NO SINGLE FAILURE POINTS

NASA SUSPENDED LOAD OPERATION INTERIM ANALYSIS/APPROVAL

1. OPERATION TPS SL-D2-GEN-0001
IPPLA Transfer and OTT Installation into Orbiter

2. REQUESTOR	ORGN.	PHONE	DATE	REQUEST NO.
William Little	MDSS Safety	7-3894	1/20/93	SLO-KSC-1993-001I

3. CONTRACTOR	4. CONTRACT NO.	5. VEHICLE/GSE/EFFECTIVITY FACILITY	6. TIME PERIOD/DURATION
MDSS-KSC	NAS10-11400	STS-55	1/20/93 only

7. DOCUMENT	8. TITLE	9. ITEM NO.
GP 10981F	KSC Ground Operations Safety Plan, Vol. 1	Section 2.36
NSS/GO-1740.9	NASA Standard for Lifting Devices and Equipment	Section 2.7.18

10. REQUIREMENT
The two documents listed in block #7 do not allow personnel to work under suspended loads. The requirements are as follows:
GP 10981F - "A load will not be lifted, suspended, or transported over personnel . . ."
NSS/GO-1740.9 - "Loads shall not be moved over people unless specifically authorized in a technical operating procedure."

11. DESCRIPTION
Three personnel were allowed access individually to inspect potential damage to the Spacelab Transfer Tunnel (STT) keel trunnion. This required personnel to work under the suspended STT. Physical and visual assessment of the keel trunnion were required to determine the disposition.

12. DETAILED RATIONALE
As the LSOC crane crew was installing the STT into the orbiter, a scraping sound was heard as the keel trunnion was being installed into its fitting. The STT had to be hoisted out of the orbiter and suspended in the OPF Bay 2 transfer aisle to assess if there were any damage to the keel trunnion. As the keel trunnion is on the bottom of the STT, assessment required personnel to be placed under the suspended load.

13. REMARKS
MDSS Safety, NASA Safety, and LSOC safety were on site during the suspended load operation to monitor personnel under the load. The appropriate verbal concurrences were obtained prior to the suspended load operation, per the "NASA Alternate Safety Standard for Suspended Load Operations" and KHB 1710.2, SFOP #37, "NASA Suspended Load Operation Analysis/Approval."

14. REQUIRED APPROVAL

CONTRACTOR		NASA	
☐ DESIGNS	☐ R&QA	☐ DESIGNS	☐ R&QA
☑ OPERATIONS	☑ SAFETY	☑ OPERATIONS	☑ SAFETY

15. TYPE OR PRINT NAME	SIGNATURE	ORGN.	DATE
William Little FU74	[signature]	MDSS Safety	1/20/93
Wendy Dankorchik, FU70	[signature]	MDSS Safety	1-20-93
Rick Sweet	[signature]	RT-SAF-IE	1/20/93
Jackie Smith	[signature] for JACKIE SMITH	RT	1/20/93
Mark McCreary F276	[signature] for M. McCreary	MDSS Manager	1-20-93
DEBBIE BITNER	[signature]	GS-PPD-21	1-20-93