



**Aerospace
Systems Division**

December - January System Safety
Progress Report ALSEP Array E

NO.	REV. NO.
ATM 1084	
PAGE <u>1</u>	OF <u>4</u>
DATE	3/2/72

This ATM documents the progress of the System Safety Program for ALSEP Array E through January 1972.

W. J. Lavin, Jr.
System Safety Engineer

B. J. Rusky, Manager
ALSEP System Support



**Aerospace
Systems Division**

December - January System Safety
Progress Report ALSEP Array E

NO. ATM 1084

REV. NO.

PAGE 2 OF 4

DATE 3/2/72

1.0 IDENTIFIED HAZARDS

No new hazards inherent to the ALSEP Array E Experiments have been identified since the last progress report.

2.0 DESIGN CHANGES

ALSEP Array E design changes are reviewed from a safety viewpoint prior to their incorporation. No safety significant design changes have been presented for review since last report.

3.0 IDENTIFIED SAFETY DISCREPANCIES

No safety discrepancies have been identified during the reporting period.

4.0 TESTS AND OPERATIONAL PROCEDURE

A total of 39 procedures on the LSP Experiment have been reviewed for safety impact of which six procedures contain hazardous sequences. No new procedures containing hazardous sequences have been identified in this reporting period.

5.0 SYSTEM SAFETY DOCUMENTS

The following list of System Safety Documents has been submitted since the last reporting period.

- LS-11 Revision A, LSP Field Test Safety Plan
- ATM 1056, Revision A, LSP Ground Operations and Safety Plan
- ATM 1056, Revision B, LSP Ground Operations and Safety Plan
- ATM 1053, Revision A, LSP Operational Hazard Analysis
- ATM 1053, Revision B, LSP Operational Hazard Analysis



**Aerospace
Systems Division**

December - January System Safety
Progress Report ALSEP Array E

ATM 1084

PAGE 3 OF 4

DATE 3/2/72

5.1 LS-11 Revision A, LSP Field Test Safety Plan

This document was revised to reflect current hardware configuration and changes in field test procedures and was released in late December.

5.2 ATM 1056, Revisions A&B, LSP Ground Operations and Safety Plan

This document defines the conditions under which the explosive components of the LSP are manufactured, tested, transported, and stored while under the cognizance of the Bendix Corporation, Aerospace Systems Division. Revision A of this document was issued to reflect changes in hardware and planned operations that occurred since the original release and was released on 14 December 1971. Revision B incorporated NASA comments to Revision A and was released on 13 January 1972.

5.3 ATM 1053, Revisions A&B, LSP Operational Hazard Analysis

This document is an evaluation of all known hazards that can be identified throughout the operational life cycle of the LSP Experiment. Revision A, released 6 December 1971, was updated to make corrections and add clarification; Revision B, released 13 January 1972, incorporated NASA comments.

6.0 RESIDUAL HAZARD LIST

LSG/Subpack No. 1 Interface

A residual hazard was identified on the LSG Experiment in ATM 1057 and submitted to the MSC System Safety Office. Specifically, it was noted that a very low probability hazard existed in that a preloaded LSG boyd bolt could fail in shear and strike an astronaut EMU. The MSC System Safety Office has since determined that, in the worst case, the amount of energy in a boyd bolt under such conditions is insufficient to damage the EMU in any way.

7.0 NARRATIVE

LSP Prototype Field Test

A presentation on experiment safety and area safety as defined in the LSP Field Test Safety Plan was made at the LSP Field Test Readiness Review held



**Aerospace
Systems Division**

December - January System Safety
Progress Report ALSEP Array E

NO.	REV. NO.
ATM 1084	
PAGE <u>4</u>	OF <u>4</u>
DATE	3/2/72

at NASA White Sands Test Facility (WSTF). In addition, System Safety assisted in site activation and testing at WSTF to assure adequate safety precautions were provided throughout. This support will continue when the prototype tests are resumed.

7.2 Meetings Attended

System Safety participated in the meeting held at Bulova Watch Company on 6-8 December 1971 reviewing the recent LSP Timer failure. Representatives from BxA, MSC and Bulova were in attendance.

System Support also participated in the Bendix/Naval Ordnance Lab/Naval Weapons Lab/MSC Coordination Meeting at BxA on 9-10 December 1971.