



NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
JOHN F. KENNEDY SPACE CENTER
KENNEDY SPACE CENTER, FLORIDA 32899

REPLY TO
ATTN OF: AA-PCO-2

MAR 27 1972

MEMORANDUM

TO: Distribution

FROM: AA/Manager, Apollo-Skylab Programs

SUBJECT: Skylab Program Directive No. 57, "Functions and Responsibilities of the Headquarters Skylab Program Office"

The attached Skylab Program Directive No. 57 is provided for your information only as there is no impact upon the center. A copy of my Briefing Note to the Center Director concerning this Directive is also included.

William H. Rock
for Robert C. Hock

2 Enclosures

Distribution:
Apollo-Skylab Distribution M

1/3/02

MAR 2 1972

BRIEFING NOTE TO: CD/Dr. Debus

SUBJECT: Skylab Program Directive No. 57, "Functions and Responsibilities of the Headquarters Skylab Program Office"

The subject Directive is being provided to the Directorates for information only since it only pertains to the functions and responsibilities of the Skylab Program Office at Headquarters.

There is no impact on the center.

Robert C. Hock
Robert C. Hock

NASA/KSC MAR/72

SKYLAB
PROGRAM DIRECTIVE NO. 57

TO: DISTRIBUTION

FROM: 
DIRECTOR, SKYLAB PROGRAM

SUBJECT: FUNCTIONS AND RESPONSIBILITIES OF THE HEADQUARTERS
SKYLAB PROGRAM OFFICE

I. PURPOSE

This instruction defines the responsibilities and authorities assigned within the Skylab Program Office. Specifically, it delineates the responsibilities assigned to each of the Skylab Directorates.

II. APPLICABILITY

This instruction applies to the Skylab Program Office, Office of Manned Space Flight, Washington, D. C.

III. POLICY

The Director, Skylab Program is responsible for directing, supervising, integrating and evaluating the Skylab Program through all its phases and aspects. These responsibilities include programmatic and administrative direction and integration of all aspects of the Skylab Program to insure the success of each flight mission and of the program as a whole. As in each case of program direction and control in NASA, these responsibilities are assigned as within the context of NASA's overall system of functions and authority wherein functional, programmatic and secretariat activities form complementary and self-policing aspects of the total management structure and operating practices.

The Skylab organization provides for the execution of responsibilities in the areas of Project Integration; Program Budget and Control; Reliability, Quality and Safety; Engineering and Operations.

IV. RESPONSIBILITIES OF THE SKYLAB DIRECTORATES

The Skylab Directorates of Project Integration; Program Budget and Control; Reliability, Quality, and Safety; Engineering and Operations are responsible for the development and implementation of policy, guidelines and directives in these respective areas.

Each Directorate has a direct responsibility to assure the overall compliance and compatibility of his management areas with the overall objectives and goals of Skylab, as well as the ongoing respective activities in other Directorates throughout NASA Headquarters. Specifically, these Directorates are assigned responsibilities as described below.

A. Project Integration Directorate

The Skylab Project Integration Directorate is responsible for the overall coordination, development and integration of all spacecraft and experiment hardware projects assigned to the Skylab Program.

The Director, Skylab Project Integration, will assign Project Managers to spacecraft, experiment and other appropriate program elements. The responsibilities of each Skylab Project Manager include the following:

- a. Coordinates project requirements and manages the overall execution of the Skylab project activity within established guidelines and controls.
- b. Provides the focal point in NASA Headquarters for the hardware development activities associated with the project under his management.
- c. Initiates and assures the adequacy of project development oriented analyses and reviews.
- d. Assesses and evaluates his assigned project status, trends and problems.
- e. Reviews directives, plans and procedures and advises the support elements with respect to applicability and effect on his project.

- f. Provides support to program/mission planning activities related to his project.
- g. Coordinates the development of studies and feasibility analysis for advanced Skylab missions.

B. Program Budget and Control

- a. Establish and maintain an overall Skylab management communication, information and control system including planning and supporting various management reviews and operating the Skylab Management Center.
- b. Establish methods and procedures which permit assessment of status and progress in the program.
- c. Prepare, coordinate and negotiate approval of all work authorizations from higher authority to Skylab and from Skylab to lower echelons of management.
- d. Prepare and coordinate all resources requirements related to Skylab. Establish and evaluate the obligation of program authority and the rate at which costs are incurred, determine impact of any changes in resources availability, and recommend necessary actions to maintain the integrity of the resources plans and budgets, as well as the overall Skylab objectives.
- e. Within the limitations established by Program/Project Approval Documents and other general management limitations, implements the Program Director's allocation and reprogramming of R&D funds between program elements. Concur in the allocation and reprogramming of resources other than R&D funds when scope or requirements of the program are affected.
- f. Prepare and maintain an overall Skylab Procurement Plan including requirements, contract structure and pattern, and all activities from prenegotiation planning through contract administration. Provide Skylab coordination for the administration of Skylab procurement-related documents through Headquarters. Recommend appropriate Skylab action.

- g. Prepare for Skylab Director's approval, and publish the necessary top level plans and schedules. Assure preparation by the Centers of the adequate lower level work schedules. Assure compatibility of program plans, schedules and resources. Both independently and through direct support to the Skylab Director, Project Managers and others:
- (1) Assess status
 - (2) Prepare recommendations to higher levels of management
 - (3) Advise Centers of actions taken
- h. Establish Skylab reports control policy and requirements. Assure implementation of a system for the administration and control of Skylab documents in Headquarters and at the Centers.
- i. Establish policy and requirements for a Skylab logistics program. Assure implementation of a comprehensive logistics program that supports all phases of hardware assembly, checkout, test, operations, refurbishment, transportation and related activities within the program.
- j. Perform the Skylab Congressional Relations activity.
- C. Engineering Directorate
- a. Establish program policy and requirements for engineering, development, qualification, acceptance and prelaunch checkout testing of launch vehicles, spacecraft and experiments.
 - b. Prepare and administer development program directives, i.e., Skylab Test Requirements, Summary Test Plans, Checkout and Mission Evaluation Requirements Directives and others as required.

- c. Maintain the Skylab Program Specification in accordance with up-to-date functional, performance and environmental requirements of Skylab systems and subsystems.
 - d. Evaluate Centers' engineering, development and checkout plans, associated hardware and facilities support requirements and specifications for conformance with overall program/mission objectives and requirements.
 - e. Monitor and evaluate progress of engineering and development, qualification and checkout activities and related GSE and facilities and prepare ground test program validation analyses.
 - f. Maintain and assess weight control status for all vehicle stages and spacecraft modules.
 - g. Establish Skylab configuration management policy and requirements. Assure implementation of a system applicable to all effort within Skylab by monitoring and evaluating change and ICD progress.
 - h. Organize engineering portions, Skylab Flight Readiness and Design Certification Reviews.
 - i. Provide engineering support to the Skylab key inspection, review and certification checkpoints.
 - j. Conduct engineering analyses and technical assessments as required to support Program Office technical decisions.
- D. Reliability, Quality, and Safety Support Office
- a. Establish program policy and requirements for reliability, quality, and safety.
 - b. Prepare and administer Skylab reliability, quality, and safety directives and procedures.
 - c. Monitor and evaluate progress in achieving Skylab reliability, quality, and safety objectives.
 - d. Coordinate with Headquarters segments, Centers and other agencies on all reliability, quality, and safety matters related to Skylab.

- e. Provide support to the reliability, quality, and safety portions of the Skylab key inspection, review and certification checkpoints.
- f. Make periodic mission reliability assessments.
- g. Develop and support the training and motivation program in reliability, quality, and safety.
- h. Review and recommend on proposed Skylab supporting development projects in the reliability, quality, and safety areas.
- i. Provide an independent Reliability and Safety assessment to the Program Director on impending design and operational changes.
- j. Provide status of significant hardware failures and corrective actions to the Program Director.

E. Operations Directorate

The Skylab Operations Directorate is responsible for overall coordination and development of operationally related program/mission planning activities. The responsibilities of this Directorate include the following:

- a. Insure that the nominal, alternate and backup mission definition, mission planning, and associated preflight preparation activities are properly coordinated throughout the Skylab Program elements; and are in support of the required mission objectives; are compatible with the spacecraft systems capabilities; and are accomplished on a schedule that will support the planned flight schedule.
- b. Coordinate, develop, assess and recommend operational requirements necessary for implementation in the airborne and ground hardware.
- c. Review, evaluate, and concur on requirements for mission support facilities needed for the Skylab Program.

- d. Prepare and administer plans and documentation required to implement the programmatic program/mission requirements priorities and guidelines associated with the detailed development and conduct of the Skylab missions. This includes the Flight Mission Assignments Document, the Operations Directive and other operational documents as required.
- e. Review and assess the budget requirements for preflight, launch flight and crew operations and advise the Skylab Program Director on the budgetary levels, content and adequacy.
- f. Monitor the flight phase of the Skylab missions and keep the Program Director apprised of the mission status. Advise the Program Director on recommended programmatic mission objective, priority and guideline changes.
- g. Coordinate the development of the Skylab operational support requirements.
- h. Review and recommend on proposed Skylab supporting development projects.

V. RESPONSIBILITIES OF OTHER SKYLAB OFFICIALS

1. Deputy Director

- a. Shares with the Director the supervision, integration and evaluation of all phases of the Skylab Program.
- b. Authorized to act for the Director on all matters as contained in the policy statement of this document (Section III).

2. Special Assistant for Missions

Serves as a Program Director representative at the operations Centers (KSC and MSC) during Skylab missions to insure the success of each flight mission with full emphasis on successful accomplishment of experiments.

3. Executive Assistant

- a. Assists the Director and Deputy Director to assure the timely flow of information, communications and direction in support of Skylab management activities.
- b. Recommends and establishes policy for the administrative management of Skylab.
- c. Review, evaluates and concurs in Centers' plans and requirements for Skylab facilities.
- d. Implements necessary actions to assure Skylab Program Office compliance with all administrative policies and procedures prescribed by authority from OMSF, agency and federal government levels.
- e. Reviews Director's incoming correspondence, assigns actions, maintains follow-up system and assures that the Skylab Program Office response to external actions is prompt and properly coordinated.
- f. Assists the Director and Deputy Director to implement program management activities such as monthly Skylab Reviews and Headquarters/Center Management Meetings; supports Skylab participation in such activities as the reviews with the Administrator's staff, the OMSF Management Council, Program Coordinating Group, etc.
- g. Serves as Secretary to the Skylab Program Office Personnel Review Board and is the focal point for all personnel matters in the Skylab Program Office.
- h. Maintains full awareness of all Skylab Program Office activities and provides advisory and informative assistance to the Skylab Program Office staff.
- i. Provides direct personal assistant to the Director and Deputy Director on special management matters.

VI. IMPLEMENTATION

Authority - This instruction becomes effective immediately. Changes, additions, or deletions must be approved by the Director, Skylab Program.

Cancellation - ML-1200.1A is cancelled.

Attachment:
Skylab Program Organization Chart

DISTRIBUTION:Headquarters

B/Lilly (2)
D/McCurdy (2)
M/Myers
MA/Petrone
MB/Johnson
MDM/Gorman
MDT/Donlan
ME/Lindley
MF/Lord
MH/Donlan
ML-1/Ashley
MLA/Hanes (10)
MLB/Field (10)
MLD/Disher
MLD-1/Brown
MLE/Savage (10)
MLO/Aller (10)
MLQ/Cohen (5)
MLS/Anderson (10)
M-N/O'Donnell
MQ/Cohen
MR/Wible
MT/Culbertson
R/Jackson (2)
S/Naugle (2)
T/Truszynski
E/Mathews

KSC

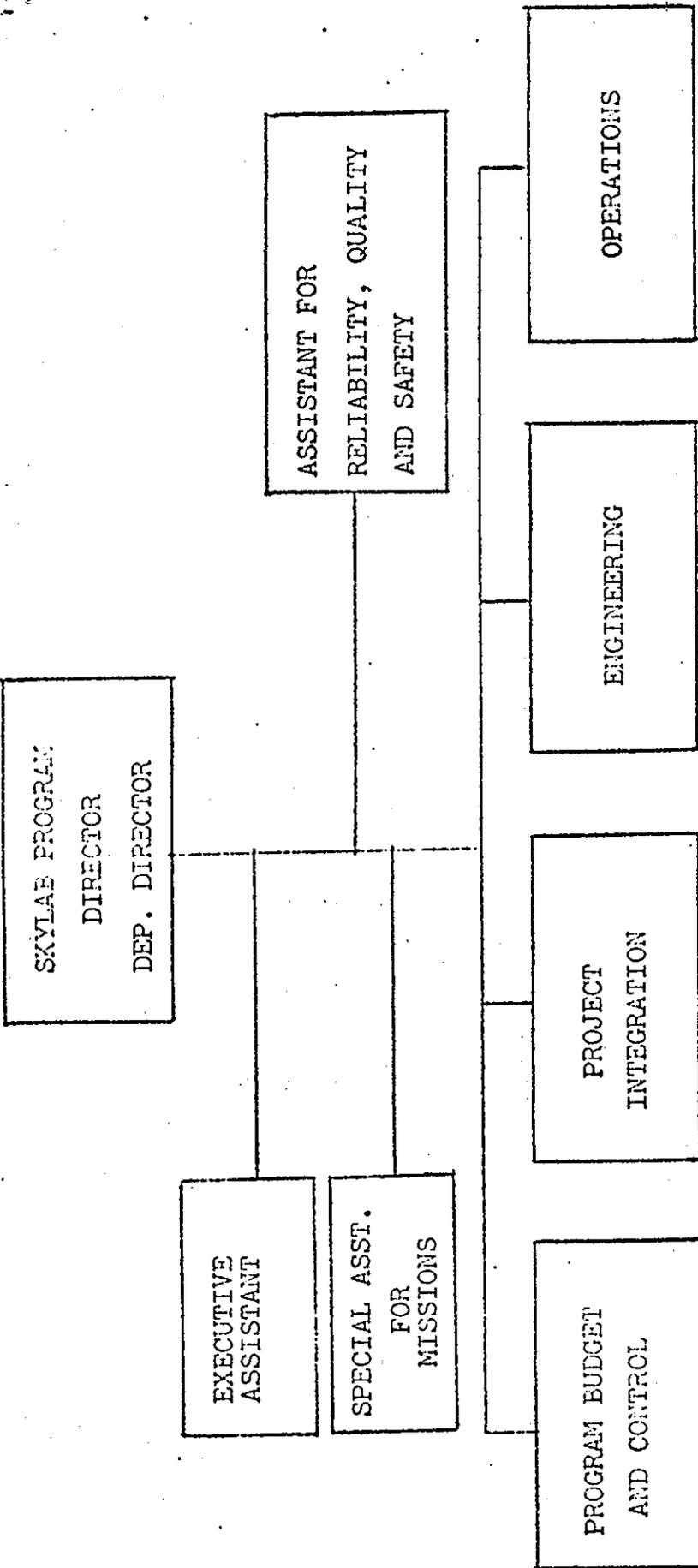
AA/Hock (75)

MSC

KA/Kleinknecht
BT/Haulbrock
JM86/Brazil (75)

MSFC

PM-SL-MGR/Belew (10)



SKYLAB
PROGRAM DIRECTIVE NO. 59

TO: Distribution

FROM:

W. C. Schriener
DIRECTOR, SKYLAB PROGRAM

SUBJECT: Skylab Flight Readiness Reviews

OFFICE OF PRIME RESPONSIBILITY: Skylab Program Engineering (MLE)

REF: a) Skylab Program Directive No. 11A, dated October 14, 1970, Subject:
Sequence and Flow of Hardware Development and Key Inspection, Review
and Certification Checkpoints

I. PURPOSE

This directive defines the review procedure and requirements for the Skylab Program Director's Flight Readiness Review (FRR) to be conducted prior to each Skylab mission. It also defines the reporting procedure for FRR open actions and open work resulting from and developing subsequent to each FRR. Reference (a) shows the relationship of the FRR to other Skylab hardware development and key inspection, review and certification checkpoints.

II. SCOPE AND BASIC ORGANIZATION

Each FRR will be conducted by the Skylab Program Director. He will be assisted by a Board consisting of senior Headquarters and Center personnel and by a Secretariat consisting of technical specialists from the Skylab Program offices.

The FRR will be conducted as a consolidated review of the hardware, software, the flight crew and all operational and support elements to assess their readiness to begin the mission. There will be three FRR's for the normal Skylab Program (one for SL-1/SL-2 and separate FRR's for SL-3 and SL-4). An FRR will be conducted for the rescue vehicle if a rescue mission is required.

Each FRR covers the readiness assessment of the CSM, AM/MDA, ATM, OWS, PS, launch vehicle, GSE, launch complex, launch support, all operational elements, flight experiments, all software including computer programs, and all safety and emergency provisions and procedures as appropriate. The FRR concerns the determination of the suitability of a particular space vehicle for a scheduled flight mission assignment, as well as the readiness assessment of

operational elements required to support the mission. Specific FRR presentation requirements are identified in Section VI.

III. GUIDELINES AND SECRETARIAT LETTERS

Approximately six weeks prior to the FRR, a guidelines letter will be prepared by Skylab Engineering, coordinated with the cognizant Center and Skylab Program Office Directorates and issued by the Skylab Program Director. It will contain special requirements not covered in subsequent paragraphs of this directive and a preliminary agenda identifying topics and time allotments.

IV. FRR SCHEDULE

The SL-1/SL-2 FRR will be held subsequent to the Saturn Workshop (SWS) integrated systems test review and the Center Pre-FRR meetings at approximately the time that the SL-1 vehicle is ready for transfer to the pad. SL-3 and SL-4 FRR's will normally be held subsequent to their respective Flight Readiness Test (FRT). The exact FRR dates will be established approximately 30 days in advance of each FRR.

V. CENTER PRE-FRR MEETINGS AND RELATED REVIEWS

The Skylab schedule requires that SWS integrated systems tests be performed at KSC prior to closeout of the Orbital Workshop (OWS). The results of these tests will be the subject of an intercenter review after test completion. The status of significant problems, their closeout action and open items from this review will be presented by the appropriate Center as an element of the SL-1/SL-2 FRR.

Center Preliminary Flight Readiness Reviews (Pre-FRR's) will be conducted by MSC, MSFC, and KSC as more detailed assessments of flight readiness.

Representatives of the Skylab Program Director's staff will attend each Center Pre-FRR. The Director, Skylab Engineering (MLE), will coordinate the determination of those Pre-FRR items not requiring the Program Director's review at the FRR. Such items will not appear on the final FRR agenda. Confirmation of the items to be covered will be accomplished by TWX within two working days following the Pre-FRR.

VI. FRR PRESENTATION REQUIREMENTS

A. Responsibility for Major Agenda Items

The responsibility for major agenda items are as follows:

1. Review Objectives - Skylab Program Director.
2. Mission Summary - MSC Flight Operations Director

3. CSM (including rescue capability) - MSC Apollo Spacecraft Program Manager.
4. Orbital Workshop, ATM, Airlock, MDA, and PS - MSFC Skylab Program Manager.
5. Launch Vehicle - MSFC Saturn Program Manager.
6. Loose Equipment and Stowage - MSFC Skylab Program Manager.
- MSC Skylab Program Manager.
7. Experiments - MSFC Skylab Program Manager.
- MSC Skylab Program Manager.
8. Launch Complex - KSC Skylab Program Manager.
9. Launch Operations and Support - KSC Launch Operations Director.
10. MCC Readiness - MSC Flight Operations Director.
11. Network Readiness - GSFC Network Director.
12. Medical Status - MSC Medical Director.
13. Flight Crew Readiness - MSC Flight Crew Operations Director.
14. Recovery Readiness - MSC Flight Operations Director.
15. Action Item Summary - Skylab Program Director.

B. Presentation Emphasis Guidelines

1. The agenda topics shall be presented in sufficient detail and scope to enable the Skylab Program Director to make a judgment as to flight readiness.
2. The flight hardware readiness portion of the review shall include:
 - a. The status of action items and open items from the Design Certification Reviews including an impact assessment of any items which remain open.
 - b. The results of factory acceptance testing and identification of significant open work and unresolved problems transferred to KSC.
 - c. Major emphasis on flight hardware testing at KSC and the disposition of significant anomalies or failures that have occurred during KSC testing.

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3. The agenda topics will normally:

- a. Commence with an overall readiness summary, be followed by appropriate supporting detail and conclude with a readiness assessment.
- b. Emphasize significant resolved problems when necessary to establish confidence.
- c. Emphasize significant unresolved problems, their impact and constraints to the mission.

4. As applicable to the agenda item and making maximum use of the above guidelines, the following presentation areas should be covered to the depth necessary to enable a decision on the flight worthiness of the hardware.

- a. Factory Tests: Results of qualification or verification testing not completed at the time of acceptance or the appropriate DCR. Identification of significant acceptance test problems that were open at the time of delivery to KSC or which have impacted KSC test operations.
- b. Configuration: Identification and rationale for significant hardware change-outs that have occurred since factory acceptance, ICD/IRN status and the logistics status of critical flight spares.
- c. KSC Tests: Results of KSC checkout and test operations of hardware and software with emphasis on significant anomalies and their resolution.
- d. Computer Programs: Verification and status of the check-out and flight computer programs utilized for Skylab.
- e. Waivers and Deviations: Identification and rationale of significant waivers and deviations to Skylab test and checkout requirements specifications and criteria, KSC test and checkout plan and procedures, CEI specifications, and Cluster Systems Requirements Specification subsequent to DCR's.
- f. Reliability and Safety: Identification and status of limited life components and any problems or failures related to Categories I or II Single Failure Point Hardware. Include a safety assessment based on KSC testing.

- g. Launch and Flight Preparation: The status of readiness of ground support systems, AFETR, Network Support Operations, crew training readiness, launch and flight mission rules and the launch and flight operations activities; emphasizing significant hardware or procedural problems or anomalies that could impact or impose constraints to the mission.
- h. Controlling Documentation: Identification and status of controlling launch, flight, recovery, and other supporting guidelines and procedural documentation necessary for the conduct of the mission in each appropriate area.

5. The SL-3 and SL-4 FRR presentations will particularly identify and discuss the closeout of flight anomalies from the previous Skylab mission(s). Reuse of flight hardware, configuration changes and mission rules changes from prior mission(s) will be addressed.

VII. FRR DOCUMENTATION REQUIREMENTS

A. Prior to the FRR

Six paper copies of the Center Pre-FRR vu-graphs are required by the Skylab Program Office immediately following each Pre-FRR. At the same time, MSC and MSFC will also supply the Skylab Program Office with information on the status of Certificate of Flight Worthiness (COFW) endorsements.

B. At Time of the FRR

Vu-graphs used at the FRR will be retained by the Skylab Program Office. Fifty paper copies of the vu-graphs will be provided at the FRR to the Secretariat for distribution to participants. MSC and MSFC will provide an updated status of the COFW endorsements for inclusion in the FRR minutes.

Backup documentation or reports that are referenced or used at the FRR will be made available on request to the Secretariat.

VIII. FRR ACTION ITEM AND OPEN WORK CLOSEOUT

The Skylab Program Managers will report weekly the status and closeout of open actions assigned at the FRR by the Program Director, and the open work identified at the FRR by the Program Managers and recorded in the FRR minutes. Significant open actions which are identified subsequent to the FRR will also be reported. The following specific reporting guidelines will be followed:

1. Significant open actions that occur subsequent to the FRR will be reported to the Program Director. Routine open actions that can be corrected prior to the launch and actions which do not delay the launch or violate space vehicle or launch complex configuration integrity, or cause basic changes to

mission rules, flight plan, or abort and alternate mission plans, need not be reported. Each new open action reported will be given a brief title/description and an estimated completion date.

2. Reporting of open actions being rescheduled will include the reason for rescheduling, actions planned for closeout, and the new closeout date.

3. Reporting of open actions closed out will state fully the basis for closeout, that is: action taken, data obtained, and determinations made.

4. Launch Vehicle open actions which entail joint MSFC-KSC responsibilities and Skylab modules and experiments open actions which entail joint MSFC-MSK-KSC responsibilities will be reported closed out by MSFC and MSC Program Managers respectively based on coordination with the Program Manager at KSC. Closeout reports on these open actions will indicate the KSC Program Manager's concurrence.

5. Reporting of open work closed out will state the basis for closeout if the work is considered to significantly affect configuration integrity, or if the basis for closeout is other than completion as planned at the time of the FRR.

6. A final review of all open items will be included in the final readiness review held two days prior to launch (L-2 day meeting).

IX. FRR MINUTES

The FRR minutes will be prepared by the Secretariat and be released approximately one week after the FRR.

X. ACTION

This directive shall be implemented by the Skylab Program Managers to insure effective planning for and conduct of an FRR for each Skylab Mission and for FRR reporting.