program Manager, is not in favor of this limitation for KSC equipment and will discuss it with S. C. Phillips, Apollo Program Director/MA.

Paragraph IV.2.b. (1) - This office restates its recommendation that Level "A" documentation changes and Level "B" changes are within the purview of the Level III Board.

Paragraph IV,2.e. - Add the following sentence: "However, these requirements may be waived at the discretion of the Chairman.

Paragraph IV 3.b. (2) - Same comment as IV.2.b. (1).

Paragraph IV.3.b. (4) - Change \$10,000 to \$50,000.

Under Addendum No. 1 (1) - This office has been informed by E. R. Mathews, Deputy Apollo Program Manager, that the chairmanship of the Configuration Control Board should be raised to a higher management level. Therefore, it is suggested that the chart be changed as follows:

Saturn IB and Saturn V	W. T. Clearman	AP-SAT Principal LC-34 & 37 & 39
Saturn IB	T. F. Goldcamp	AP-SAT Alternate LC-34 & 37 & 39
Saturn V	T. F. Goldcamp	"
Spacecraft	S. Beddingfield	AP-SCO Principal
	J. Leet	AP-SCO Alternate

Also, the Level II CCB Chairman for the CIF area under AP-OPN

is missing and should be included.

ORIGINAL SIGNATURE
T. F. Goldcamp