INDEPENDENT ORBITER ASSESSMENT

CIL ISSUES
RESOLUTION REPORT
VOLUME 1 OF 3

16 SEPTEMBER 1988

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MCDONNELL DOUGLAS ASTRONAUTICS COMPANY ENGINEERING SERVICES

SPACE TRANSPORTATION SYSTEM ENGINEERING AND OPERATIONS SUPPORT

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INDEPENDENT ORBITER ASSESSMENT CIL ISSUES RESOLUTION REPORT

16 SEPTEMBER 1988

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K. J. Urbanowicz Prepared by:

L. W. Hinsdale

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Orbiter Assessment

Independent

Orbiter Assessment

Prepared by:

Independent

Orbiter Assessment

Approved by:

Technical Manager

Independent

Orbiter Assessment

Project Manager

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Independent Orbiter Assessment CIL Issues Resolution Report

1.0 EXECUTIVE SUMMARY

The McDonnell Douglas Astronautics Company (MDAC) was selected in June, 1986 to perform an Independent Orbiter Assessment (IOA) of the Failure Modes and Effects Analysis (FMEA) and Critical Items List (CIL). Direction was provided by the Orbiter and GFE Projects Office to perform the hardware analysis and assessment using the instructions and ground rules defined in NSTS 22206, Instructions for Preparation of FMEA and CIL.

Subsystem FMEA/CIL assessments were completed as revised NASA and prime contractor FMEA/CIL documentation became available. MDAC IOA task was brought to an interim conclusion in March, This resulted in several subsystem assessment reports being published with open issues. Subsequent task authority was received that allowed for the resolution of all remaining open issues involving the critical items list.

This report contains IOA assessment worksheets showing resolution of outstanding IOA CIL issues that were summarized in the IOA FMEA/CIL Assessment Interim Report, dated 9 March 1988 (reference 70). Each assessment worksheet has been updated with CIL issue resolution and rationale.

INTRODUCTION 2.0

The 51-L Challenger accident prompted NASA to readdress safety policies, concepts, and rationale being used in the National Space Transportation System (NSTS). MDAC is providing an independent assessment of the proposed post 51-L Orbiter FMEA/CIL for completeness and technical accuracy.

The MDAC was initially tasked in June 1986 to conduct an independent analysis and assessment on twenty subsystems. Subsequently, in April 1987, eight additional subsystems were added which provided complete coverage of all standard Orbiter Table 2-1 provides a listing of the Orbiter and GFE subsystems identified by NASA to the National Research Council, Shuttle Criticality Review and Hazard Analysis Audit Committee.

Table 2-1

ORBITER AND GFE SUBSYSTEMS

ORIGINAL TWENTY SUBSYSTEMS (JUNE 1986)

- o Guidance, Navigation and Control (GN&C)
- o Data Processing System (DPS)
- o Backup Flight System (BFS)
- o Nose Wheel Steering (NWS)
- Instrumentation (INST)
- o Electrical Power, Distribution & Control (EPD&C)
- o Main Propulsion System (MPS)
- o Fuel Cell Powerplant (FCP)
- o Power Reactant Supply & Distribution System (PRS&D)
- o Orbital Maneuvering System (OMS)
- o Reaction Control System (RCS)
- O Auxiliary Power Unit (APU)
- o Hydraulics & Water Spray Boiler (HYD & WSB)
- o Atmospheric Revitalization System (ARS)
- o Atmospheric Revitalization Pressure Control System (ARPCS)
- o Extravehicular Mobility Unit (EMU)
- o Manned Maneuvering Unit (MMU)
- o Landing & Deceleration (L&D)
- o Hydraulic Actuators (HA)
- o Remote Manipulator System (RMS)

ADDITIONAL EIGHT SUBSYSTEMS (APRIL 1987)

- Communications and Tracking (C&T)
- o Displays and Controls (D&C)
- o Orbiter Experiments (OEX)
- o Pyrotechnics (PYRO)
- o Purge, Vent and Drain (PV&D)
- o Mechanical Actuation System (MAS)
- o Active Thermal Control System (ATCS), Life Support System (LSS), and Airlock Support System (ALSS)
- o Crew Equipment (CE)

The IOA analysis approach is summarized in the following steps 1.0 through 3.0. Step 4.0 summarizes the assessment of the NASA and Prime Contractor FMEA/CIL.

- Subsystem Familiarization Step 1.0
 - 1.1 Define subsystem functions
 - Define subsystem components 1.2
 - Define subsystem specific ground rules and 1.3 assumptions
- Define Subsystem Analysis Diagram Step 2.0
 - 2.1 Define subsystem
 - Define major assemblies 2.2
 - Develop detailed subsystem representations 2.3
- Failure Events Definition Step 3.0
 - Construct matrix of failure modes
 - Document IOA analysis results 3.2
- Compare IOA Analysis Data to NASA FMEA/CIL Step 4.0
 - 4.1 Resolve differences
 - 4.2 Review in-house
 - 4.3 Document assessment issues
 - 4.4 Forward findings to Project Manager

As a result of the preceding steps, general project assumptions and ground rules (Appendix B) were developed to amplify and clarify instructions in NSTS 22206. Also, subsystem specific assumptions and ground rules were defined.

CIL ISSUES RESOLUTION WORKSHEETS SUMMARY

The IOA analysis process produced an initial total of 10,735 independently derived failure modes and 4,513 potential critical items. As of 9 March 1988, when the Interim Report was published (reference 70), a total of 3,193 FMEA issues and 1,637 CIL assessment issues remained open due to a lack of revised subsystem FMEA/CIL documentation to be assessed. subsystems were still in the Rockwell FMEA/CIL revision process during the first quarter of 1988. The IOA assessment results were fully documented in separate subsystem reports (references 36 through 69) and summarized in the Interim Report. Subsequently, MDAC received revised CIL documentation and was able to resolve all CIL issues. Out of 1,693 CIL issues, NASA accepted 304 recommendations and IOA withdrew 1,369 issues. As a result, all issues with safety and mission implications were resolved.

Appendix C includes the revised IOA assessment worksheets reflecting the resolution of the open CIL issues. Resolution rationale is presented in the "Remarks" section at the bottom of each assessment worksheet.

The number of assessment worksheets differs in many cases from the number of CIL issues shown in the FMEA/CIL Assessment Interim Report. This difference stems from the fact that there is not always a one-to-one correspondence of IOA failure modes to NASA failure modes.

The following subsystems have been excluded from this report since they had no outstanding CIL issues remaining at the time of publication of the interim report.

- o Fuel Cell Powerplant
- o Hydraulic Actuators
- o Displays and Controls
- o Guidance, Navigation and Control
- o Orbiter Experiments
- o Auxiliary Power Unit
- o Backup Flight System
- o Electrical Power Distribution and Control

In addition, the Manned Maneuvering Unit was omitted. This was due to NASA indefinitely deferring its review of the Manned Maneuvering Unit FMEA/CIL.

4.0 CONCLUSIONS

This report, as a companion volume to the Independent Orbiter Assessment Final Report, MDAC Working Paper 1.0-WP-VA88003-47, dated 16 September 1988, is intended to provide resolution and rationale closing all open CIL assessment issues. In summary, the NASA and Prime Contractor post 51-L FMEA/CIL documentation assessed is believed to be technically accurate and complete. No assessment issues remain that have safety implications.

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APPENDIX A ACRONYMS

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ABS
           - Ammonia Boiler System
ACA
           - Annunciator Control Assembly
ACIP
           - Aerodynamic Coefficient Instrumentation Package
ADI
           - Attitude Direction Indicator
ADP
           - Air Data Probe
ADS
           - Audio Distribution System
ADTA
           - Air Data Transducer Assembly
           - Aft Load Control Assembly
ALCA
AMCA
           - Aft Motor Control Assembly
AOA
           - Abort-Once-Around
           - Acquisition of Signal
AOS
APC
           - Aft Power Controller
APU
           - Auxiliary Power Unit
           - Aft Reaction Control System (Subsystem)
ARCS
           - Atmospheric Revitalization Pressure Control System
ARPCS
ARS
           - Atmospheric Revitalization System
ASA
           - Aerosurface Servo Amplifier
           - Active Thermal Control Subsystem
ATCS
           - Abort-To-Orbit
ATO
ATVC
           - Ascent Thrust Vector Control
           - Brakes and Antiskid
B&AS
BF
           - Body Flap
BFC
          - Backup Flight Control
BFS
          - Backup Flight System
BITE
           - Built-In Test Equipment
C&W
           - Caution and Warning
CCB
           - Change Control Board
CCC
           - Contaminant Control Cartridge
           - Closed-Circuit Television
CCTV
           - Crew Communications Umbilical
CCU
           - Critical Items List
CIL
           - Communications Interface Unit
CIU
CNTLR
           - Controller
COAS
           - Crew Optical Alignment Sight
COMM
           - Communication
CPU
           - Central Processing Unit
           - Criticality
CRIT
           - Caution and Warning System
CWS
           - Displays and Controls
D&C
DAP
           - Digital Autopilot
DCM
           - Display and Control Module
DCN
          - Document Change Notice
DDU
          - Display Driver Unit
DEU
           - Display Electronic Unit
DFI
           - Development Flight Instrumentation
DHE
           - Data-Handling Electronics
DMA
           - Deployed Mechanical Assembly
          - Department of Defense
DOD
          - Data Processing System (Subsystem)
DPS
DSC
          - Dedicated Signal Conditioner
```

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- Environmental Control and Life Support System (Subsystem)
ECLSS
          - Entry Interface
EI
         - Engine Interface Unit
EIU
         - Extravehicular Mobility Unit
EMU
          - Environmental Protection Agency
EPA
          - Electrical Power, Distribution and Control
EPDC
          - Electrical Power Generator
EPG
         - Electrical Power System
EPS
          - External Tank
\mathbf{ET}
          - Extravehicular Activity
EVA
          - Extravehicular Communications System
EVCS
          - Fuel Cell
FC
          - Flow Control Assembly
FCA
          - Freon Coolant Loop
FCL
           - Flight Control Operating System
FCOS
          - Fuel Cell Power (Plant)
FCP
          - Flight Control System
FCS
           - Fault Detection and Annunciation
FDA
           - Frequency Division Multiplexing
FDM
           - Flash Evaporator System
FES
           - Forward Fuselage Support System for OEX
FFSSO
           - Forward Load Control Assembly
FLCA
           - Failure Mode
FM
FMCA
          - Forward Motor Control Assembly
          - Frequency Division Multiplexer
FMD
          - Failure Modes and Effects Analysis
FMEA
           - Forward Power Controller
FPC
          - Forward Reaction Control System (Subsystem)
FRCS
           - Fault Summary Message
FSM
           - Flight Support Structure
FSS
           - Flight Systems Software Requirements
FSSR
           - Flight Software
FSW
           - Get-Away Special
GAS
          - Government Furnished Equipment
GFE
GMT
           - Greenwich Mean Time
           - Guidance, Navigation, and Control
GNC
           - General Purpose Computer
GPC
          - Ground Support Equipment
          - Ground Spaceflight Tracking and Data Network
GSTDN
          - Hybrid Driver Controller
HDC
           - Heat Exchanger
HEX
          - High-Resolution Accelerometer Package
HIRAP
          - Headset Interface Unit
          - High-Pressure Fuel Turbopump
HPFTP
          - High-Pressure Oxidizer Turbopump
HPOT
          - Hard Upper Torso
HUT
          - Hardware
HW
          - Heat Exchanger
HX
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HYD

- Hydraulics

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ICM
           - Interface Control Module
 ICMS
           - Intercom Master Station
           - Intercommunications
 ICOM
 ICRS
           - Intercom Remote Station
IFM
           - In-Flight Maintenance
IMU
           - Inertial Measurement Unit
           - Independent Orbiter Assessment
IOA
IOM
           - Input/Output Module
IUS
           - Inertial Upper Stage
IVA
           - Intravehicular Activity
JSC
           - Johnson Space Center
KBD
           - Ku-Band Deploy
LCA
           - Load Controller Assembly
LCC
           - Launch Control Center
           - Liquid Cooling and Ventilation Garment
LCVG
          - Launch/Entry Helmet
LNDG/DECEL - Landing and Deceleration
LPS
           - Launch Processing System
LRU
           - Line Replaceable Unit
LSS
           - Life Support Subsystem
LTA
           - Lower Torso Assembly
          - Modular Auxiliary Data System
MADS
MAS
           - Mechanical Actuation System
MCA
           - Motor Control Assembly
MCC
          - Mission Control Center (JSC)
          - Multifunction CRT Display System
MCDS
          - McDonnell Douglas Astronautics Company
MDAC
MDM
          - Multiplexer/Demultiplexer
MEC
           - Main Engine Controller
MECO
          - Main Engine Cutoff
MET
          - Mission Elapsed Time
          - Main Gear Shock Strut Assembly
MGSSA
MIA
          - Multiplexer Interface Adapter
MLG
          - Main Landing Gear
MM
          - Major Mode
          - Manned Maneuvering Unit
MMU
MMU
          - Mass Memory Unit
MPL
          - Minimum Power Level (65%)
MPM
          - Manipulator Positioning Mechanism
MPS
          - Main Propulsion System (Subsystem)
MS
          - Mission Specialist
          - Microwave Scanning Beam Landing System
MSBLS
MSK
          - Manual Select Keyboard
MTU
          - Master Timing Unit
MUX
          - Multiplex
          - National Aeronautics and Space Administration
          - Nose Landing Gear Shock Strut Assembly
NGSSA
NGTD
          - Nose Gear Touch Down
NLG
          - Nose Landing Gear
NSI
          - NASA Standard Initiator
```

- Network Signal Processor NSP - National Space Transportation System NSTS - Nose-Wheel Steering - Operational Bioinstrumentation System OBS - Orbiter Experiments OEX - Operational Instrumentation OI - Operational Maintenance Requirements & OMRSD Specifications Document - Orbital Maneuvering System OMS - Orbiter Timing Buffer OTB - Operational Water Dispenser Assembly OWDA - Payload P/L- Primary Avionics Software System PASS - Push-Button Indicator PBI - Payload Bay Mechanical PBM - Power Control Assembly PCA - Potential Critical Item PCI - Pulse Code Modulation PCM - Pulse Code Modulation Master Unit PCMMU - Page Change Notice PCN - Pressure Control System PCS - Power Drive Unit PDU - Portable Foot Restraint PFR - Personal Hygiene Station PHS ΡI Payload Interrogater - Pyro Initiator Controller PIC - Payload Bay PLB - Payload Bay Door PLBD - Primary Landing Site PLS - Portable Life Support Subsystem PLSS - Propellant Management Subsystem PMS - Program Requirements Control Board PRCB - Program Requirements Control Board Directive PRCBD - Primary Reaction Control System (jet) PRCS - Payload Retention Device PRD - Programmable Read-Only Memory PROM - Power Reactant Storage and Distribution PRSD - Power Reactant Storage and Distribution System PRSDS - Power Section Assembly PSA - Provision Stowage Assembly PSA - Payload Signal Processor PSP PTT - Push-to-talk - Purge, Vent & Drain PV&D - Quick Disconnect QD - Rudder/Pedal Brake Assembly R/BPA - Random Access Memory RAM - Reaction Control System RCS - Radiator and Flow Control Assembly RFCA - Radio Frequency Interference RFI - Rate Gyro Assembly

RGA

```
RHC
           - Rotation Hand Controller
 RHS
           - Rehydration Station
 RI
           - Rockwell International
 RJD
           - Reaction Jet Driver
          - Redundancy Management
 RM
          - Remote Manipulator System
 RMS
 RPA
          - Rudder Pedal Assembly
RPC
           - Remote Power Controller
RPTA
          - Rudder Pedal Transducer Assembly
RSB
          - Rudder Speed Brake
RTD
          - Resistance Temperature Device
RTLS
           - Return-to-Launch-Site
RTS
           - Remote Tracking Station
          - Rotary Variable Differential Transformer
RVDT
SBTC
          - Speed Brake Translation Controller
          - Steering Control Box
          - System Control Module
SCM
SCU
          - Sequence Control Unit
SCU
          - Service and Cooling Umbilical
SDM
          - Startracker Door Mechanism
          - Shuttle Entry Air Data System
SEADS
          - Shuttle Flight Operations Manual
SFOM
SFP
          - Single Failure Point
SGLS
          - Space Ground Link System
          - Shuttle Infrared Leeside Temperature Sensor
SILTS
          - Systems Management
          - Solar Maximum Mission
SMM
SOP
          - Secondary Oxygen Pack
          - Space Operations Simulator
SOS
SPA
          - Steering Position Amplifier
SPFA
         - Single Point Failure Analysis
          - Surface Position Indicator
SPI
SRB
          - Solid Rocket Booster
SSA
          - Space Suit Assembly
          - Space Shuttle Main Engine
SSME
SSMEC
          - SSME Controller
SSO
          - Space Shuttle Orbiter
SSSH
          - Space Shuttle Systems Handbook
ST
          - Star Tracker
          - Spaceflight Tracking and Data Network
STDN
          - Space Transportation System
          - Tactical Air Navigation
TACAN
TAL
          - Transatlantic Abort Landing
          - Thermal Control System (Subsystem)
TCS
TD
          - Touch Down
         - Tracking and Data Relay Satellite
TDRS
          - Thruster Hand Controller
THC
THC
          - Translation Hand Controller
TPS
         - Thermal Protection System
TVC
         - Thrust Vector Control
```

	UCD UEA UHF VDM VRCS WBSC WCCS WCCU WMS WP WRS	- Urine Collection Device - Unitized Electrode Assembly - Ultra High Frequency - Vent Door Mechanism - Vernier Reaction Control System (jet) - Wide-Band Signal Conditioner - Window Cavity Conditioning System - Wireless Crew Communications Umbilical - Waste Management System - Working Paper - Water Removal Subsystem
WSB - Water Spray Boller		- Water Spray Boiler

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APPENDIX B

DEFINITIONS, GROUND RULES, AND ASSUMPTIONS

- B.1 DefinitionsB.2 Project Level Ground Rules and Assumptions

APPENDIX B DEFINITIONS, GROUND RULES, AND ASSUMPTIONS

B.1 Definitions

Definitions contained in NSTS 22206, Instructions For Preparation of FMEA/CIL, were used with the following amplifications and additions.

INTACT ABORT DEFINITIONS:

 ${\underline{\tt RTLS}}$ - begins at transition to OPS 6 and ends at transition to OPS 9, post-flight

TAL - begins at declaration of the abort and ends at transition to OPS 9, post-flight

 \underline{AOA} - begins at declaration of the abort and ends at transition to OPS 9, post-flight

ATO - begins at declaration of the abort and ends at transition to OPS 9, post-flight

<u>CREDIBLE (CAUSE)</u> - an event that can be predicted or expected in anticipated operational environmental conditions. Excludes an event where multiple failures must first occur to result in environmental extremes

<u>CONTINGENCY CREW PROCEDURES</u> - procedures that are utilized beyond the standard malfunction procedures, pocket checklists, and cue cards

EFFECTS/RATIONALE - description of the case which generated the
highest criticality

<u>HIGHEST CRITICALITY</u> - the highest functional criticality determined in the phase-by-phase analysis

 ${\hbox{{\tt MAJOR MODE (MM)}}\over\hbox{(OPS)}}$ - major sub-mode of software operational sequence

 $\underline{\text{MC}}$ - Memory Configuration of Primary Avionics Software System (PASS)

MISSION - assigned performance of a specific Orbiter flight with payload/objective accomplishments including orbit phasing and altitude (excludes secondary payloads such as GAS cans, middeck P/L, etc.)

MULTIPLE ORDER FAILURE - describes the failure due to a single cause or event of all units which perform a necessary (critical) function

OFF-NOMINAL CREW PROCEDURES - procedures that are utilized beyond the standard malfunction procedures, pocket checklists, and cue cards

OPS - software operational sequence

<u>PRIMARY MISSION OBJECTIVES</u> - worst case primary mission objectives are equal to mission objectives

PHASE DEFINITIONS:

PRELAUNCH PHASE - begins at launch count-down Orbiter power-up and ends at moding to OPS Major Mode 102 (liftoff)

<u>LIFTOFF MISSION PHASE</u> - begins at SRB ignition (MM 102) and ends at transition out of OPS 1 (Synonymous with ASCENT)

ONORBIT PHASE - begins at transition to OPS 2 or OPS 8 and ends at transition out of OPS 2 or OPS 8

<u>DEORBIT PHASE</u> - begins at transition to OPS Major Mode 301 and ends at first main landing gear touchdown

<u>LANDING/SAFING PHASE</u> - begins at first main gear touchdown and ends with the completion of post-landing safing operations

APPENDIX B DEFINITIONS, GROUND RULES, AND ASSUMPTIONS

B.2 IOA Project Level Ground Rules and Assumptions

The philosophy embodied in NSTS 22206, Instructions for Preparation of FMEA/CIL, was employed with the following amplifications and additions.

 The operational flight software is an accurate implementation of the Flight System Software Requirements (FSSRs).

RATIONALE: Software verification is out-of-scope of this task.

2. After liftoff, any parameter which is monitored by system management (SM) or which drives any part of the Caution and Warning System (C&W) will support passage of Redundancy Screen B for its corresponding hardware item.

RATIONALE: Analysis of on-board parameter availability and/or the actual monitoring by the crew is beyond the scope of this task.

 Any data employed with flight software is assumed to be functional for the specific vehicle and specific mission being flown.

RATIONALE: Mission data verification is out-of-scope of this task.

4. All hardware (including firmware) is manufactured and assembled to the design specifications/drawings.

RATIONALE: Acceptance and verification testing is designed to detect and identify problems before the item is approved for use.

5. All Flight Data File crew procedures will be assumed performed as written, and will not include human error in their performance.

RATIONALE: Failures caused by human operational error are out-of-scope of this task.

6. All hardware analyses will, as a minimum, be performed at the level of analysis existent within NASA/Prime Contractor Orbiter FMEA/CILs, and will be permitted to go to greater hardware detail levels but not lesser.

RATIONALE: Comparison of IOA analysis results with other analyses requires that both analyses be performed to a comparable level of detail.

7. Verification that a telemetry parameter is actually monitored during AOS by ground-based personnel is not required.

RATIONALE: Analysis of mission-dependent telemetry availability and/or the actual monitoring of applicable data by ground-based personnel is beyond the scope of this task.

8. The determination of criticalities per phase is based on the worst case effect of a failure for the phase being analyzed. The failure can occur in the phase being analyzed or in any previous phase, whichever produces the worst case effects for the phase of interest.

RATIONALE: Assigning phase criticalities ensures a thorough and complete analysis.

9. Analysis of wire harnesses, cables, and electrical connectors to determine if FMEAs are warranted will not be performed nor FMEAs assessed.

RATIONALE: Analysis was substantially complete prior to NSTS 22206 ground rule redirection.

10. Analysis of welds or brazed joints that cannot be inspected will not be performed nor FMEAs assessed.

RATIONALE: Analysis was substantially complete prior to NSTS 22206 ground rule redirection.

11. Emergency system or hardware will include burst discs and will exclude the EMU Secondary Oxygen Pack (SOP), pressure relief valves and the landing gear pyrotechnics.

RATIONALE: Clarify definition of emergency systems to ensure consistency throughout IOA project.

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SECTION C-1 LANDING AND DECELERATION SUBSYSTEM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		LDGDEC-10205 BASEL						
SUBSYSTEM: MDAC ID: ITEM:	ID: 10205							
LEAD ANALYST:	W. WEISSING	ER						
ASSESSMENT:								
CRITICAL: FLIGH		OUNDANCY SCRE	ENS	CIL ITEM				
	HDW/FUNC A B C							
NASA [3 /1R IOA [1 /1] [P]] [NA]	[NA] [NA]	[P] [NA]	[] * [X]				
COMPARE [N /N] [N]	[]	[и]	[N]				
RECOMMENDATIONS:	(If diffe	rent from NAS	SA)					
[/] []	[]	[] (AE	[] DD/DELETE)				
* CIL RETENTION F	RATIONALE: (If applicable	e) ADEQUATE INADEQUATE	[]				
REMARKS:			~ -	. 1				

ALSO SEE 10206

THE DOWNLOCK BUNGEE IS A MECHANICAL DEVICE THAT IF BENT OR JAMMED IN THE EXTENDED POSITION COULD CAUSE A FORCE THAT WOULD UNLOCK THE LOCK BRACE.

HYDRAULICS - THE EXTEND/RETRACT HYD ACTUATOR IS THE ONLY REDUNDANT ITEM. WHEN THE VEHICLE IS SHUT DOWN POST LANDING THERE IS NO REDUNDANCY. THE NASA FMEA/CIL DOES NOT CONSIDER APU SHUTDOWN OCCURRING BEFORE CREW EGRESS.

NASA/RI UPGRADED THE CRITICALITY OF NLG OVERCENTER DOWNLOCK BUNGEE STRUCTURAL FAILURE FROM 3/1R TO 2/1R. UPON FURTHER ANALYSIS THE IOA AGREES THAT PHYSICAL BINDING/JAMMING (A RESULT OF STRUCTURAL FAILURE) IS NOT A SINGLE FAILURE POINT; THEREFORE, THE IOA CRITICALITY SHOULD BE DOWNGRADED FROM 1/1 TO 2/1R.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 12/15/ LDGDEC 02-1-0	-10206		NASA DATA BASELINI NEV	A: E [X] V []
SUBSYSTEM: MDAC ID: ITEM:	10206	G/DECELEF OCK BUNGER		STEMS	
LEAD ANALYST:	W. WE	SSINGER			
ASSESSMENT: CRITICA FLIC HDW/	HT	REDUND.	ANCY SCRE	EENS C	CIL ITEM
NASA [3 /: IOA [1 /		[P] [NA]	[NA] [NA]	[P] [NA]	[x] *
COMPARE [N /	1]	[N]	[]	[N]	[N]
RECOMMENDATION	•	differer			r 1
(/]	[]	[]	[]	(ADD/DELETE)
* CIL RETENTIC	N RATION	NALE: (If	applicab	le) ADEQUAT INADEQUAT	
DEMADVC .					TOOLICHOUT THE

SEE 10205. THERE WILL BE NO COMPLICATIONS THROUGHOUT THE LANDING UNTIL AFTER THE VEHICLE IS SHUTDOWN. ONCE THE HYDRAULICS SYSTEM IS DEACTIVATED THERE IS NO SYSTEM TO HOLD THE LOCK BRACE IN POSITION, AND A GUST OF WIND, AN IMPACT FROM APPROACHING VEHICLES OR MOVEMENT INSIDE THE VEHICLE COULD CAUSE NLG COLLAPSE. A COLLAPSE OF THE NLG WOULD CAUSE STRUCTURAL DAMAGE AND A POSSIBLE LOSS OF LIFE. THIS SITUATION CAN BE BYPASSED BY INSTALLING THE LANDING GEAR SAFETY PINS IN THE LOCK BRACE PRIOR TO HYDRAULICS SYSTEM 1 SHUTDOWN.

NASA/RI UPGRADED THE CRITICALITY OF NLG OVERCENTER DOWNLOCK BUNGEE STRUCTURAL FAILURE FROM 3/1R TO 2/1R. UPON FURTHER ANALYSIS THE IOA AGREES THAT STRUCTURAL FAILURE IS NOT A SINGLE FAILURE POINT; THEREFORE, THE IOA CRITICALITY SHOULD BE DOWNGRADED FROM 1/1 TO 2/1R.

ASSESSMI ASSESSMI NASA FMI	ENT :	ID:	12/1 LDGD NONE	EC-1021	0	NASA I BASEI	
SUBSYSTE MDAC ID:			1021	ING/DEC 0 RING DI			
LEAD ANA	LYS	r:	W. W	EISSING	ER		
ASSESSME	NT:						
	F	rical Fligh	T	RED	UNDANCY SCI	REENS	CIL ITEM
	HE	W/FU	NC	A	В	С	IIEM
NASA IOA	[1	/1]	[] [NA]	[] [NA]	[] [NA]	[] * [x]
COMPARE	[N	/N]	[N]	[N]	[N]	[N]
RECOMMEN	DATI	ONS:	(II)	f differ	ent from N	(ASA)	
	[/]	[]	[]	[]	[] (ADD/DELETE)
REMARKS:					f applicab	ADEQUAT INADEQUAT	TE []
NOT	CON	SIDER	ED BY	THE NA	SA FMEA/CI	L	

NASA FMEA 02-1A-076-1 ADDRESSES STRUCTURAL FAILURE OF THE NOSE LANDING GEAR TORQUE ARMS. THE IOA CONSIDERS THE STRUCTURAL FAILURE OF THE STEERING DISCONNECT LOCK TO BE COVERED BY THE NASA FMEA. THE IOA AND NASA/RI AGREE ON A 1/1 CRITICALITY.

ASSESSME ASSESSME NASA FME	TИ	ID		LDO	/15/3 GDEC -1-0	-1	.02	11							SA DA' ASELI N	NE	[x]	
SUBSYSTE MDAC ID:				103	NDIN 211 RQUE							N SY	STE	MS						
LEAD ANA	LYS	ST:		W.	WEI	SS	IN	GER												
ASSESSME	NT:	:																		
	CR		CAL				RE	DUNI	DAN	IC	Y	SCRE	ENS	5			CI II	L EN	A	
	I		LIGHT 1/FUI				A				В			С					-	
NASA IOA			/1R /1]]	P NA]	[:	P NA]	[[P NA]		[x]	*
COMPARE	[N	/N]		[N]	[N]	[N]		[N]	
RECOMME	NDA'	TI	ons:		(If	d:	iff	ere	nt	1	fro	m NA	ASA)						
	[/]		[]		[]	ĺ]	(Al		/ D :	-	ETE)
* CIL R	ETE:	NT:	ION	RAT	IONA	L	E:	(If	aj	pţ	oli	.cab:			DEQUAT		[x]	

REMARKS:

A NOSE WHEEL SLAPDOWN WHERE THE NOSE WHEEL ROTATES BEYOND A SAFE ANGLE OF ATTACK WILL CAUSE AN IMMEDIATE COLLAPSE OF THE NLG. NASA/RI UPGRADED THE CRITICALITY OF FMEA 02-1A-076-1 FROM 2/1R TO 1/1; THEREFORE, THE IOA AND NASA/RI ASSESSMENTS ARE IN COMPLETE AGREEMENT.

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:		36 -10212		NASA DATA BASELINE NEW	: [] []
SUBSYSTEM: MDAC ID: ITEM:	10212	ING/DECELERATION SYSTEMS WHEEL RETAINING BOLT			
LEAD ANALYST: W. WE		SINGER			
ASSESSMENT:					
CRITIC FLI	ALITY				
HDW/		A	В	С	ITEM
NASA [/ IOA [1 /] [] [AN] [NA] [NA]	[] * [x]
COMPARE [N /	4] [и] [N] [N]	[N]
RECOMMENDATIONS: (If different from NASA)					
[/] [] [] [] (AI	[] DD/DELETE)
* CIL RETENTIO	N RATIONAL	E: (If ap	•	ADEQUATE NADEQUATE	[]
REMARKS: ADDITIONA THIS TOA EVALUE	L DATA UNC	OVERED AF	TER STUDY	COMPLETION	ELIMINATES

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/15/8 LDGDEC- NONE	10213		BASELINE NEW	[]			
SUBSYSTEM: MDAC ID: ITEM:	LANDING 10213 AXLE	XLE						
LEAD ANALYST:	W. WEIS	. WEISSINGER						
ASSESSMENT:								
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM			
FLIGH HDW/FU		A	В	С				
NASA [/ IOA [1 /1]	[] [NA]	[] [NA]	[] [NA]	[x] *			
COMPARE [N /N	1	[N]	[N]	[N]	[и]			
RECOMMENDATIONS	: (If	different	from NAS	SA)				
[/	1	[]	[]	[] (2	[] ADD/DELETE)			
* CIL RETENTION	RATIONA	LE: (If	applicabl	e) ADEQUATE INADEQUATE	[]			
REMARKS:	TED BY N	IASA			TIDE OF THE			

NASA FMEA 02-1A-075-1 ADDRESSES STRUCTURAL FAILURE OF THE NOSE LANDING GEAR SHOCK STRUT AND OUTER CYLINDER AND LOAD CARRYING MEMBERS. FROM FURTHER ANALYSIS THE IOA CONCLUDES THAT THE NOSE LANDING GEAR AXLE IS PART OF THE NOSE LANDING GEAR SHOCK STRUT ASSEMBLY AND THEREFORE CAN BE CONSIDERED TO BE COVERED BY THE FMEA. THERE IS AGREEMENT BETWEEN THE IOA AND NASA/RI THAT THE CRITICALITY IS 1/1 AND THE HARDWARE FAILURE MODE IS A CIL ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-10220		DATA: CLINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM:	LANDING/DECELERA 10220 TORQUE TUBE ASSI		
LEAD ANALYST:	W. WEISSINGER		
ASSESSMENT:			
CRITICALI FLIGHT HDW/FUN		ICY SCREENS	CIL ITEM
NASA [/ IOA [1 /1] [] [] [AN] [[] * [x]
COMPARE [N /N] [N][иј [иј	[N]
RECOMMENDATIONS:	(If different	from NASA)	
[/] [][] []	[] (ADD/DELETE)
* CIL RETENTION R	ATIONALE: (If app	plicable)	•
REMARKS:			TE [j
EXTENDED POSITION.	OTHILIAR TO ML	THE NLG FRO TORQUE TUBE AS	M LOCKING IN THI SY REF 02-1-010-
NASA/RI CREAT LANDING GEAR TORQU NASA/RI ARE IN AGE	TED A NEW FMEA (O DE TUBE ASSEMBLY REEMENT THAT THE		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/15/86 LDGDEC-1022 02-1-077-1	21	NASA DATA BASELINI NEV	[X]	
	LANDING/DEC 10221 DRAG BRACE	CELERATION S	SYSTEMS		
LEAD ANALYST:	W. WEISSIN	GER			
ASSESSMENT:					
CRITICAL: FLIGH		DUNDANCY SCI	REENS	CIL ITEM	
HDW/FU	_	В	С		
NASA [1 /1 IOA [1 /1] [NA] [NA	[NA] [NA]	[NA] [NA]	[X] * [X]	
COMPARE [/] [] []	[]	[]	
RECOMMENDATIONS:	(If diff	erent from	NASA)		
[/] [] []	[]	[] ADD/DELETE)	
* CIL RETENTION REMARKS:	RATIONALE:	(If applica	ble) ADEQUATE INADEQUATE		

ALSO SEE 10202, 10203

FMEA 02-1-077-1 COVERS THE NLG DRAG BRACE ASSEMBLY BUT IT DOES NOT COVER THE CRITICAL PARTS INDIVIDUALLY. IOA AGREES WITH CRITICALITY.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-10402	ATA: INE [X] NEW []						
SUBSYSTEM: MDAC ID: ITEM:	10402	RATION SYSTEMS	CT					
LEAD ANALYST:	ALYST: J. COMPTON							
ASSESSMENT:								
CRITICAL: FLIGHT	יי	DANCY SCREENS	CIL ITEM					
HDW/FUN	IC A	C A B C						
NASA [3 /3 IOA [2 /1R] [NA]] [P]	[NA] [NA] [F] [P]	[x] *					
COMPARE [N /N] [N]	[N] [N]	[N]					
RECOMMENDATIONS:	(If differen	t from NASA)						
[/] []	[] []	[] (ADD/DELETE)					
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [] REMARKS:								

POSSIBLE LOSS OF HYDRAULICS SYSTEM 1. IF THE SYSTEM FAILS, THEN THE ORBITER IS ONE FAILURE AWAY FROM LOSS OF LIFE OR VEHICLE. THE GEAR HAS A PYRO BACKUP TO UNLOCK THE GEAR. IF IT FAILS, THE GEAR WILL NOT DEPLOY. NASA INCORPORATED THIS FMEA/CIL INTO-AO1 WHICH IS A HIGHER CRITICALITY. AN EXTERNAL LEAK IS STILL A LEAK REGARDLESS OF THE FAILURE MODE. ISSUE RESOLVED; IOA ACCEPTS HIGHER CRITICALITY.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	TDGDEC-	DGDEC-10416 02-6-H01-A04					SA DATA BASELINI NEV			
SUBSYSTEM: MDAC ID: ITEM:	LANDING 10416 NLG EX							UATOI	₹.	
LEAD ANALYST:	J. COM	PTON								
ASSESSMENT:										
CRITICAL		RE	DUNDA	NCY	SCREE	NS		CI: IT:	L EM	
FLIGH HDW/FU		A		В		С				
NASA [2 /1F IOA [2 /1F	l] l]	[P]	[P]	[P]	[x] x]	*
COMPARE [/]	[]	[N]	[]	[]	İ
RECOMMENDATIONS	(If	diff	ferent	fro	om NAS	SA)				
[/	1	[1	[1	[]	[(ADD/	DE] LETE)
* CIL RETENTION	RATION	ALE:	(If	appl	icable	-	DEQUAT]
REMARKS:	CCDFFN	R R	ECAUS	Е НУ	D SYS	1 H	FLUID I	s No	r	

REDUNDANCY SCREEN B BECAUSE CIRCULATED TO THIS ACTUATOR ONORBIT, THUS THE FAILURE IS NOT DETECTED. HOWEVER, FAILURE IS DETECTED WHEN SYSTEM ACTIVATED, THUS PASSING SCREEN. NASA INCORPORATED THIS FMEA/CIL INTO-A01, WHICH IS A HIGHER CRITICALITY-1/1.

ASSESSM ASSESSM NASA FM	ENT	ID:	12/15 LDGDE 02-6-	C-	11003		NASA DAT BASELIM			
SUBSYSTEMDAC ID			11003			LERATION CTUATOR	SYSTEMS	•		
LEAD ANA	ALYS	r:	J. co	ΜP	TON					
ASSESSME	ENT:									
		'ICAL 'LIGH'			REDUN	DANCY SCI	REENS	CIL		
		W/FU			A	В	С	ITEM		
NASA IOA	[2	/1R /1R]	[NA] P]	[NA] [F]	[NA] [P]	[] * [x]		
COMPARE	[/]	[n j	[и]	[N]	[N]		
RECOMMEN	DATI	ons:	(If	di	iffere	nt from N	'ASA)			
	[/]	[]	[]	[]	[] ADD/DELETE)		
* CIL RE	TENT	ION F	ATIONA	LE	: (If	applicab	le) ADEQUATE	ſ 1		
REMARKS:							INADEQUATE			

POSSIBLE LOSS OF HYDRAULICS SYSTEM 1. IF SYSTEM FAILS, THEN THE ORBITER IS ONE FAILURE AWAY FROM LOSS OF LIFE OR VEHICLE. PYRO BACKUP. HYDRAULIC FLUID IS NOT CIRCULATED TO THIS ACTUATOR ONORBIT, THUS FAILURE CANNOT BE DETECTED - FAILS REDUNDANCY SCREEN B.

WITHDRAW. THIS FAILURE IS INCORPORATED INTO-H03-1. A LEAK IS A LEAK REGARDLESS OF THE FAILURE MODE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/15/86 LDGDEC-1 NONE	1004		NASA DATA: BASELINE NEW	•			
SUBSYSTEM: MDAC ID: ITEM:	LANDING/ 11004 NLG UPLO		ATION SYS ATOR	TEMS				
LEAD ANALYST:	J. COMPT	. COMPTON						
ASSESSMENT:								
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM			
FLIGH HDW/FU		A	В	С				
NASA [/ IOA [2 /1R] [] P]	[] [F]	[] [P]	[x] *			
COMPARE [N /N	_	и]	[N]	[N]	[N]			
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)				
[/	_		[]	r 1	[] .DD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[]			
REMARKS: GEAR WILL I RELEASE THE GEAL	NOT RELEAR	SE HYDR	AULICALLY ER THE CO	THE PYRO	BACKUP WILL PLOY IF THE SAME AS AN			

LANDING GEAR HOOK IS NOT OPEN. THIS FAILURE IS THE SAME AS AN "EXTERNAL HYDRAULIC LEAK" FOR CRITICALITY. THEREFORE, IT CAN THIS FAILURE IS THE SAME AS AN "EXTERNAL HYDRAULIC LEAK" FOR CRITICALITY. THEREFORE, IT CAN BE COMBINED WITH MDAC 11005. WITHDRAW.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-11	.005	N	ASA DATA: BASELINE NEW	[X]	
SUBSYSTEM: MDAC ID: ITEM:	11005	ECELERATI K ACTUATO		S		
LEAD ANALYST:	J. COMPTO	N				
ASSESSMENT:						
CRITICALI FLIGHT		EDUNDANCY	SCREENS		CIL	
HDW/FUN		В	С	C		
NASA [2 /1R IOA [2 /1R] [P] [P] [F] [P]	[X] * [X]	
COMPARE [/] [] [N] []	[]	
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)			
[/] [] [] [[] D/DELETE)	
* CIL RETENTION R	ATIONALE:	(If appli			_	
REMARKS:				DEQUATE DEQUATE	[]	
REDUNDANCY S CIRCULATED TO THI HOWEVER, FAILURE SCREEN.	S ACTUATOR	CONORRTT	דגש סוווים	TIIDE MAM	2555	

SCREEN.

NASA DATA: ASSESSMENT DATE: 12/15/86 BASELINE [X] ASSESSMENT ID: LDGDEC-11102 NEW [02-1-097-1 NASA FMEA #: LANDING/DECELERATION SYSTEMS SUBSYSTEM: 11102 MDAC ID: NLG B/U PYRO UPLOCK RELEASE MECH ITEM: LEAD ANALYST: J. COMPTON ASSESSMENT: CIL CRITICALITY REDUNDANCY SCREENS ITEM FLIGHT В HDW/FUNC NASA [2 /1R] [NA] [NA] [NA] IOA [1 /1] [NA] [NA] [NA] [X] * COMPARE [N /N] [] [] RECOMMENDATIONS: (If different from NASA) [/] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE [X] REMARKS: SYSTEM IS NOT USED UNLESS HYDRAULIC UPLOCK RELEASE SYSTEM FAILS. IF THIS SYSTEM FAILS WHEN CALLED ON TO FUNCTION, THERE IS NO OTHER BACKUP. ACCORDING TO THE REDUNDANCY RULES IN 22206, THIS SYSTEM IS A 2/1R CRITICALITY BUT, A FAILED HYDRAULICS SYSTEM ACTIVATES THIS SYSTEM. THIS SYSTEMS FAILURE WILL NOT ACTIVATE THE HYDRAULICS. THERE IS A LINEAR OPERATION HERE THAT WILL NOT ALLOW

REVERSAL OF THE ROLES.

THE CRITICALITY DIFFERENCE IS ATRIBUTED TO DIFFERENT
INTERPRETATIONS OF THE REDUNDANCY RULES IN NSTS 22206. FROM
ADDITIONAL ANALYSIS THE IOA AGREES WITH THE NASA/RI ASSIGNMENT OF
CRITICALITY 2/1R AND THE RETENTION OF THE FAILURE MODE AS A CIL
ITEM.

ASSESSMI ASSESSMI NASA FMI	ENT	ID			12/15/86 LDGDEC-11302 NONE						DATA: LINE NEW	[]
SUBSYSTE MDAC ID:				11302	LANDING/DECELERATION SYST 11302 VLG DOOR BUNGEE ASSIST AS								
LEAD ANA	ALYST: W.WEISSINGER												
ASSESSMENT:													
CRITICALITY FLIGHT HDW/FUNC						REDUNDANCY SCREENS					CIL ITEM		
	H	IDW,	/FUN	IC	1	Ą		В		С			
NASA IOA]	1 /	/1]] [1] NA]	[NA]	[[NA]		[x] *
COMPARE	[N /	/N]	1	1]	[N]	[иј		[N]
RECOMMEN	TADI	OI	1s:	(If	dif	fere	nt i	from N	ASA)			
	[/	/]	Ţ]	[]	[]	(AD	[D/DE] CLETE)
* CIL RE	TEN	TIC	ON F	RATION	ALE:	(If	app	olicab		ADEQUA VADEQUA		[]

BUNGEE COULD POSSIBLY INADVERTENTLY RELEASE CAUSING THE NLG DOOR TO CRACK OPEN.

NASA/RI CREATED A NEW FMEA (02-1A-102-2) WHICH ADDRESSES PREMATURE RELEASE OF THE NOSE LANDING GEAR BOOSTER BUNGEE-DOOR EXTENSION ASSIST. THE ASSIGNED CRITICALITY IS 1/1 WHICH IS IN AGREEMENT WITH THE IOA ASSESSMENT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-2	0202		NASA DATA: BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	20202	LANDING/DECELERATION SYSTEMS 20202 SHOCK STRUT PISTON ASSEMBLY							
LEAD ANALYST:	W. WEISS	N. WEISSINGER							
ASSESSMENT:									
FLIGH	\mathbf{T}	REDUNDANCY			CIL ITEM				
HDW/FU	NC	A E	3	С					
NASA [3 /3 IOA [1 /1] [NA] [NA] [NA]	IA] [AI	NA] NA]	[x] *				
COMPARE [N /N] [] [] [1	[N]				
RECOMMENDATIONS	(If d	ifferent f	rom NASA)					
[/] [] [] [] (A)	[] DD/DELETE)				
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []									
REMARKS: THE NASA FMEA COVERS ONLY THE LOSS OF NITROGEN. NASA/RI PREPARED A NEW FMEA, 02-1A-001-3, TO ADDRESS THE LOSS OF MLG SHOCK STRUT HYDRAULIC FLUID. THE 1/1 CRITICALITY IS IN AGREEMENT WITH THE IOA CRITICALITY.									

ASSESSMEN ASSESSMEN NASA FMEA	T ID:	:		C-2	0203	NASA DA' BASELII NI					
SUBSYSTEM MDAC ID: ITEM:	I :		20203	ANDING/DECELERATION SYSTEMS 0203 HOCK STRUT PISTON ASSEMBLY							
LEAD ANAL	YST:		W. WE	[SS	INGER						
ASSESSMENT:											
CRITICALITY FLIGHT						ANC	CY SCRE	5	CIL ITEM		
	HDW/	FUN	С	•	A		В		С		
NASA IOA	[3 / [3 /	'3 '1R]	[]	NA] NA]		NA] NA]		NA] NA]	[] * [x]	
COMPARE	[/	'N]	[]	[]	[]	[N]	
RECOMMEND	ATION	s:	(If	di	fferen	t f	rom NA	SA)			
ŀ	[/]	[]	[J	[[] ADD/DELETE)	
* CIL RETI	ENTIO	N RA	ATIONA	LE:	: (If a	app	licabl	·	ADEQUATE IADEQUATE		
NASA	FMEA	ASS	SUMES	LOS	S OF 1	TIV	ROGEN	ELA	STIC MED	IUM ONLY.	

HYD FLUID IS CONSIDERED AS CAPABLE OF ABSORBING A LANDING SHOCK PER MC621-0011.

IOA AGREES WITH THE NASA/RI 3/3 CRITICAILTY FOR LOSS OF NITROGEN PRESSURE IN THE MLG SHOCK STRUT. LOSS OF HYDRAULIC FLUID IS A DIFFERENT FAILURE MODE AND IS COVERED BY SEPARATE FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/15/86 LDGDEC-20 NONE			NASA DATA: BASELINE NEW	[]				
SUBSYSTEM: MDAC ID: ITEM:	LANDING/D 20205 AXLE KIT		ION SYSTE	:MS					
LEAD ANALYST:	W. WEISS	WEISSINGER							
ASSESSMENT:									
CRITICAL		REDUNDAN	CY SCREENS	5	CIL ITEM				
FLIGH HDW/FU		A	В	С					
NASA [/ IOA [1 /1] [] [NA] [] [NA] [NA]	[x] *				
COMPARE [N /N			и] [N]	[N]				
RECOMMENDATIONS:	(If di	fferent	from NASA	.)					
(/	_] [] [] (A)	[] DD/DELETE)				
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []									
REMARKS: NASA FMEA 02-1A-001-1 ADDRESSES STRUCTURAL FAILURE OF THE MAIN LANDING GEAR SHOCK STRUT INNER AND OUTER CYLINDER AND LOAD LANDING FARM FURTHER ANALYSIS THE IOA CONCLUDES THAT									

REMARKS:
NASA FMEA 02-1A-001-1 ADDRESSES STRUCTURAL FAILURE OF THE MAIN
LANDING GEAR SHOCK STRUT INNER AND OUTER CYLINDER AND LOAD
CARRING MEMBERS. FROM FURTHER ANALYSIS THE IOA CONCLUDES THAT
THE MAIN LANDING GEAR AXLE IS PART OF THE MAIN LANDING GEAR SHOCK
STRUT ASSEMBLY AND THEREFORE CAN BE CONSIDERED TO BE COVERED BY
THE FMEA. THERE IS AGREEMENT BETWEEN THE IOA AND NASA/RI THAT
THE CRITICALITY IS 1/1 AND THE HARDWARE FAILURE MODE IS A CIL
ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/15/86 LDGDEC-20209 02-1-008-1	NASA DATA BASELINE NEW	[X]		
SUBSYSTEM: MDAC ID: ITEM:	LANDING/DECELERATION SY 20209 DOWN LOCK BUNGEE	STEMS	•		
LEAD ANALYST:	W. WEISSINGER				
ASSESSMENT:					
CRITICALI FLIGHT	THE STATE OF THE	ENS	CIL		
HDW/FUN	C A B	С	ITEM		
NASA [3 /1R IOA [1 /1] [P] [NA]] [NA] [NA]	[P] [NA]	[] * [X]		
COMPARE [N /N] [N][]	[N]	[N]		
RECOMMENDATIONS:	(If different from NAS	SA)			
[/] [] []	[] (AD	[] D/DELETE)		
* CIL RETENTION RA	ATIONALE: (If applicable	:)	·		
REMARKS:	PERIL DAY TO THE	ADEQUATE INADEQUATE	[]		

UNTIL THE SAFETY PIN IS INSTALLED IN THE LOCK BRACE THERE IS A MAJOR PROBLEM. FROM THE TIME THE HYD SYS 1 IS SHUTDOWN UNTIL THE SAFETY IS INSTALLED THERE IS AN IMINENT THREAT OF COLLAPSE.

NASA/RI UPGRADED THE CRITICALITY OF MLG OVERCENTER DOWNLOCK BUNGEE STRUCTURAL FAILURE FROM 3/1R TO 2/1R. UPON FURTHER ANALYSIS THE IOA AGREES THAT THE DOWNLOCK BUNGEE IS NOT A SINGLE FAILURE POINT; THEREFORE, THE IOA, CRITICALITY SHOULD BE DOWNGRADED FROM 1/1 TO 2/1R.

ASSESSMEN ASSESSMEN NASA FMEA	T II		LDGDEC	DGDEC-20210 2-1-008-1							NASA DATA: BASELINE NEW	[x]
SUBSYSTEM MDAC ID: ITEM:	I :		LANDING/DECELERATION SYST 20210 DOWN LOCK BUNGEE						TE	ms				
LEAD ANALYST: W. WEISSINGER														
ASSESSMENT:														
CRITICALITY					REDUNDANCY SCREENS							CIL ITEM		
	FLIGHT HDW/FUNC				A B						C			•
NASA IOA	[3	/1R /1]	[P NA]	[NA NA	\]]	P] NA]	[х] *]
COMPARE	[N	/N]	[N]	[]	[N]	[N]
RECOMMENI	OATI	ons:	(If	di	ff	eren	t i	fro	om NAS	SA)				
	[/]	[]	[]	[] (A)	[DD/	DE] LETE)
	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []													
REMARKS:	TOA	773	ECTS/R	ATI	ON	ALE.								

NASA/RI UPGRADED THE CRITICALITY OF MLG OVERCENTER DOWNLOCK BUNGEE STRUCTURAL FAILURE FROM 3/1R TO 2/1R. UPON FURTHER ANALYSIS THE IOA AGREES THAT THE DOWNLOCK BUNGEE IS NOT A SINGLE FAILURE POINT; THEREFORE, THE IOA CRITICALITY SHOULD BE DOWNGRADED FROM 1/1 TO 2/1R.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-20			NASA DATA: BASELINE NEW	[X]			
SUBSYSTEM: MDAC ID: ITEM:	LANDING/I 20402 MLG EXTER	DECELERAT						
LEAD ANALYST:	J. COMPTO	ОИ						
ASSESSMENT:								
CRITICAL: FLIGHT		TY REDUNDANCY SCREENS						
HDW/FU		A	В	С	ITEM			
NASA [3 /3 IOA [2 /1R] []	NA] [P] [NA] [F] [NA] P]	[] * [X]			
COMPARE [N /N] [1	4] [и] [N]	[N]			
RECOMMENDATIONS:	(If di	fferent f	rom NASA)					
[/] [] [] [[] DD/DELETE)			
* CIL RETENTION F	RATIONALE	: (If app		ADEQUATE IADEQUATE				
REMARKS: POSSIBLE LOS	SS OF HYDE	RAULICS S	YSTEM 1.	IF SYSTEM	I FAILS, THEN			

POSSIBLE LOSS OF HYDRAULICS SYSTEM 1. IF SYSTEM FAILS, THEN THE ORBITER IS ONE FAILURE AWAY FROM LOSS OF LIFE OR VEHICLE. THE GEAR HAS A PYRO BACKUP TO UNLOCK THE GEAR. IF IT FAILS, THE GEAR WILL NOT DEPLOY. NASA INCORPORATED THIS FMEA/CIL WITH-A01 WHICH IS A HIGHER CRITICALITY (1/1). AN EXTERNAL LEAK IS A LEAK REGARDLESS OF THE FAILURE MODE. ISSUE RESOLVED; IOA ACCEPTS HIGHER CRITICALITY.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-2	20416		: [x] []	
SUBSYSTEM: MDAC ID: ITEM:	20416			TEMS STRUT ACT	
LEAD ANALYST:	J. COMP	ron			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREE	NS	CIL ITEM
	NC	A	В	С	
NASA [2 /1R IOA [2 /1R] [P] P]	[P] [F]	[P] [P]	[X] * [X]
COMPARE [/] []	[N]	[]	[]
RECOMMENDATIONS:	(If d	ifferent	t from NAS	SA)	
[/] [1	[]	[]	[] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicable	adequate INADEQUATE	[]
AND STATE AND DO DO	HIS ACTUA	TOR ONO	RBIT, THU: DETECTED 1	YD SYS 1 FLU S, THE FAILU WHEN SYSTEM	JID IS NOT JRE IS NOT ACTIVATED,

WHICH IS A 1/1.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-21	1003 -A02		NASA DATA BASELINE NEW	[X]
SUBSYSTEM: MDAC ID: ITEM:	21003	DECELERATI		EMS	
LEAD ANALYST:	J. COMPTO	N			
ASSESSMENT:					
CRITICALI FLIGHT		REDUNDANCY	SCREENS	5	CIL ITEM
HDW/FUN	IC A	В	,	C	7 1 D.A
NASA [2 /1R IOA [2 /1R] [F)		P] P]	[X] * [X]
COMPARE [/] [] [N] []	[]
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)		
[/] [] [J ([] DD/DELETE)
* CIL RETENTION R	ATIONALE:	(If appl	-	ADEQUATE ADEQUATE	[]
POSSIBLE LOS	S OF HYDR	AULICS SY	STEM 1.	IF SYSTEM	FAILS, THE

THE ORBITER IS ONE FAILURE AWAY FROM LOSS OF LIFE OR VEHICLE.
PYRO BACKUP. HYDRAULIC FLUID IS NOT CIRCULATED TO THIS ACTUATOR
ONORBIT, THUS FAILURE CANNOT BE DETECTED - FAILS REDUNDANCY
SCREEN B. HOWEVER, FAILURE IS DETECTED WHEN SYSTEM ACTIVATED, THUS PASSING SCREEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/15/86 LDGDEC-21004 NONE	NASA DATA BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	LANDING/DECELERATION SYS 21004 MLG UPLOCK ACTUATOR	STEMS		
LEAD ANALYST:	J. COMPTON			
ASSESSMENT:				
CRITICAL FLIGH HDW/FU	T	ENS C	CIL ITEM	
NASA [/ IOA [2 /1R	[] [] [F]	[] [P]	[x]	*
COMPARE [N /N] [N] [N]	[N]	[N]	
RECOMMENDATIONS:	(If different from NA	SA)		
[/] [] []	[] A)	[] .DD/DELE	ETE)
* CIL RETENTION	RATIONALE: (If applicable	e) ADEQUATE INADEOUATE	[]	

REMARKS:

GEAR WILL NOT RELEASE HYDRAULICALLY. THE PYRO BACKUP WILL RELEASE THE GEAR ONE SECOND AFTER THE COMMAND TO DEPLOY IF THE LANDING GEAR HOOK IS NOT OPEN. THIS FAILURE IS THE SAME AS AN "EXTERNAL HYDRAULIC LEAK" FOR CRITICALITY. THEREFORE, IT CAN BE COMBINED WITH MDAC 21003. WITHDRAW.

	SSMENT DATE: 12/15/86 SSMENT ID: LDGDEC-21005 FMEA #: 02-6-G08-A01								CA: UE [X] CW []
SUBSYSTEMDAC ID:			LANDII 21005 MLG U			SYSTEMS			
LEAD ANALYST: J. COMPTON									
ASSESSMENT:									
CRITICALITY FLIGHT				;	REDUNI	DANCY	SCF	REENS	CIL ITEM
		OW/FUI	_		11111				
NASA IOA	[2	2 /1R 2 /1R]	[P] P]	[F]	[P] [P]	[] * [x]
COMPARE	[/]	Ĺ]	[N]	[]	[N]
RECOMMEN	DAT:	ions:	(If	di	ffere	nt fr	om N	IASA)	
	[/]	[]	[]	[]	[] (ADD/DELETE)
* CIL RE	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []								
REMARKS:	TIND	ANCV (SCDFFN	R	FATI.C	BECA	IIÇE	~	FILITO IS NOT

CIRCULATED TO THIS ACTUATOR ONORBIT, THUS FAILURE NOT DETECTED. HOWEVER, FAILURE IS DETECTED WHEN SYSTEM ACTIVATED, THUS PASSING

SCREEN.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-30104	NASA DATA: BASELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM:	LANDING/DECELERATION SYSTE 30104 BRAKE PEDAL TRANSDUCER	MS
LEAD ANALYST:	J. COMPTON	
ASSESSMENT:		
CRITICAL FLIGH	ITY REDUNDANCY SCREENS	CIL ITEM
HDW/FU		c
NASA [/ IOA [1 /1] [] [] [] [NA] [NA] [NA] [] *
COMPARE [N /N] [и] [и] [N] [N]
RECOMMENDATIONS:	(If different from NASA)
] [] [] [_
* CIL RETENTION	RATIONALE: (If applicable)	ADEQUATE [] NADEQUATE []
ANTISKID OFF, CAPADILITY FROM FURTHER A CIL ISSUE. A CAPABILITY FROM FIRST FAILURE, TO A NON LIKE STANDOL FAILURE.	WILL RESULT IN HALF-WHEEL AUSING POSSIBLE LOSS OF VEH ON IF ON. ER ANALYSIS THE IOA WITHDRA SHORT CIRCUIT WILL ONLY CA ONE OF FOUR CHANNELS TO ON TWO SUCCESS PATHS REMAIN. YSTEM THAT OFFERS PROTECTIONS. A FAILURE OF THE ANTISK ONJUNCTION WITH A BRAKE PED	WS THIS FAILURE MODE AS USE LOSS OF BRAKING THE WHEEL. AFTER THE THE ANTISKID CIRCUIT ON AGAINST BRAKE SYSTEM TID SYSTEM SHOULD NOT BE

ASSESSMEI ASSESSMEI NASA FME	NT ID:		30105		NASA DATA: BASELINE [X] NEW []				
SUBSYSTEM MDAC ID:	1:	LANDING 30105 BRAKE C		RATION SYST	PEMS				
LEAD ANALYST: J. COMPTON									
ASSESSMENT:									
C	CRITICAL:		REDUNDA	ANCY SCREEN	S	CIL ITEM			
	HDW/FUI	4C	A	В	С	2221			
NASA IOA	[2 /1R [1 /1] [P] NA]	[F] [[NA] [P] NA]	[X] * [X]			
COMPARE	[N /N] [и]	[N] [N]	[]			
RECOMMEND	ATIONS:	(If d	ifferent	from NASA)				
	[/] []	[] [] (AI	[DD/DELETE)			
* CIL RET	ENTION F	RATIONAL	E: (If a	applicable) I	ADEQUATE NADEQUATE	[]			

WITH BRAKE PRESSURE BEING APPLIED AT TOUCHDOWN, TIRE ON THAT WHEEL WILL PROBABLY BLOW RIGHT AFTER TOUCHDOWN CAUSING POSSIBLE LOSS OF VEHICLE.

NASA/RI UPGRADED THE CRITICALITY OF THE BRAKE CIRCUIT FAILURE FROM 2/1R TO 1/1. THIS RESULTS IN AGREEMENT WITH THE IOA ASSIGNED CRITICALITY.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE [X] NEW []							
SUBSYSTEM:	LANDING/DECELERATION SYST	EMS							
LEAD ANALYST:	J. COMPTON								
ASSESSMENT:									
CRITICAL FLIGH	S CIL ITEM								
HDW/FU	NC A B	С							
NASA [3 /1R IOA [2 /1R	[P] [P] [[P] [P] [P] [] * P]							
COMPARE [N /] [] [] [] [N]							
RECOMMENDATIONS:	(If different from NASA	()							
[/] [] []	[] (ADD/DELETE)							
* CIL RETENTION	RATIONALE: (If applicable)	ADEQUATE [] [NADEQUATE []							
REMARKS: SEE 30129. SHOULD BE A 2 BECAUSE IF STANDBY SYSTEM HAD SOME FAILURE VERY LITTLE BRAKING WOULD BE AVAILABLE - ONLY FROM LAST									
REMAINING SYSTEM FROM ADDIT	M. IONAL ANALYSIS, THE IOA COI THIS FAILURE MODE SHOULD BI	NCLUDES THAT THE							
NO METHOD TO RE	THIS FAILURE MODE SHOULD by ADILY DETECT THE FAILURE () HARDWARE FAILURE REMAINS A TH THE REVISED NASA/RI EVA	S A CIL ITEM. THIS IS							

02-1B-033-2.

ASSESSMENT I ASSESSMENT I NASA FMEA #:	D: LDG	DEC-30112	NASA DATA: BASELINE [X] NEW []								
SUBSYSTEM: MDAC ID: ITEM:	3011	DING/DECELE L2 ET FILTER,									
LEAD ANALYST	; J. c	COMPTON									
ASSESSMENT:											
F	ICALITY LIGHT	REDUND	EENS	CIL ITEM							
HD	W/FUNC	A	В	C	11211						
NASA [3 IOA [2	/1R] /1R]	[P] [P]	[P] [P]	[P] [P]	[] * [X]						
COMPARE [N	/]	[]	[]	[]	[N]						
RECOMMENDATIO	ONS: (I	f differen	t from N	ASA)							
(/]	[]	[]	[]	[] (ADD/DELETE)						
* CIL RETENT	ON RATIO	NALE: (If a	applicab								
REMARKS:				ADEQUA INADEQUA							
NO CIL A	VAILABLE	. SHOULD H	BE 2/1R F	BECAUSE TE	ביים אמתאנים						

BECAUSE IF STANDBY FILTER GETS CLOGGED, HALF BRAKING CAPABILITY TO BRAKES IN THAT WHEEL WELL WILL BE LOST. SEE 30130. ISSUE RESOLUTION:

FROM ADDITIONAL ANALYSIS, THE IOA CONCLUDES THE CRITICALITY OF THIS FAILURE MODE SHOULD BE 3/1R AND THAT THERE IS NO METHOD TO READILY DETECT THE FAILURE (FAILS B SCREEN); THEREFORE, THE HARDWARE FAILURE REMAINS AS A CIL ITEM. THIS IS IN AGREEMENT WITH THE REVISED NASA/RI EVALUATION OF FMEA 02-1B-030-1.

NASA DATA: ASSESSMENT DATE: 12/15/86 BASELINE [X] ASSESSMENT ID: LDGDEC-30116 NEW [] 02-1-029-2 NASA FMEA #: LANDING/DECELERATION SYSTEMS SUBSYSTEM: 30116 MDAC ID: BY - PASS VALVE, HYD MODULE ASSY ITEM: LEAD ANALYST: J. COMPTON ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT В Α HDW/FUNC NASA [3 /3] [NA] [NA] [NA] IOA [2 /1R] [P] [F] [P] COMPARE [N /N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) [] [] []] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE [**REMARKS:** THIS VALVE HAS VERY LITTLE VALUE SINCE HYD. SYS. 1 IS SHUTDOWN AND LINE CLOSED OFF DURING FLIGHT. FLUID NOT AVAILABLE TO VALVE UNTIL JUST PRIOR TO LANDING. IF BOTH PRIMARY AND STANDBY SYSTEMS FAIL TO OPEN BOTH SYSTEMS MUST BE SO SLUGGISH THAT THE BRAKES ON THIS CONTROL MODULE WON'T FUNCTION. ALSO SEE 30131. FROM ADDITIONAL ANALYSIS, THE IOA CONCLUDES THAT THE

CRITICALITY FOR THIS FAILURE SHOULD BE 3/3 WHICH AGREES WITH THE NASA/RI EVALUATION. THERE ARE TWO BYPASS VALVES IN EACH MODULE ASSEMBLY. THEY ALLOW FLUID TO CIRCULATE AND WARMUP THE RETURN LINE. EVEN IF BOTH VALVES FAIL TO OPEN, THERE WILL STILL BE ADEQUATE BRAKING.

	NT I	D:	LDGDE	OGDEC-30124 2-1-066-2								NASA DATA: BASELINE [X] NEW []				
SUBSYSTEM: LANDING/DECELERATION SY MDAC ID: 30124 ITEM: STATORS, ROTORS, CLIPS							ST	EM:	S							
LEAD ANALYST: J. COMPTON																
ASSESSMENT:																
ET TAIM							CI									
	-	W/FUN	_	e a				В			С			ITEM		
NASA IOA	[3 [1	/1R /1]	[P P]	[P P]	[P P]	[X) *]	
COMPARE	[N	/N]	[]	[]	[]	[N]	
RECOMMENI	OATIO	ons:	(If	di	lff	eren	t í	fro	om NAS	5A))					
	[/]	[]	E		1	[[NDD/	DE I) LET:	E)
* CIL RET	ENT	ON F	RATION	\LE	E:	(If	app	ol i	cable	≘)		\P0113.m=		-		
22112										I		DEQUATE DEQUATE				

REMARKS:

IF LOCKUP OCCURS AT HIGH SPEED, TIRE WILL BLOW CAUSING POSSIBLE LOSS OF CREW AND VEHICLE.

FROM ADDITIONAL ANALYSIS, THE IOA CONCLUDES THAT THE CRITICALITY OF THIS FAILURE MODE SHOULD BE DOWNGRADED FROM 1/1 TO 2/1R. LOSS OF BRAKING CAPABILITY ON ONE WHEEL (25% OF TOTAL) IS PROBABLE EFFECT RATHER THAN A BLOWN TIRE WHICH COULD CAUSE DIRECTIONAL CONTROL PROBLEMS. THIS IS IN AGREEMENT WITH THE REVISED NASA/RI EVALUATION OF FMEA 02-1E-066-2.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/15/86 LDGDEC-30129 02-1-033-2		NASA DATA BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	LANDING/DECELE 30129 HYD PRESS REG		EMS					
LEAD ANALYST:	J. COMPTON							
ASSESSMENT:								
CRITICAL FLIGH	ITY REDUND	ANCY SCREEN	s	CIL ITEM				
HDW/FU	NC A	В	С					
NASA [3 /1R IOA [2 /1R	[P] [P]	[P] [[F] [P] P]	[X] * [X]				
COMPARE [N /] []	[N] []	[]				
RECOMMENDATIONS:	(If differen	it from NASA	.)					
[/] []	[] [] (A	[] DD/DELETE)				
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [X]								
	- DIFFERENT BECA	AUSE THIS DO	ESN'T PASS	REDUNDANCY				
SCREEN B. FROM ADDIT CRITICALITY OF TO THE STATE OF THE S	ADILY DETECT THE HARDWARE FAILURE	DE SHOULD BE E FAILURE (F E REMAINS AS	E 3/1R AND FAILS B SCR S A CIL ITE	THAT THERE IS REEN); M. THIS IS				

033-2.

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	, ,	-30					ASA DA BASELI N	TA: NE [X] EW []
SUBSYSTEM: MDAC ID: ITEM:		30130	LANDING/DECELERATION SYSTEMS 30130 INLET FILTER, HYD MODULE ASSY (SYS				S 1)		
LEAD ANALYS	T:	J. COM	PTO	N					
ASSESSMENT:									
CRITICALITY FLIGHT HDW/FUNC			REDUNDANCY SCREEN			ENS C		CIL ITEM	
••	<i>D</i> , 1 01	••	**		ט		C		
NASA [IOA [3 /1R 2 /1R]	[[P]	[[F]	[[P]]	[] * [X]
COMPARE [N /]	[N]	[N]	[N]	[N]
RECOMMENDAT	ions:	(If	dif	feren	t fr	om NAS	SA)		
ſ	/]	[]	[]	[]	[] (ADD/DELETE)
REMARKS:	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []								
SEE 30	112 -	212 I	DOE	2 NOT	PAS	S REDU	IAUNU	NCY SC	REEN B.

SEE 30112 - SYS 1 DOES NOT PASS REDUNDANCY SCREEN B.
FROM ADDITIONAL ANALYSIS, THE IOA CONCLUDES THE CRITICALITY
OF THIS FAILURE MODE SHOULD BE 3/1R AND THAT THERE IS NO METHOD
TO READILY DETECT THE FAILURE (FAILS B SCREEN); THEREFORE, THE
HARDWARE FAILURE REMAINS AS A CIL ITEM. THIS IS IN AGREEMENT
WITH THE REVISED NASA/RI EVALUATION OF FMEA 02-1B-030-2.

NASA DATA: ASSESSMENT DATE: 12/15/86 BASELINE [X] ASSESSMENT ID: LDGDEC-30131 NEW [NASA FMEA #: 02-1-029-2 LANDING/DECELERATION SYSTEMS SUBSYSTEM: 30131 MDAC ID: BY - PASS VALVE, HYD MODULE ASSY (SYS 2&3) ITEM: LEAD ANALYST: J. COMPTON ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT С HDW/FUNC Α NASA [3 /3] [NA] [NA] [P] [NA] IOA [2 /1R] [P] [P] COMPARE [N /N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) [/] [] [(ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE

REMARKS:

SEE 30116. SINCE CIRC PUMPS ARE ON FOR THESE SYSTEMS ONORBIT, THIS FAILURE COULD BE DETECTED INFLIGHT.

FROM ADDITIONAL ANALYSIS, THE IOA CONCLUDES THAT THE CRITICALITY FOR THIS FAILURE SHOULD BE 3/3 WHICH AGREES WITH THE NASA/RI EVALUATION. THERE ARE TWO BYPASS VALVES IN EACH MODULE ASSEMBLY. THEY ALLOW FLUID TO CIRCULATE AND WARMUP THE RETURN LINE. EVEN IF BOTH VALVES FAIL TO OPEN, THERE WILL STILL BE ADEQUATE BRAKING.

ASSESSMENT DA' ASSESSMENT ID NASA FMEA #:	FE: 1/23/87 : LDGDEC- 05-6BA-	31105 A 2205-2	NASA DATA: BASELINE [X] NEW []					
	EPD&C 31105			ODE (4), 3	AMPS			
LEAD ANALYST:	G. BEAI	RD						
ASSESSMENT:								
FL	CALITY				CIL ITEM			
HDW,	FUNC	A	В	С				
NASA [3 , IOA [3 ,	/1R] [/3] [F]	[F] []	[P] []	[X] * []			
COMPARE [/	(n]	N]	[N]	[N]	[N]			
RECOMMENDATION	NS: (If d	ifferent	from NAS	SA)				
[/	'] [] ([]		[] [ADD/DELETE]			
* CIL RETENTIO	ON RATIONALI	E: (If ap	plicable	e) ADEQUATE INADEQUATE	[] []			
REMARKS:		****						
IOA DOES NOT ODOWNGRADING THE LOSS OF TWO DIRESULTS IN 3/1	IE CRITICALI ODES IS LOS R CRITICALI	ITY AND F SS OF A F ITY.	REMOVING HYDRAULIO	THIS ITEM C SYSTEM WH	FROM CIL.			
IOA ACCEPTS TH MORE CONSERVAT	IE MORE SEVI LIVE INTERPI	ERE NASA RETATION	CRITICAL OF REDUN	LITY WHICH	IS DUE TO A			

ASSESSMEN ASSESSMEN NASA FMEA	T :	ID:								SA DASEL]	
SUBSYSTEM MDAC ID: ITEM:	1:			EPD&0 31114 PUSHI	1	N SW	ITCH (2),	LAND	ING G	EAR	DO'	wn		
LEAD ANA	LYS	T:		G. B	EAIRD										
ASSESSME	T:														
•	CRI			ITY REDUNDANCY SCR				SCR	REENS			CIL ITEM			
	Н		IGHT /FUI			В	В								
NASA IOA			/1 /3]	[[]	((]	[[]		[X]	*
COMPARE	[N	/N	1	[]	[]	[]		[N]	
RECOMMEN	DA'	ric	ns:	(I	f dif	fere	nt fr	om N	IASA)						
	ĺ		/]	[]	[3	[]	(A	[DD/	′DI	ĭ ∃LI	ETE)
* CIL RE	TE	TI.	ON	RATIO	NALE:	: (Ii	f appl	icak	r	DEQU		[]	
REMARKS: PROVIDES LATCHING IOA ACCI MORE COM	R	EL	AYS	FOR I	LANDI	NG G	EAR DO	WN (CALITY	WHI	CH I	S	DU:	E '	TO 1

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/23/87 LDGDEC-311: 05-6BA-211	L5B 5-3	NASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	31115	AR TOGGLE SWITC	CH, S13		
LEAD ANALYST:	G. BEAIRD				
ASSESSMENT:					
CRITICALI FLIGHT		OUNDANCY SCREEN	is	CIL	
HDW/FU	IC A	В	С	ITEM	
NASA [2 /1R IOA [3 /3] [P]	[F] [P]	[X] *	
COMPARE [N /N] [N]	[N] [N]	[N]	
RECOMMENDATIONS:	(If diffe	rent from NASA)		
[/] []	[] [[] D/DELETE)	
* CIL RETENTION R	ATIONALE: (If applicable)			
REMARKS:			ADEQUATE NADEQUATE	[]	
IOA DOES NOT CONC ON SUBSYSTEM. CB ACCEPTS THE MORE	OU KEMAINS	"CIR'R" IIN'PEE, KID"	CDCD IIAIID	77DD	

CONSERVATIVE INTERPRETATION OF REDUNDANCY GROUNDRULES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/23/87 LDGDEC-31: 05-6BA-21:	117 17 - 1	NASA DA BASELI N	TA: NE [X] EW []
SUBSYSTEM:	EPD&C			DT, ILLUMINATED
LEAD ANALYST:	G. BEAIRD			
ASSESSMENT:				
CRITICAL FLIGH	ITY R	EDUNDANCY	SCREENS	CIL ITEM
	NC A	В	С	
NASA [2 /1R IOA [3 /1R	[P	[P] [P]] [P]	[X] * [X]
COMPARE [N /] [] [N] []	[]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)	
[/] [] [] []	[] (ADD/DELETE)
* CIL RETENTION	RATIONALE:	(If appl	icable) ADEQUAT INADEQUAT	re [] re []
REMARKS: PROVIDES REDUNDATE LATCHING RELAYS CONCUR FULLY WITH CHANGING THE RED AND LOWERING THE MORE SEVERE NASA INTERPRETATION OF	FOR LANDIN TH NASA'S E DUNDANCY SC E CRITICALI A CRITICALI	IG GEAR ARI EVALUATION EREENS, IT ETY TO 3/1 ETY WHICH	M CIRCUIT. 102 AND 10A RECOM FAILS REDUNDA R. HOWEVER, 10 IS DUE TO A MOI	A DOES NOT MENDS: (1) NCY SCREEN B, DA ACCEPTS THE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/23/87 LDGDEC- 05-6BA-	nasa Bas	NASA DATA: BASELINE [X] NEW []					
SUBSYSTEM: MDAC ID: ITEM:	31125	PURPOSE FU	SE (5 AMP)					
LEAD ANALYST:	G. BEAI	RD						
ASSESSMENT:								
FLIGHT	r	REDUNDANCY	SCREENS	CIL ITEM				
HDW/FUN	1C	A B	С					
NASA [2 /1R IOA [3 /1R] [P] [P P] [F	[P] [P]	[X] * [X]				
COMPARE [N /] [] [N] []	[]				
RECOMMENDATIONS:	(If d	ifferent fr	om NASA)					
[/] [] [] []	[] (ADD/DELETE)				
* CIL RETENTION F	RATIONALI	E: (If appl	ADEO	UATE [] UATE []				
INADEQUATE [] REMARKS: IOA DOES NOT CONCUR FULLY WITH NASA'S EVALUATION AND IOA RECOMMENDS: CHANGING THE REDUNDANCY SCREENS SINCE IT FAILS REDUNDANCY SCREEN B, AND DOWNGRADING THE CRITICALITY TO 3/1R.								
TRANSFERRED OUT C	F LANDIN	NG/DECEL.	IOA ACCEPTS	THE MORE SEVERE				

NASA CRITICALITY WHICH IS DUE TO A MORE CONSERVATIVE

INTERPRETATION OF REDUNDANCY GROUNDRULES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	FDCDEC-3113	17	NASA DATA: BASELINE NEW	-				
SUBSYSTEM: MDAC ID: ITEM:	EPD&C 31137 GENERAL PUR	RPOSE FUSE (2),	5 AMP					
LEAD ANALYST:	G. BEAIRD							
ASSESSMENT:								
CRITICAL		DUNDANCY SCREEN	S	CIL ITEM				
FLIGH HDW/FU		В	С					
NASA [2 /1R IOA [2 /1R	[P] [P] [] [F] [P] P]	[X] *				
COMPARE [/] [] [и] [1	[]				
RECOMMENDATIONS:	(If diff	erent from NASA	.)					
[/] [] [] [] (A	[] DD/DELETE)				
* CIL RETENTION	RATIONALE:		ADEQUATE	[]				
REMARKS: IOA DOES NOT COI AND IOA RECOMME	NCUR FULLY W	WITH NASA'S EVAI G THE REDUNDANCY	LUATION OF SCREEN B	FMEA 2303-1 TO CONFORM TO				
IOA DOES NOT CONCUR FULLY WITH NASA'S EVALUATION TO AND IOA RECOMMENDS CHANGING THE REDUNDANCY SCREEN B TO CONFORM TO NSTS 22206. FURTHER ANALYSIS INDICATES DOWNLIST PARAMETERS ARE AVAILABLE TO DETERMINE STATUS OF THIS STRING, THUS INDICATING FUSE IS FUNCTIONING								

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	LDGDEC-	DEC-31145 BASELIN				FA: VE [X] EW []			
SUBSYSTEM: MDAC ID: ITEM:		EPD&C 31145 HYBRID	DRIVER	CONT	ROLLE	R (T	YPE 1)			
LEAD ANALYS	r:	G. BEAI	RD							
ASSESSMENT:										
	CICALI FLIGHT		REDUND	ANCY	SCRE	ens		CI	L	
	W/FUN		A	В		С		IT	EM	
NASA [3 IOA [3	3 /1R 3 /3] [P]	[P]	[P]	[[] *	
COMPARE [/N] [иј	[N]	[N]	[]	
RECOMMENDATI	ons:	(If di	fferent	fro	om NAS	A)				
	/3	•]			[[ADD/I] DELETE)	
* CIL RETENT	ION RA	TIONALE	: (If a	ppli	.cable					
REMARKS:						INAD	EQUATE EQUATE	į	J	
IOA DOES NOT HDC, IOA REC FMEA'S 2406-	Ormicial	AND LIKE IN THE IN	1 - 1 A I I I N/ 3	<i>7</i> 13 T	mtaxt	TMI				[NG

IOA ACCEPTS THE MORE SEVERE NASA CRITICALITY WHICH IS DUE TO A MORE CONSERVATIVE INTERPRETATION OF REDUNDANCY GROUNDRULES.

ASSESSME	ASSESSMENT DATE: 1/23/87 ASSESSMENT ID: LDGDEC-31154 NASA FMEA #: 05-6BA-2409-1															DAT ELIN NE			X]	
SUBSYSTE MDAC ID:				31	D&C 154 BRID		RI	VER	CC	N	ΓR	OLLEI	₹ ((TY	PE	3)					
LEAD ANA	LYS	T:	:	G.	BEA	IF	RD														
ASSESSME	NT:	:																			
	CRI		ICAL:				RI	EDUNI	DAN	IC:	Y	SCRE	ENS	3				CI	L EM	1	
	I		W/FUI				A			1	В			С							
NASA IOA	[3	/1R /1R]]	P P]		[P F]	[P P]			[x]	*
COMPARE	[/]		[]	1		N]	[]			[N]	
RECOMME	NDA'	TI	ons:		(If	d	if	fere	nt	f	r	om NA	SA)							
	[/]		[]		[]	[]		(A)	[DD,	/ D]	ELI	ETE)
* CIL R	ETE	NT	ION	RA!	rion	ΑL	E:	(If	a	pp	1:	icabl				TAU TAU		[]	
DEMADEC																					

REMARKS:

IOA DOES NOT CONCUR WITH NASA'S EVALUATION OF THE TYPE 3 HDC'S. IOA RECOMMENDS ADDING THE FMEA TO THE CIL BECAUSE IT FAILS REDUNDANCY SCREEN B.

FURTHER ANALYSIS INDICATES DOWNLIST PARAMETERS ARE AVAILABLE TO DETERMINE STATUS OF THIS FUNCTION.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:			NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	EPD&C 31161 HYBRID DRIVER	R CONTROLLER	R (TYPE 1)	
LEAD ANALYST:	G. BEAIRD			
ASSESSMENT:				
CRITICALI FLIGHT	ITY REDUN	DANCY SCREE	ns	CIL ITEM
HDW/FU	NC A	В	С	11011
NASA [/ IOA [3 /1R] []] [P]	[] [F]	[] [P]	[
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If differe	ent from NAS	A)	
[/] []	[]	[] (A)	[] DD/DELETE)
* CIL RETENTION F	RATIONALE: (If	applicable	-	
REMARKS:			ADEQUATE INADEQUATE	[]
IOA RECOMMENDS AD FMEA/CIL. THE HE CIRCUITS WITHIN E MOVED TO NOSE WHE	OC CONNECTS MA BRAKE/SKID CON	IN BUS DC POTROL BOX A.	1 HDC TO NAS OWER TO THE	SA'S "WOW2"

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ESSMENT ID: LDGDEC-31166 PAGE BASEL AND SEW O5-6BA-200200-1 NEW											
SUBSYSTEM: MDAC ID: ITEM:	EPD&C 31166 HYBRID	DRIVER COM	ITROLLER	(TYPE III)								
LEAD ANALYST:	G. BEAI	RD										
ASSESSMENT:												
CRITICAL		REDUNDAN	CY SCREEN	S	CIL ITEM							
FLIGH HDW/FU		A	В	С								
NASA [3 /1R IOA [3 /1R	i] [P] [P] [P] [F] [P] P]	[x] *							
COMPARE [/]	[] [и] (]	[и]							
RECOMMENDATIONS:	(If	different	from NAS	A)								
[/		[] [1	[] (A	[] DD/DELETE)							
* CIL RETENTION	RATIONA	LE: (If ag) ADEQUATE INADEQUATE	[]							
REMARKS: NASA INCORPORAT	ED FMEA	INTO OTHER	R FMEAS.	SEE ASSESS	MENT LDGDEC-							
31164. NASA HAS NOW GE 05-6BA-2410-2.		ሮም በአ ከ አጥ ፑ ነ	FMEAS AND	THIS IS NO	W COVERED BY							

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	LDGDEC	-31168A		NASA DATA BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM: CIRCUITS		NG RELAY (6), LDG G	R 'ARM' CO	NTROL			
LEAD ANALYST:	G. BEA	IRD						
ASSESSMENT:								
CRITIC FLI	ALITY SHT	REDUNDAN	CY SCREENS	5	CIL			
		A	В	С	ITEM			
NASA [2 / IOA [2 /	LR] [[P] [[P] [P] [P] [P] P]	[X] * [X]			
COMPARE [/] [[] [] []	[]			
RECOMMENDATIONS	: (If d	different f	from NASA)					
	•] [_		[D] DD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If app						
REMARKS:			IN.	ADEQUATE ADEQUATE	[x j			
FMEA 2501-2 HAS IOA RECOMMENDS INCORPORATED 25 NASA HAS DELETE	01-2 INTO	THEA AND I	URE MODE TS CIL BE	(SHORTS TO DELETED.	O GROUND) AND NASA			

ASSESSMENT DATE: 1/23/87 ASSESSMENT ID: LDGDEC-31170A NASA FMEA #: 05-6BA-2502-2									NASA DATA: BASELINE [X] NEW []												
SUBSYSTEM MDAC ID: ITEM: CIRCUITS				EPI 311 LAT	170	NG	R	ELAY	(6	i),	LDG	G	R '	DOWN	ı' co	ľN	'RO	L			
LEAD ANAI	LYS	T:		G.	BEA	IR	D														
ASSESSMEN	1T:																				
CRITICALITY REDUNDANCY SCREENS FLIGHT												CI	L	[
	Н				C A B C																
NASA IOA	[2	/1R /1R]		[P P]	[P P]	[P P]		[Х]	*		
COMPARE	[/]		[]	[]	[]		[N]			
RECOMMEN	DA'I	rio	ons:		(If	di	Lff	feren	it :	fro	om NA	SA	.)								
	[/]		[]	[]	[]	(Al		D / DI		CTE)		
* CIL RE	TEI	NT.	ION :	RAT	IONA	LI	Ξ:	(If	ap)	pl:	icabl		Α	DEQU.		[x]			
REMARKS: IOA RECO IT HAS A	MMI NO	EN ON	DS T CRED	HAT IBL	FMI E F	EA All	2 ! LUI	502-2 RE MO	2 A	ND:	ITS SHORT	C] [S	L TO	BE D	ELET	ED	, l	3E0 5 A	CAUSE		

INCORPORATED 2502-2 INTO 2502-1.

NASA HAS DELETED FMEA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/23/87 LDGDEC- 05-6BA-	31183 2578 - 1		NASA DATA BASELINE NEW	
	EPD&C 31183 DIODE,	12 AMP			
LEAD ANALYST:	G. BEAI	RD			
ASSESSMENT:					
CRITICAL FLIGH	ITY	REDUNDAN	CY SCREEN	s	CIL
		A	В	С	ITEM
NASA [3 /1R IOA [2 /1R] [P] [P] [P] [F] [P] P]	[] * [x]
COMPARE [N /] [] [n] []	[N]
RECOMMENDATIONS:	(If d	ifferent	from NASA)	
[/] [] [] [[DD/DELETE)
* CIL RETENTION H	RATIONALI	E: (If app	•	ADEQUATE NADEQUATE	[]
REMARKS: IOA RECOMMENDS AI DIODE ISOLATES TH DIODE IS ALSO IN CONTROL VALVE ANI OF CREW/VEHICLE H IF THE DIODE FAIL FURTHER ANALYSIS DETERMINE STATUS OPEN, PASSING THE	HE K6 & H THE CIRC THE LDG BECAUSE C LS OPEN. INDICATE OF THIS	K7 ARM REI CUIT SUPPI GEAR DUN OF LOSS OI ES DOWNLIN STRING, I	ON DIODE TAYS FROM LYING POWE TO CONTROI F POWER TO IK PARAMET	TO NASA'S OF THE KS DOWN THE LESS ARE AVECTOR OF THE LESS AND THE LESS ARE AVECTOR OF THE LESS AND THE LESS AN	CIL. THE WN RELAYS; LDG GEAR POSSIBLE LOSS THESE VALVES VAILABLE TO
,				TAT TATTORI	٠.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-3.	L/23/87 NASA DATA LDGDEC-31205 BASELINE NEW										
SUBSYSTEM: MDAC ID: ITEM:	EPD&C 31205 GENERAL	1205 ENERAL PURPOSE FUSE (8), 2 AMP										
LEAD ANALYST:	G. BEAIR	D										
ASSESSMENT:												
CRITICAL	YTI	REDUNDA	NCY SCREEN	ıs	CIL ITEM							
FLIGH HDW/FU	112.											
NASA [2 /1R IOA [3 /1R] [P] P]	[P] [F]	[P] [P]	[X] * [X]							
COMPARE [N /] []	[N]	[]	[]							
RECOMMENDATIONS:	(If di	fferent	from NAS	A)								
[/] [1	[]	[] (A	[] DD/DELETE)							
* CIL RETENTION	RATIONAL	E: (If a	applicable) ADEQUATE INADEQUATE								
REMARKS: IOA DOES NOT CON	CUR FULL	Y WITH I	NASA'S EVA CHANGING	LUATION OF THE REDUNAN	THE GENERAL							

IOA DOES NOT CONCUR FULLY WITH NASA'S EVALUATION OF THE GENERAL PURPOSE FUSES. IOA RECOMMENDS: CHANGING THE REDUNANCY SCREENS SINCE IT FAILS REDUNDANCY SCREEN B, AND DOWNGRADING FMEA TO A 3/1R. HOWEVER, IOA ACCEPTS THE MORE SEVERE NASA CRITICALITY WHICH IS DUE TO A MORE CONSERVATIVE INTERPRETATION OF REDUNDANCY GROUNRULES.

ASSESSMENT DATE: 1/23/87 ASSESSMENT ID: LDGDEC-31210 NASA FMEA #: 05-6BB-2249-1													ASA D BASEL		[x]			
SUBSYST	בחגר		LIMITING RESISTOR (4), 1.21									ζ,	21	W						
LEAD AND																				
ASSESSMI	ENT	:																		
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C												CIL ITEM								
										В			С							
NASA IOA	[3	/1F /1F	?] ?]		[P P]]	P F]	[P P]]	х]	*	
COMPARE	[/]		[]	[N]	[]		[N]		
RECOMMEN	[DA]	ric	ons:		(If	di	ff	eren	t i	fro	m	NASA))							
	[/]		[]	[]	[]	(AD] :LE		
* CIL RE	TEN	T]	ON	RAT	IONA	LE	:	(If a	app)li	.ca	ble)								
REMARKS:													IAD	EQUAT EQUAT	E	[]		
IOA DOES CONTROL CHANGING SINCE IT	TH FA	E	RED S R	UND! EDU!	ANCY ANCY	S CY	LM CR S	TTING EENS CREEN	; R (2	ES :)	IS'	TORS. DING	FM	IOA R EA 22	ECO!	MM!	EN TO	DS T	(1 HE	CIL
FURTHER DETERMIN FUNCTION	டை ၁	TW	SIS TUS	INI OF	STR	TE: IN:	S G,	DOWNI THUS	IS I	T ND	PAI	RAMET ATING	ER T	S ARE HAT R	ESIS	AII STO	LA: DR	BLI M	e to Ust	BE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-3	LDGDEC-31213A DASELLINE										
SUBSYSTEM: MDAC ID: ITEM:	31213	PURPOSE	RELAY, NO	ONLATCHING ((2)							
LEAD ANALYST:	G. BEAI	RD										
ASSESSMENT:												
CRITICAL FLIGH	CIL ITEM											
HDW/FU	NC	A	В	С								
NASA [3 /1F IOA [3 /1F		P] P]	[F] [F]	[P] [P]	[X] * [X]							
COMPARE [/] [1	[]	[]	[]							
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)								
[/] []	[]	[] (A	[] DD/DELETE)							
* CIL RETENTION	RATIONAL	E: (If a	applicable	adequate	[]							
REMARKS: IOA RECOMMENDS ' CREDIBLE FAILUR' RELAYS. NASA II THIS FMEA DELET	E MODE (S NCORPORAT	HORTS TO) GROUNDI	LOK TUE HON	IT IS A NON- LATCHING							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LDGDEC-31221	NASA DATA: BASELINE [X] NEW []									
SUBSYSTEM: MDAC ID: ITEM:	EPD&C 31221 TOGGLE SWITCH,	DPST									
LEAD ANALYST:	G. BEAIRD										
ASSESSMENT:											
CRITICALI FLIGHT	נ	ANCY SCREENS	CIL ITEM								
HDW/FUN	NC A	В С									
NASA [3 /1R IOA [3 /3] [P]] []	[P] [P] []	[] *								
COMPARE [/N] [N]	[N]	[]								
RECOMMENDATIONS:	(If different	t from NASA)									
[3 /3] []		[ADD/DELETE)								
* CIL RETENTION R REMARKS:	ATIONALE: (If a	applicable) ADEQUATE INADEQUATE									
	UR WITH NASA'S -3 TO CRITICALI	EVALUATION AND RECO	MMENDS DOWN-								

ASSESSMEN ASSESSMEN NASA FMEA	25 5 - 3					1		SA DAT ASELIN NE]							
SUBSYSTEM MDAC ID: ITEM:	1 :		312 TO	225	sī	VI.	rch,	DF	rsī	•								
LEAD ANA	LYST:		G.	BEA	IRI	D												
ASSESSME	NT:																	
	CRITI					RE	DUNDA	ANC	Y	sc	REE	NS				CIL ITEN	1	
		LIGH' V/FU				A			В				С					
NASA IOA	[3	/1R /3]		[P]]	P]		[P]		[]	*
COMPARE	[/N]		[N]	[N]		[N]		[]	
RECOMMEN	DATI	ons:		(If	di	ff	eren	t	fr	om	NAS	A)						
	[/]		[3	[]		[]	(AI	[D/D	ELI	ETE)
* CIL RE	TENT	ION	RAT	'ION <i>A</i>	LE	:	(If	ap	pl	ica				DEQUAT DEQUAT		[]	
REMARKS: IOA DOES SWITCH A		OA F	RECC	WIT	1DS	5 (CHANG	E	VA G	LU2 THI	ATIO E CR	N RI'	01 TI	F THE CALITY	''M' T	AIN O 3/	C" 3.	TOGGLE

REPORT DATE 19 JUNE 1988 C.1-53

NASA CRITICALITY IS NOW 3/3.

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P Code All

SECTION C.2 PURGE, VENT AND DRAIN SUBSYSTEM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/07/8 PV&D-90: 01-5-33:	7 35A 2404-6		NASA DATA: BASELINE [X] NEW []					
	PV&D 9035	NT/FILTER		VITY					
LEAD ANALYST:	P. BYNUM	м							
ASSESSMENT:									
CRITICAL FLIGH	CY SCREEN	'S	CIL ITEM						
HDW/FU	NC	A	В	С	IIIM				
NASA [3 /3 IOA [2 /1R] [P] [] [NA] [P]	[] * [X]				
COMPARE [N /N] [и] [и] [N]	[N]				
RECOMMENDATIONS:	(If di	fferent	from NASA)					
[/] [] [] [[] DD/DELETE)				
* CIL RETENTION I	RATIONALE	: (If app	plicable)						
REMARKS:			I	ADEQUATE NADEQUATE					
IOA CONCURS WITH SUBSYSTEM MANAGER WINDOWS DO NOT EXACCORDING TO ROCK	CEED DES	NEY/ES3) IGN MARGI	ON 3/31/3 INS FOR T	99 EADUSE	D ATT				

ASSESSMENT ASSESSMENT NASA FMEA	r ID	TE:	12/07/ PV&D-9	'87 036				N	IASA D BASEL		-]	
SUBSYSTEM MDAC ID: ITEM:	:		PV&D 9036 TUBING	3									
LEAD ANAL	YST:		P. BY	MUV									
ASSESSMEN	T:												
CRITICALITY FLIGHT				R	REDUNDANCY SCREENS						CIL ITEM		
		/FU		A		В		•	С				
NASA IOA	[1	/1]	[[]	[[]	[]		[]	[]	*
COMPARE		/N				[[]	4]	
RECOMMENI	TTAC	ons:	(If	dif	fere	nt fr	om N	IASA)					
		/		[1	[)	[]	(A		DEL.	ETE)
* CIL RET	TENT	NOI	RATION	IALE:	(If	appl	ical		ADEQU IADEQU]	
REMARKS: A PV&D FMEA/CIL WAS NOT FOUND FOR THE FAILURE MODE, WCCS OUTER TUBING CLOGS. TUBING CLOGS WOULD DEGRADE WCCS DEPRESSURIZATION AND DEPRESSURIZATION CAPABILITY WITH POSSIBLE THERMAL PANE													

N AND REPRESSURIZATION

IOA CONCURS WITH NASA THAT THIS FAILURE MODE IS NOT CREDIBLE, EXCLUDING HUMAN ERRORS DURING REFURBISHMENT, AS DISCUSSED WITH NASA SUBSYSTEM MANAGER (J. JANNEY/ES3) ON 3/31/88 AND 4/4/88. PORTS ARE PROTECTED BY DEBRIS SCREENS. LINE IS CHECKED FOR FREE FLOW DURING VEHICLE TURNAROUND.

ASSESSM ASSESSM NASA FM	ENT ENT EA	' C' I	ATI D:	E: 1: P\ 0:	2/07/87 V&D-903 1-5-332	7 37 A 2406-	5		1	NASA DAT BASELII NI	TA: NE [] EW [х ј
SUBSYST MDAC ID ITEM:				90	/&D 037 JBING							
LEAD AN	ALY	ST	:	P.	BYNUM	I						
ASSESSMI	ENT	:										
	CR	IT.	ICA	LITY HT		REDU	NDANCY	SCI	REENS		CII	
	1			UNC		A	В		c	:	ITE	EM
NASA IOA	[3 1	/3 /1]	[]	[]	[]	[[x] *
COMPARE	[N	/N]	[]	Γ]	[]	[N	ı]
RECOMMEN	DA!	ric	ONS	:	(If di	ffere	ent fro	om N	(ASA)			
	[/]	[]	[]	[[ADD/D] ELETE)
* CIL RE	TEN	T	ON	RAT	IONALE	: (If	appli	cab				
REMARKS:									INA	DEQUATE DEQUATE	Ì	,
IOA CONC SUBSYSTE WINDOWS ACCORDING	DO	NO	T	EXCE	ED DESI	NEY/E [GN M	ARGINS	~ /	21/00	T05	· —	

REPORT DATE 19 JULY 1988 C.2-4

ACCORDING TO ROCKWELL INT. ANALYSIS.

SECTION C.3 PYROTECHNICS SUBSYSTEM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	PYRO-4702		NASA DAT. BASELIN NE	
	PYROTECHNICS 4702 GUILLOTINE A		ECHNIC	
LEAD ANALYST:	W. W. ROBINS	SON		
ASSESSMENT:				
CRITICALI FLIGHT		UNDANCY SCRE	CENS	CIL
HDW/FUN	IC A	В	С	ITEM
NASA [2 /2 IOA [2 /2] [P]] [NA]	[F] [NA]	[P] [NA]	[X] * [X]
COMPARE [/] [N]	[N]	[N]	[]
RECOMMENDATIONS:	(If differ	ent from NA	SA)	
		[]	(A	[] DD/DELETE)
* CIL RETENTION R	ATIONALE: (I	f applicable	e) ADEQUATE	ſl
REMARKS: THIS FMEA/CIL HAS	BEEN DELETE	D BV NACA	INADEQUATE	į j
DELETION.	Dunele	DI NASA.	TOA CONCURS	WITH

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 PYRO-470 NONE	03		NASA DATA BASELINE NEW			
MDAC ID:	PYROTEC 4703 PRESSUR	HNICS E CARTRII	DGE (2)				
LEAD ANALYST:	W. W. R	OBINSON					
ASSESSMENT:							
CRITICAL	REDUNDA	NCY SCREE	NS	CIL ITEM			
FLIGH HDW/FU		A	В	С			
NASA [/ IOA [2 /1F] [] NA]	[] [NA]	[] [AN]	[x] *	,	
COMPARE [N /N	_	N]		[N]	[N]		
RECOMMENDATIONS	: (If o	lifferent	from NAS	SA)			
[/	1	[]	[]	[]	[] ADD/DELET	ΓE)	
* CIL RETENTION	RATIONA	LE: (If a	applicable	≥) ADEQUATE INADEQUATE	[]		
REMARKS: NEW NASA FMEA # ASSESSMENT, CRI CRITICALITY.	P2-4H-R TICALITY	105-1 HA 2/1R NN	S BEEN GE P. IOA C	NERATED FOR ONCURS WITH	THIS THIS		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	PYRO-4704		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	PYROTECHNICS 4704 PRESSURE CART	RIDGE (2)		
LEAD ANALYST:	W. W. ROBINSON	Ŋ		
ASSESSMENT:				
CRITICALI FLIGHT	1	DANCY SCREEN	s	CIL ITEM
HDW/FUN	C A	В	С	IIEM
NASA [/ IOA [2 /2] []] [NA]	[] [[NA] [NA]	[] * [X]
COMPARE [N /N] [N]	[N]	N]	[N]
RECOMMENDATIONS:	(If differen	t from NASA)	
[/	•	_		[] D/DELETE)
* CIL RETENTION R	ATIONALE: (If	applicable)		
REMARKS:			ADEQUATE IADEQUATE	[]
RECOMMEND THAT CRI NEW NASA FMEA # PI ASSESSMENT, CRITIC CRITICALITY.	2-4H-R106-1 HA	S DEEM CENTER	RATED FOR T	HIS HIS

ASSESSMENT ID:		704/88 NASA DATA: YRO-4706 BASELINE [X] 2-4-R104-2 NEW [
	PYROTEC 4706 RELEASE						
LEAD ANALYST:	W. W. R	OBINSON					
ASSESSMENT:							
CRITICAL		REDUNDA	ANCY SCREE	ns	CIL ITEM		
FLIGH HDW/FU		A	В	С			
NASA [1 /1 IOA [1 /1] [P] NA]	[F] [NA]	[P] [NA]	[X] * [X]		
COMPARE [/]	[и]	[N]	[N]	[]		
RECOMMENDATIONS:	(If o	differen	t from NAS	SA)			
[/	1	[]	[]	[] (A	[] DD/DELETE)		
* CIL RETENTION	RATIONA	LE: (If	applicable	≥) ADEQUATE INADEQUATE	[]		
REMARKS: THIS FMEA/CIL HAD DELETION.	AS BEEN	DELETED	BY NASA.	IOA CONCURS	; WITH		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	PYRO-4707	NASA DATA BASELINE NEW	
_	PYROTECHNICS 4707 PRESSURE CARTRIDGE (2)		
LEAD ANALYST:	W. W. ROBINSON		
ASSESSMENT:			
FLIGHT		NS	CIL ITEM
HDW/FUN	NC A B	С	
NASA [/ IOA [2 /1R] [] []] [NA] [NA]	[] [NA]	[] *
COMPARE [N /N] [N] [N]	[и]	[N]
RECOMMENDATIONS:	(If different from NASA	¥)	
[/] [] [] [[] DD/DELETE)
* CIL RETENTION R	ATIONALE: (If applicable)		
REMARKS:		ADEQUATE NADEQUATE	
NEW NASA FMEA # P ASSESSMENT, CRITI CRITICALITY.	2-4H-R105-1 HAS BEEN GENE CALITY 2/1R NNP. IOA CON	RATED FOR T	HIS HIS

ACCIDITATION	2/04/88 PYRO-470 NONE	PYRO-4708 DASEDING						
MDAC ID:	4708	PYROTECHNICS 4708 PRESSURE CARTRIDGE (2)						
LEAD ANALYST:	W. W. R	. W. ROBINSON						
ASSESSMENT:								
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM			
FLIGH HDW/FU		A	В	С				
NASA [/ IOA [1 /1] [NA]	[] [NA]	[] [NA]	[X] *			
COMPARE [N /N] [N]	[N]	[N]	[N]			
RECOMMENDATIONS:	(If d	lifferent	from NA	SA)				
[/] [1	[]	[]	[] ADD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[]			
REMARKS: NEW NASA FMEA # P2-4H-R107-1 HAS BEEN GENERATED FOR THIS ASSESSMENT, CRITICALITY 1/1 NNN. IOA CONCURS WITH THIS CRITICALITY.								

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SECTION C.4

ACTIVE THERMAL CONTROL SYSTEM AND LIFE SUPPORT SUBSYSTEM

ASSESSMEN ASSESSMEN NASA FME	I TV	D:	12/28 LS-13 06-2-	100	1	-1						DATA ELINE NEW	[] x]	
SUBSYSTEM MDAC ID: ITEM:			LIFE 1100 H2 SI				(2)								
LEAD ANAI	LYST	:	M.J.	SA	ΙI	DI									
ASSESSMEN	IT:														
c		ICAL: LIGH	ITY F		R	EDUN	NDAN(CY	sc	REENS			CI		
			NC		A			В		(2		IT	EM	
NASA IOA	[3 [2	/1R /2]	[[P]]	P]	[]	?]]		[]] *	;
COMPARE	[N	/N]	[N]	[N]	[]	1]		[]	1]	
RECOMMEND	ATIC	ONS:	(If	di	if1	fere	nt f	rc	m]	NASA)					
	[/]	[]	[]	[]	(AI	[DD/E] ELET	E)
* CIL RET	ENTI	ON R	ATION	ALE	:	(If	app	li	cal	ble)					
REMARKS:										INA	DEQU	ATE ATE	-	,	
THE CAPAB: NO OTHER WATER MAY	ILIT VAY CAU	Y TO TO P	REMOVE ROVIDE	VE E F	H2 OR	FROTH:	OM T IS L	HE OS	W/ s.	ATER I	S LO PRES	ST, A ENCE	ND OF	THER	E IS

HE PROBLEMS WITH FES AND DUMP OPERATIONS, AND CREATE CREW ILLNESS. THIS MAY HAVE POTENTIAL MISSION IMPACT SPECIALLY FOR THE EMU/EVA MISSION - RECHARGING THE EMU WATER TANKS WITH THE H2/H20 MIXTURE IS HAZARDOUS AND SHOULD NOT BE DONE. ALTERNATE WATER LINE PLUS FCP RELIEF LINE ARE AVAILABLE TO EXPEL WATER. LOSS OF ALL REDUNDANCIES WITH THIS FAILURE WILL DEAD-HEAD FUEL CELLS, THUS POTENTIAL LOSS OF LIFE/VEHICLE. WITHDREW ISSUE.

H2 SEPARATOR PROBLEMS ON PREVIOUS MISSIONS (H2 IN SUPPLY H2C) WERE CONCERNS BUT BY PROCEDURAL MANAGEMENT THE MISSIONS WERE NOT TERMINATED. MAJOR PROBLEM (WORST CASE) H20 FLOODING THE FUEL CELL LIST CRIT REFLECTING HARDWARE CRITICALITY OF 3.

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/28/87 LS-1100A 06-2-113	2-1		BASELINE NEW	
	LIFE SUP 1100 H2 SEPAR	PORT			
LEAD ANALYST:	M.J. SAI	IDI			
ASSESSMENT:					
		REDUNDANC	Y SCREENS	3	CIL ITEM
FLIGH HDW/FU	INC	A	В	С	
NASA [3 /1F IOA [2 /2	R] [P] [P] [P]	[] * [X]
COMPARE [N /N				и]	[N]
RECOMMENDATIONS	: (If di	ifferent i	rom NASA)	
[/] [] [] [] (2	[] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ap)	olicable) I	ADEQUATE NADEQUATE	[]
REMARKS: THE CAPABILITY NO OTHER WAY TO WATER MAY CAUSE CREW ILLNESS. SPECIALLY FOR T TANKS WITH THE DONE. ALTERNAT	PROVIDE PROBLEMS THIS MAY HE EMU/EV H2/H2O MI	FOR THIS WITH FES HAVE POTE A MISSION EXTURE IS	AND DUMP NTIAL MIS - RECHAR HAZARDOUS	OPERATION SION IMPA GING THE AND SHOU F LINE AR	NS, AND CREATE CT EMU WATER LD NOT BE

EXPEL WATER. LOSS OF ALL REDUNDANCIES WITH THIS FAILURE WILL DEAD-HEAD FUEL CELLS, THUS POTENTIAL LOSS OF LIFE/VEHICLE. THIS FMEA WAS CONSIDERED SAME AS 06-2-1101-1 FOR THE FAILURE MODE STUDIED, AND MAY THEREFOR BE COMBINED. WITHDRAW ISSUE. H2 SEPARATOR PROBLEMS ON PREVIOUS MISSIONS (H2 IN SUPPLY H2O) WERE CONCERNS BUT BY PROCEDURAL MANAGEMENT THE MISSIONS WERE NOT TERMINATED. MAJOR PROBLEM (WORST CASE) IS H2O FLOODING CELL LIST CRIT REFLECTING HARDWARE CRITICALITY OF 3.

ASSESSM ASSESSM NASA FM	ENT ENT EA	' D ' I #:	ATE D:	: 12/2 LS-1 06-2	28/8 1101 2-11	7 01 - 2	!				DATA: ELINE NEW]	
SUBSYST: MDAC ID ITEM:	EM:			LIFE 1101	e su:	PPOR								
LEAD AND			:	M.J.	SA	IDI								
ASSESSMI	ENT	:												
	CR		CAI LIGH	LITY		RED	UNDAN	CY	sc	REENS		CIL		
	1			INC		A	В		С]	ITEM			
NASA IOA	[2	/1R /2]	[P]]	P]	[P]	[X] *	
COMPARE	[/N]	[N]	[N]	[N]	(1	
RECOMMEN	DAT	'IO	NS:	(I:	f di	ffer	cent :	fro	om I	NASA)				
]						[]] (ADD	DEL	ETE)	
* CIL RE										ADEQU INADEQU	ATE [x]		
ORDER TO REPLENISH (FLIGHT I FOR ON-OF BE DEAD-H OUT.	LO H T RUL RBI HEA	OSI HE E 9 T I	E TO TAN 9-24 FES 0 SI	OTAL ONES, WILLIAM SERVICE TO THE PROPERTY OF	COOL: VILL SINCE ND C	FOR FOR E AD CREW FAI	CAPAE CE MI DITIO	IL SS NA	TOF ITY ION L W	S ITEM WI RS OR AMMO L LOSS ON TO BE SHO VATER WILL NT. FUEL ALWAYS RE	NIA BO F WATE ORTED NOT BI	ILER R TO E AV	IN AILABLE	
CRITICALI VACUUM VE OUTLET PO ENTRY. E OR EVA TH	I MA TY NT ORT VEN	DIS ANA IS DU WH WH	CUS GER CT IICH F T	SIONS A NE RIVED CAN C CAN C HE FO	BET W CR UPC AUSE SEVE RMAT	WEER RITION ON A UNC RLY ION	SCENI SCENI CONTRO DAMAO WERE	Y NERI	VAS LO VE REE	ONNEL AND AGREED UE WHERE H2O E BUILDUP HICLE STRU D FROM THE LED WHILE E TO OPERA	PON. T LEAKAG OF ICE JCTURE VEHIC	THE E TO AT DURI	THE ING	

NASA DATA:

ASSESSMEN' ASSESSMEN' NASA FMEA	T DATE: T ID: #:	12/28/87 LS-1102 06-2-110	01-3			NA B	SA DATA: ASELINE NEW	[x]
SUBSYSTEM MDAC ID: ITEM:	:	LIFE SUF 1102 H2 SEPAF	PORI					
LEAD ANAL	YST:	M.J. SA	IDI					
ASSESSMEN								
C	RITICAL FLIGH	ITY T	REDUNDA	MCY	SCREE			CIL
	HDW/FU	NC	A	В		С		
NASA IOA	[3 /1R [2 /2	[]	P]	[P]	[P]	[
COMPARE	[N /N] [N]	[N]	[N	1	[N]
RECOMMEN	DATIONS:	(If d	ifferen	t fr	om NAS	SA)		
	[/] []	[]	[] (A	[] DD/DELETE)
* CIL RE	TENTION	RATIONAL	E: (If	appl	icable		DEQUATE DEQUATE	
THROUGH THE BACK HYDROGEN FLOWING) 1100. WITHDRAW CREW/VEH THE GREA H2 CONCE	SSMENT TO THE TO THE TO THE TO THE TO THE TO THE THE EMU	TANKS; - RATOR IS CASE). AVE POTER LIST (NCERN IS	LOSS OF NOT ADE THE INFORMATION MICRITICAL H2 IN INFORMATION IF WATTANK C,	EQUATA SICE	E TO TY TO NO IMP REFLE H2O. ECOND	REMO REMO ACT CTIN FIRS	OVE ALL ON OVE ALL ON OVE HE COMMENT OF THE COMMENT	AINED IN MDAC BLE LOSS OF RE MEANS THE D SEPARATOR) URALLY ALLOWS

ASSESSMENT DATE: 12/28/87 NASA DATA: ASSESSMENT ID: LS-1105 BASELINE [NASA FMEA #: 06-2-1132-2 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 1105 ITEM: MICROBIAL FILTER (1) LEAD ANALYST: M.J. SAIIDI ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C NASA [2/1R] [P] [P] [X]*
IOA [2/2] [] [] [X]* COMPARE [/N] [N] [N] [] RECOMMENDATIONS: (If different from NASA) [2/2][][][] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE [REMARKS: SEE MDAC-1233. THIS FMEA COVERS SEVERAL ITEMS AS LINES AND INCORPORATE MDAC IOA CRITICALITY BASED UPON DISCUSSIONS BETWEEN IOA PERSONNEL AND THE NASA SUBSYSTEM MANAGER THE IOA CRITICALITY WAS DETERMINED TO BE CORRECT. A LEAK IN THE INLET SIDE OF THE SUPPLY H2O SYSTEM RESULTS IN FREE H20 IN THE CABIN. THE DEPLETION OF FES WATER WOULD NOT BE A RESULT OF THE DESIGN BUT POOR WATER MANAGEMENT DECISIONS. FREE WATER IN THE CABIN SHOULD DICTATE MISSION TERMINATION.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/28/87 LS-1106 06-2-113			NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUP 1106 MICROBIA		R QUICK D	ISCONNECT (2	2)
LEAD ANALYST:	M.J. SAI	IDI			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREE	NS	CIL ITEM
HDW/FU		A	В	С	
NASA [2 /1R IOA [2 /2] [P]	[P] []	[P] []	[X] *
COMPARE [/N] [и]	[N]	[N]	[]
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)	
[2 /2] [1	[]	[] (A	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	ADEQUATE	[x]
REMARKS: SEE MDAC-1233. FITTINGS. INCORPORATE MDACE BASED UPON DISCUSUBSYSTEM MANAGE CORRECT. A LEAR RESULTS IN FREE WOULD NOT BE A INTERMINATION.	C IOA CRI USSIONS B ER THE IO (IN THE H2O IN T	TICALITY ETWEEN A CRITIC INLET S HE CABI	Y IOA PERSON CALITY WAS IDE OF THI N. THE DI	NNEL AND THE S DETERMINED E SUPPLY H2C EPLETION OF POOR WATER M	NASA TO BE SYSTEM FES WATER MANAGEMENT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LS-1110		NASA DATA BASELINI NEV				
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 1110 TANKS INLET		ALVE (4)				
LEAD ANALYST:	M.J. SAIIDI						
ASSESSMENT:							
FLIGHT	ITY REDU	NDANCY SCRE	ENS	CIL			
HDW/FU	NC A	В	С	ITEM			
NASA [2 /1R IOA [2 /2] [P]] []	[P] []	[P] []	[X] *			
COMPARE [/N] [N]	[11]	[N]	[]			
RECOMMENDATIONS:	(If differ	ent from NA	SA)				
[2 /2] []	[]		[] DD/DELETE)			
* CIL RETENTION R	ATIONALE: (I	f applicable					
REMARKS:			ADEQUATE INADEQUATE	[X]			
SEE MDAC-1233. T	HIS FMEA COVI	ERS SEVERAL	ITEMS AS LI	NES AND			
INCORPORATE MDAC BASED UPON DISCUS	IOA CRITICALI	ITY	WET 110 mm				
BASED UPON DISCUS SUBSYSTEM MANAGER CORRECT. A LEAK RESULTS IN FREE H WOULD NOT BE A RE DECISIONS. FREE TERMINATION.	THE TOA CRIT IN THE INLET 20 IN THE CAR SULT OF THE F	FICALITY WAS SIDE OF THE BIN. THE DE	S DETERMINED E SUPPLY H20 EPLETION OF I	TO BE SYSTEM FES WATER			

NASA DATA: ASSESSMENT DATE: 12/28/87 BASELINE [ASSESSMENT ID: LS-1113 NEW [X] 06-2-1165-2 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 1113 MDAC ID: TANKS OUTLET ISOLATION VALVE (4) ITEM: LEAD ANALYST: M.J. SAIIDI ASSESSMENT: REDUNDANCY SCREENS CIL CRITICALITY ITEM FLIGHT Α В HDW/FUNC NASA [3 /1R] [P] [P] [P] [P] [P] [P] COMPARE [N /N] [N] [N] [N]RECOMMENDATIONS: (If different from NASA) [/] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE [REMARKS: SEE MDAC-1235. THIS FMEA COVERS SEVERAL ITEMS AS LINES AND WITHDRAW ISSUE. 1R IS THE MOST CRITICAL FAILURE. FITTINGS. LEAKS IN THE OUTLET SIDE OF THE SUPPLY H20 SYSTEM (i.e. FES INLET) CAN WITH A SECOND FAILURE CAUSE LOSS OF THE FES WHICH LEAVES NO REDUNDANCY FOR ENTRY COOLING, SINCE ONLY THE ABS AND RADIATORS ARE THEN AVAILABLE. THE CROSSOVER VALVE PROVIDES ISOLATION SUCH THAT TWO FAILURES ARE REQUIRED TO LOOSE THE FES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/28/87 LS-1135 06-2-1123-1		NASA DATA BASELINE NEW	_
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 1135 RELIEF VALVE,	1.5 PSID (2)		
LEAD ANALYST:	M.J. SAIIDI			
ASSESSMENT:				
CRITICALI FLIGHT		ANCY SCREENS		CIL ITEM
HDW/FUN	IC A	В	С	IIEM
NASA [3 /1R IOA [2 /2] [P]] []] [AN]] []	P]	[] * [X]
COMPARE [N /N] [N]	[N] [и]	[N]
RECOMMENDATIONS:				
[/] []	[] [] (AD	[] DD/DELETE)
* CIL RETENTION R	ATIONALE: (If a			
REMARKS:		INZ	ADEQUATE ADEQUATE	[]
LOSS OF LIKE AND USALLURE WILL STILL MISSION TERMINATION TANK A. ALTERNATION ALTERNATION ALTERNATION AND ALTERNATION AND ALTERNATION AND ALTERNATION AND ALTERNATION AND ALTERNATION AND ALTERNASIA ANALYSIS REMOVE H20 FROM THE BEFORE THE FUEL CEEFFECTS BEFORE THE STRICTEST SENSE, TO CONSERVATIVE APPROXIMATION AND ALTERNATION ALTERNATION AND ALTERNATION ALTERNATION ALTERNATION ALTERNATION ALTERNATION ALTERNATION A	E PROVIDE TANK ON IS EMMINENT, E FCP LINE WILL SIDERED BOTH RE S-1135A). LIST CRITICALIT CONSIDERS THE HE FUEL CELLS WELLS FLOOD. THE E CREW/VEHICLE THE FAILURE SHO	A ULLAGE TO RETURN ON TO NOT PROVIDE ELIEF VALVES TY REFLECTING FAILURE OF TO HICH REQUIRE HIS FAILURE S LOSS EFFECTS	MANAGE THE CAPABLE FOULD HAVE	E WATER. D D, OR JUST ALYSIS-SEE O LITY TO ILURES E MISSION

ASSESSMEN ASSESSMEN NASA FME	1T 1 1T :	DA' ID :	re:	12/: LS- 06-	28/8 1135 2-11	37 5 A 14	1-	1								ASEL	ATA: INE NEW	[X]		
SUBSYSTEM MDAC ID:	M:			LIF 113 REL	e st 5	JΡ	PO:	RT)								
LEAD ANA	LYS	T:		M.J	. s	ΑI	ID	I														
ASSESSME																						
			CAL				RE	וטם	NDA	NC	Y	SCF	REEN					CI	EN			
	Н	IDW	/FUI	NC							В				С							
NASA IOA	[3	/1R /2]		[P]		[NA]	1	[P]]	X]	*	
COMPARE	[N	/N]		[N	1		[N]		[N]		[N]		
RECOMMEN																						
	[/	1		[]		[]		[]	(A	DD,	/ D	EL]	ETE)
* CIL RI	ETE)	NT	ION	RAT	ION	AL:	Ε:	(1	f	ap	pl	ica	ble) Il	A A	DEQU DEQU	ATE ATE	[]		
REMARKS LOSS OF FAILURE MISSION TANK A. REMOVAL FMEA 06 WITHDRA CREW/VE THE NAS REMOVE BEFORE EFFECTS STRICTE CONSERV	WI TE A -2- W I HCI A A H2C	LL RM LT 10 11 SS LE NA NA SEFO	STI INAT ERNA A CO 23-1 UE. LYSI FROM FUEL DRE	ILL PION TE ONSI L LI IS THE THE	FROM IS FOR IS TO	ED 13 CR ICI FI	MMM IN 5) IT ER COVE	INI E V OTI IC SIEL OD.	ENT WIL H R ALI THE LS CLI	L EL TY WHICH I HOU	RE NO IE	TUR T F EFI LUR H FAL SS I	PROV PROV VALV LECT REQU LLUI	N I FIRE	T DE S NG	ANKS HYL IN C DAN HE C S FC	C APAGE CAPAGE C	IND IN TO BII FAI AVE	LLU LLU R.	y SI YY JRH MIS	OR S-S TO ES	JUST SEE

ASSESSM ASSESSM NASA FM	ENT ENT EA	? [?] #:	ATE:	12/28/87 NASA DATA LS-1135B BASELINI 06-2-1156-1 NEW										A: E [] W [X]			
SUBSYST MDAC ID ITEM:	EM:			LIFE 1135 RELIE	SU	PP	PORT					:)					
LEAD AN	ALY	ST	:	M.J.	SA	II	DI										
ASSESSMI	ENT	:															
		F.	LIGH	ITY T NC				DANCY SCREI						CIL ITEM			
												_					
NASA IOA	[3 2	/1R /2]	[P]	[P]	[P]	[] * [x]			
COMPARE	[N	/N]	[N]	[N]	[N]	[N]			
RECOMMEN																	
+ CTI DE]										[] ADD/DELETE)			
* CIL RE	TEN	LT.T	i no.	RATION	ALE	:	(If a	app	li	cable	e)			_			
REMARKS:											IN	AL IAC	EQUATE EQUATE	[]			
MISSION TANK A. REMOVAL. ANALYSIS WITHDRAW CREW/VEHO THE NASA REMOVE HE BEFORE THE	TER AL T IS CIL AN 20 HE BEF	MI TE SU E. AL FU ORI	NATI RNAT FME E. YSIS OM T EL C E TH	CON IS TO FOR TO THE FUE THE FREE THE FA	EM LI ERS CRI DEI LOC	MI NE S TI RS CE	CALIT THE LLS W ICLE E SHO	FA IIS	ET OT IT RE: ILI CH SS	LAGE URN (PROV EMS A FLECT URE (REQU AILUR	ON VID AS VIN OF VIR	TA E ON G TH	ANAGE THE NKS C AND HYDROGEN E LINES DANGER TO E CAPABI FOUR FAOULD HAVE	& FITTINGS TO ILITY TO AILURES VE MISSION			

NASA DATA: ASSESSMENT DATE: 12/28/87 BASELINE [ASSESSMENT ID: LS-1136 NEW [X] 06-2-1123-2 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 1136 MDAC ID: RELIEF VALVE, 1.5 PSID (2) ITEM: LEAD ANALYST: M.J. SAIIDI ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL ITEM FLIGHT В Α HDW/FUNC NASA [2 /1R] [P] [P] [P] [P] [P] [P] COMPARE [N /N] [N] [N] [N]RECOMMENDATIONS: (If different from NASA) [] [] [] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X] INADEQUATE [

REMARKS: IOA DOES NOT AGREE WITH THE STATEMENT THAT THE FUEL CELLS WILL BE DEAD HEADED AFTER R. VALVE FAILURE. CHECK VALVES IN THE FCP WATER LINE WILL PREVENT BACK FLOW TO THE CELLS. FES OPERATION WILL BE MAINTAINED BY COMBINED WATER IN TANKS A AND B DRAWING APPROXIMATELY 80 LB/HR OF WATER. FAILURE OF THE RELIEF VALVES IN THE FCP LINE ARE CONSIDERED UNASSOCIATED WITH THE FAILURE OF 1.5 PSID VALVE. NO PROBLEM IS ANTICIPATED POST MECO. FUNCTIONAL LOSS (NO C.V.) WILL RESULT IN FLOW OF WATER THRU THE FCP VENT LINE FOR 8-10 MINUTES DURING PRE-MECO. IOA CONSIDERED BOTH VALVES IN ONE ANALYSIS-SEE FMEA 06-2-1141-2 (LS-1136A). WITHDRAW ISSUE. LIST CRITICALITY REFLECTING HARDWARE CRITICALITY OF 2. EVEN THOUGH THE CHECK VALVES WILL KEEP BACKFLOW FROM ENTERING THE FUEL CELLS THE HEAD PRESSURE CREATED FROM THE ASCENT ACCELERATIONS CAN KEEP H2O FROM EXITING THE FUEL CELL BY THE NORMAL H20 LINES. IF THIS OCCURS AND THE FUEL CELL RELIEF IS PLUGGED THE 2/1R SITUATION EXISTS.

ASSESSM ASSESSM NASA FM	ENT ENT EA	' D' I	ATE: D:	12/2 LS-1 06-2	8/87 137 - 113:	2-2		nasa d Basel	ATA: INE [] NEW [X]
SUBSYST	EM:			LIFE 1137	SUP	PORT	, 1.5 PSI		
LEAD AN	ALY	ST	:	M.J.	SAI	IDI			
ASSESSMI	ENT	:							
		F.	LIGH'	ľ			NDANCY SC	REENS	CIL ITEM
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NASA IOA	[2	/1R /2]	[F	?]	[P] []	[P] []	[X] * [X]
COMPARE	[/N]	[N	[]	[N]	[N]	[]
RECOMMEN	IDA:	ΓΙC	ons:	(If	dif	fere	nt from N	JASA)	
]	2	/2]	[]	[]	[]	[] (ADD/DELETE)
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REMARKS:								ADEQUAT INADEQUAT	E [j
INCORPOR	ATE	es Em	ANAL	IOA C	RITT	CALT	ͲV		IN ONE LINES
BASED UP SUBSYSTE CORRECT. RESULTS	NON M M A IN	DI IAN L FR	SCUS IAGER EAK EE H	SIONS THE IN TH	BETTION (ION (E IN) THE	WEEN CRIT LET	IOA PERS ICALITY W SIDE OF T	ONNEL AND T AS DETERMIN HE SUPPLY H	ED TO BE
MOOTID MO	s.	e F	A KE	POTI.	ויוי יזט	HE D	ESTON RITO	POOR WATER	MANTAGENERA

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/28/87 LS-1140 06-2-1130-2		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 1140 QD, GSE FILL	•		
LEAD ANALYST:	M.J. SAIIDI			
ASSESSMENT:				
FT.TGH	ITY REDU			CIL ITEM
HDW/FU	NC A			
NASA [3 /1F IOA [3 /3	[F]	[F] []	[P] []	[X] *
COMPARE [/N				[N]
RECOMMENDATIONS				_
[/] []	[]	[]	[] ADD/DELETE)
* CIL RETENTION	RATIONALE: (If applicabl	.e) ADEQUATE INADEQUATE	
REMARKS: IOA CONSIDERED (QD) AND SECOND MOST SEVERE EFF TANKS FOR CONTI ISOLATED FOR CO THEREFORE, FES IMPACT MISSION OF RADIATOR OR THE QD/CAP. IO STUDY THEM AS O WITHDRAW ISSUE.	O-RING (CAP) ECT IS TO LOS NUOUS FES USA NTINGENCY PUF IS ONLY PARTI (P/L REQUIREM ABS ARE NON-F A CONSIDERED THE ABOVE	WITH NO OTH SE CAPABILITY AGE. OPERATI RPOSES OR UNT IALLY LOST DU MENT, MISSION REDUNDANT ITH QD & CAP SEI	TO REPLENIS TONALLY, TAN TIL NOMINAL URING ON-ORB N REQUIREMEN EMS AND UNAS PARATELY, BU S RIGHT. FUR	SH SUPPLY KS C AND D ARE DEORBIT. IT WHICH MAY T). FAILURE SOCIATED WITH T AGREES TO

RECONFIGURATIONS AND PROPER MANAGEMENT WILL PRECLUDE FES

THREAT DURING THE ENTRY PHASE. CRITICALITY SHOULD REFLECT POSSIBLE LOSS OF CREW/VEHICLE BUT ONLY AFTER 3 FAILURES IS THE DANGER OF ICE DAMAGE TO VEHICLE POSSIBLE. QD & CAP MUST LEAK & ICE MUST EXIT THE AREA WHERE THE QD IS LOCATED. MOST LIKELY RESULT IS THAT BUILD UP WILL STOP LEAK WITH NO ILL EFFECTS.

PROBLEMS; BUT FORMATION OF ICE EXTERIOR TO THE PORTS IS A MAJOR

NASA DATA:

ASSESSMENT DATE: 12/28/87

REPORT DATE 30 JUNE 1988 C.4-16

ASSESSMENT ID: LS-1140A BASELINE [NASA FMEA #: 06-2-1131-2 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 1140 ITEM: QD, GSE FILL/DRAIN (2) LEAD ANALYST: M.J. SAIIDI ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A ВС NASA [3 /1R] [F] [F] [P] IOA [3 /3] [] [] COMPARE [/N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE REMARKS: IOA CONSIDERED LOSS OF REDUNDANCIES TO BE LOSS OF FIRST O-RING (QD) AND SECOND O-RING (CAP) WITH NO OTHER REDUNDANCIES. THE MOST SEVERE EFFECT IS TO LOSE CAPABILITY TO REPLENISH SUPPLY TANKS FOR CONTINUOUS FES USAGE. OPERATIONALLY, TANKS C AND D ARE ISOLATED FOR CONTINGENCY PURPOSES OR UNTIL NOMINAL DEORBIT. THEREFORE, FES IS ONLY PARTIALLY LOST DURING ON-ORBIT WHICH MAY IMPACT MISSION (P/L REQUIREMENT, MISSION REQUIREMENT). FAILURE OF RADIATOR OR ABS ARE NON-REDUNDANT ITEMS AND UNASSOCIATED WITH THE QD/CAP. IOA CONSIDERED QD & CAP SEPARATELY, BUT AGREES TO STUDY THEM AS ONE UNIT. WITHDRAW ISSUE. THE ABOVE ASSESSMENT IS RIGHT. FURTHER RECONFIGURATIONS AND PROPER MANAGEMENT WILL PRECLUDE FES PROBLEMS; BUT FORMATION OF ICE EXTERIOR TO THE PORTS IS A MAJOR THREAT DURING THE ENTRY PHASE. CRITICALITY SHOULD REFLECT POSSIBLE LOSS OF CREW/VEHICLE BUT ONLY AFTER 3 FAILURES IS THE DANGER OF ICE DAMAGE TO VEHICLE POSSIBLE. QD & CAP MUST LEAK & ICE MUST EXIT THE AREA WHERE THE QD IS LOCATED. MOST LIKELY RESULT IS THAT BUILD UP WILL STOP LEAK WITH NO ILL EFFECTS.

NASA DATA: ASSESSMENT DATE: 12/28/87 BASELINE [LS-1142 ASSESSMENT ID: NEW [X] 06-2-1130-2 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 1142 MDAC ID: QD, GSE FILL/DRAIN (2) ITEM: LEAD ANALYST: M.J. SAIIDI ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT В HDW/FUNC [F] [F] [P] [P] [X] * NASA [3/1R] IOA [3 /2R] COMPARE [/N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) /] [] [] ſ (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) [X 1 ADEQUATE INADEQUATE IOA CONSIDERED LOSS OF REDUNDANCIES TO BE LOSS OF FIRST O-RING (QD) AND SECOND O-RING (CAP) WITH NO OTHER REDUNDANCIES. THE MOST SEVERE EFFECT IS TO LOSE CAPABILITY TO REPLENISH SUPPLY TANKS FOR CONTINUOUS FES USAGE. OPERATIONALLY, TANKS C AND D ARE ISOLATED FOR CONTINGENCY PURPOSES OR UNTIL NOMINAL DEORBIT. THEREFORE, FES IS ONLY PARTIALLY LOST DURING ON-ORBIT WHICH MAY IMPACT MISSION (P/L REQUIREMENT, MISSION REQUIREMENT). FAILURE OF RADIATOR OR ABS ARE NON-REDUNDANT ITEMS AND UNASSOCIATED WITH THE QD/CAP. IOA CONSIDERED QD & CAP SEPARATELY, BUT AGREES TO STUDY THEM AS ONE UNIT. WITHDRAW ISSUE. THE ABOVE ASSESSMENT IS RIGHT. FURTHER RECONFIGURATIONS AND PROPER MANAGEMENT WILL PRECLUDE FES

PROBLEMS; BUT FORMATION OF ICE EXTERIOR TO THE PORTS IS A MAJOR

THREAT DURING THE ENTRY PHASE. CRITICALITY SHOULD REFLECT POSSIBLE LOSS OF CREW/VEHICLE BUT ONLY AFTER 3 FAILURES IS THE DANGER OF ICE DAMAGE TO VEHICLE POSSIBLE. QD & CAP MUST LEAK & ICE MUST EXIT THE AREA WHERE THE QD IS LOCATED. MOST LIKELY RESULT IS THAT BUILD UP WILL STOP LEAK WITH NO ILL EFFECTS.

ASSESSMENT DATE: 12/28/87 NASA DATA: ASSESSMENT ID: LS-1142A BASELINE [NASA FMEA #: 06-2-1131-2 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 1142 ITEM: QD, GSE FILL/DRAIN (2) LEAD ANALYST: M.J. SAIIDI ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A В С [F] NASA [3 /1R] [F] [P] [P] [F] [P] [X] * [P] IOA [3 /2R] COMPARE [/N] [N] RECOMMENDATIONS: (If different from NASA) (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE [REMARKS: IOA CONSIDERED LOSS OF REDUNDANCIES TO BE LOSS OF FIRST O-RING (QD) AND SECOND O-RING (CAP) WITH NO OTHER REDUNDANCIES. THE MOST SEVERE EFFECT IS TO LOSE CAPABILITY TO REPLENISH SUPPLY TANKS FOR CONTINUOUS FES USAGE. OPERATIONALLY, TANKS C AND D ARE ISOLATED FOR CONTINGENCY PURPOSES OR UNTIL NOMINAL DEORBIT. THEREFORE, FES IS ONLY PARTIALLY LOST DURING ON-ORBIT WHICH MAY IMPACT MISSION (P/L REQUIREMENT, MISSION REQUIREMENT). FAILURE OF RADIATOR OR ABS ARE NON-REDUNDANT ITEMS AND UNASSOCIATED WITH THE QD/CAP. IOA CONSIDERED QD & CAP SEPARATELY, BUT AGREES TO STUDY THEM AS ONE UNIT. WITHDRAW ISSUE. THE ABOVE ASSESSMENT IS RIGHT. FURTHER RECONFIGURATIONS AND PROPER MANAGEMENT WILL PRECLUDE FES PROBLEMS; BUT FORMATION OF ICE EXTERIOR TO THE PORTS IS A MAJOR THREAT DURING THE ENTRY PHASE. CRITICALITY SHOULD REFLECT POSSIBLE LOSS OF CREW/VEHICLE BUT ONLY AFTER 3 FAILURES IS THE DANGER OF ICE DAMAGE TO VEHICLE POSSIBLE. QD & CAP MUST LEAK & ICE MUST EXIT THE AREA WHERE THE QD IS LOCATED. MOST LIKELY RESULT IS THAT BUILD UP WILL STOP LEAK WITH NO ILL EFFECTS.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	LS-1144 06-2-11	7 30-2	NASA DATA BASELINA NEV	
SUBSYSTEM: MDAC ID: ITEM:	LIFE SU 1144 CAP, GS			
LEAD ANALYST:	M.J. SA	IIDI		
ASSESSMENT:				
CRITIC FLI	LITY	REDUNDAN	CY SCREENS	CIL ITEM
HDW/	UNC	A	ВС	
NASA [3 / IOA [3 /	.R] [[F] [[P] [F] [P] P] [P]	[X] * []
COMPARE [/	1] [[и]	и] []	[N]
RECOMMENDATION			1 []	[] ADD/DELETE)
* CIL RETENTION	N RATIONA	LE: (If ap	·	
(QD) AND SECONMOST SEVERE ENTANKS FOR CONTISCUENT OF THEREFORE, FESTIMPACT MISSION OF RADIATOR OF RADIATOR OF THE QD/CAP. STUDY THEM AS WITHDRAW ISSU RECONFIGURATI PROBLEMS; BUT THREAT DURING POSSIBLE LOSS DANGER OF ICE	D O-RING FECT IS T INUOUS FE ONTINGENC IS ONLY (P/L REQ ABS ARE OA CONSID ONE UNIT. THE AE ONS AND PE FORMATION THE ENTRY OF CREW/V DAMAGE TO	(CAP) WITH CO LOSE CAN SUSAGE. Y PURPOSES PARTIALLY PUIREMENT, NON-REDUNI PERED QD & COPER MANA OF ICE EVENICLE BUD VEHICLE	TES TO BE LOSS OF IN NO OTHER REDUNDANT PABILITY TO REPLEND OPERATIONALLY, TANKS OR UNTIL NOMINAL LOST DURING ON-ORIMISSION REQUIREMENT OAT ITEMS AND UNAS CAP SEPARATELY, BUSTERIOR TO THE PORTORITICALITY SHOULD TONLY AFTER 3 FAI POSSIBLE. QD & CAP QD IS LOCATED. MP LEAK WITH NO ILL	ISH SUPPLY NKS C AND D ARE DEORBIT. BIT WHICH MAY NT). FAILURE SSOCIATED WITH UT AGREES TO RTHER DE FES TS IS A MAJOR REFLECT LURES IS THE P MUST LEAK & OST LIKELY

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MDAC I ITEM:	•					E	QD	(2)											
LEAD A	NALY	ST	•	M.J	. SA	ΙI	DI												
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	CR		ICAL LIGH	ITY		R	EDI	UNDAN	ICY	S	CREE	NS	3			C:	ΙL		
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REMARKS												N	AD	EQUA	PΕ	-		•	
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OF RADI THE QD/ STUDY T	ATOF CAP. HEM	AS	OR AE IOA ONE	BS ARI CONSI	EQUI E NC IDEF	N- ED	ME RE Q	DUNDAD & (MIS ANT CAF	SI S	ON R TEMS EPAR	E(A'	QU AN TE	IREME D UNA LY, B	NT) SSO UT	CI AG	F AT RE	AI:	LURE
WITHDRA RECONFICE PROBLEM THREAT	GURA S; E	UT	ONS FOR	AND :	PROP ON O	ER	M. TC:	ANAGI E EXT	EME	NT	WIL OT G	L	P.	RECLU	DE I	FE:	s .	M	AJOR
POSSIBLE DANGER	E LO OF I	SS	OF	CREW,	KY P VEH	HA IC EH	SE LE IC	. CI BUT LE PO	TIS NO	IC LY	ALIT AFT:	Y EI	S R	HOULD 3 FAI	REI LURI	FL ES	EC:	r 5 :	THE
ICE MUS'	IS T	HA	T BU	ILD	JP W	LK.	LS	THE C	LE	AK	WIT	A'] H	LEI No	D. M O ILL	OST EFI	L. EC	IKI CTS	ELY	Ž.

NASA DATA:

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SUBSYSTEM MDAC ID:				119	FE SI 54 OSSO			RT VALVE	(1)										
LEAD ANA	LYS	T:		М.	J. S	AI:	ID	I												
ASSESSME	NT:																_			
	CRI		CAL			:	RE	DUNDA	NC	Y	SCR	EEN	S			CI II				
	ŀ		LIGH N/FU				A			В			С							
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COMPARE]]		N			[N	1		
RECOMMEN	IDA'	TI	ONS:	:	(If	di	f	feren	t	fr	n mc	NASA	(۱							
]]	(A)			ELI	ETE)	
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REMARKS SEE MDA ONE LIN WITHDRA LEAKS I INLET) LEAVES	ES W 1 N 1 CA1	1A 22] 1H] V	ND F SUE. E OU WITH	ITT I TLE	INGS R IS T SI SECC	T DE	NA HE C F	MOST F THE	E C	CRI SUE CA	TIC PLY USE	AL H2 LO	FAI O S SS NC	LURI SYSTI OF T	E. EM (i THE F LY TH	.e ES	W AF	FE IHI 3S	s CH AND	

RADIATORS ARE THEN AVAILABLE. THE CROSSOVER VALVE PROVIDES ISOLATION SUCH THAT TWO FAILURES ARE REQUIRED TO LOOSE THE FES. THE VALVE CONSTRUCTION IS SUCH THAT TWO FAILURES WOULD HAVE TO TAKE PLACE TO GIVE A LEAK THAT AFFECTS BOTH SIDES OF OUTLET

SYSTEM AND THUS CAUSE A FES LOSS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/28/87 LS-1167 06-2-1165-2		NASA DATA BASELINI NEV	A: E [] V [X]
SUBSYSTEM: MDAC ID: ITEM:	1167	T FES B LINE	(1)	•
LEAD ANALYST:			(1)	
ASSESSMENT:				
CRITICALI FLIGHT		UNDANCY SCRE	ENS	CIL
HDW/FUN	IC A	В	С	ITEM
NASA [3 /1R IOA [2 /2] [P]	[P] []	[P] []	[] * [X]
COMPARE [N /N		[N]		[N]
RECOMMENDATIONS:	(If differ	ent from NAS	SA)	
(/] []	[]	_	[] DD/DELETE)
* CIL RETENTION RA	ATIONALE: (I	f applicable		-,
REMARKS:			ADEQUATE INADEQUATE	[j
SEE MDAC-1235 FOR ONE ANALYSIS FOR I WITHDRAW ISSUE. I	LE LE WHE NO	TTINGS.		
LEAKS IN THE OUTLE INLET) CAN WITH A LEAVES NO REDUNDAN RADIATORS ARE THEN ISOLATION SUCH THA	SECOND FAILUTE FOR ENTRY	HE SUPPLY H2 URE CAUSE LO Y COOLING, S	O SYSTEM (i. SS OF THE FE INCE ONLY TH	S WHICH E ABS AND

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/28/87 LS-1183A 05-6VD-2			NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUE 1183 SWITCH,		VALVE (1)		
LEAD ANALYST:	M.J. SAI	IDI			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1R IOA [2 /2] [P]	[NA] []	[P] []	[
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)	
[3 /2R	[P]	[NA]	[P] (A	[] ADD/DELETE
* CIL RETENTION	RATIONAL	E: (If	applicable	e) ADEQUATE INADEQUATE	

REMARKS:

BASED ON VERY LIMITED FMEA-EPD&C DATA (ONLY A CRIT SUMMARY WAS AVAILABLE), NO DETAIL ASSESSMENT OF THIS WAS ATTEMPTED. UPDATE TO NEW CRITICALITY.

BASED UPON DISCUSSIONS BETWEEN IOA PERSONNEL AND THE SUBSYSTEM MANAGER A NEW CRITICALITY WAS AGREED UPON. THE CRITICALITY IS DERIVED FROM THE INLET SIDE H2O SYSTEMS LEAKS RESULTING IN FREE H2O IN THE CABIN WHICH IS A 2/2 CRITICALITY. IN THE CASE OF THE GALLY THE LINE IF LEAKING CAN BE ISOLATED VIA A QUICK DISCONNECT WHICH IS CONSIDERED AS REDUNDANCY IN ISOLATING THE LEAK.

ASSESSM ASSESSM NASA FM	ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #: SUBSYSTEM:							7 20	33-2	2						N.		DATA LINE NEW	[
SUBSYST MDAC ID ITEM:	EM:				1.	184																	
									ALLE	ΞY	V.	AL'	VE	(1))								
LEAD AN	ALY	ST	:		M.	J.	SA	ΙI	DI														
ASSESSMI	ENT	:																					
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NASA IOA	[3 2	/	1R 2]		[P]		[N?	\]		[P]		[x]	*	
COMPARE	[N	/	N]		[N]		[N]		[N]		[N]		
RECOMMEN	IDA:	ric	NC	s:		(If	di	Ĺfi	fere	nt	f	irc	m	NAS	A)								
	[3	/	2R]		[P]		[NA	.]		[P]	(AI		DE] LET	TE)	
* CIL RE	TEN	(T)	[0]	N F	TAS	ION	ALE	: :	(If	a	pp	li	cal	ble	:)								
REMARKS:															IN			ATE ATE			-		
BASED ON	VE	ERY		LIM	IIT	ED I	ME	Α-	EPD	&C	D	AT	A	(ON	LY	Α	CR	T SU	MM	AR	Y W	IAS	
UPDATE T	O N	JEW	1 (CRI	TI	CALI	155 ТТV	ES	SME	N.T.	0	F	TH:	[S	ΙT	'EM	WAS	S ATT	'EM	PE	D.		
BASED UP MANAGER DERIVED H20 IN T GALLY TH WHICH IS	FRC HE	M CA	TI B	HE In	IN: WH	CALI LET ICH	SI SI	DE A	AS A H20	AGI OS	RE SY	ED ST	UI EMS	PON S L	· EA	T KS	HE (RITI	CA NG	LI! Il	TY N F	IS REF	Ξ
WHICH IS	CO	NS	TI	סקר	חש	λC	DF	יזח	MIDAN	101	, <u>~</u> '		~~~		· ·	<u>+v</u>	_n_\	OTCK	. ט	T2(_ON	NEC	Ξ'Ι'

WHICH IS CONSIDERED AS REDUNDANCY IN ISOLATING THE LEAK.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/28/8 LS-1189 05-6VD-	5-1			1		SA DATA: ASELINE NEW		_	
SUBSYSTEM: MDAC ID: ITEM:	LIFE SU 1189 CIRCUIT			, GA	LLEY	VA:	LV:	E (1)		
LEAD ANALYST:	M.J. SA	IID	I							
ASSESSMENT:										
CRITICAL FLIGH		RE	DUNDA		SCREE				CIL	4
HDW/FU	NC	A		В			С			
NASA [3 /1F IOA [2 /2	:] [] [P]	[P]	[P]	[] *
COMPARE [N /N	3 [N]	[N]	[N]	[]
RECOMMENDATIONS	(If o	diff	erent	fro	om NAS	SA)				
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REMARKS: BASED ON VERY L	IMITED F	MEA.	-EPD&(C DA	TA (O	NL'	Y Z	A CRIT S	UMMA TEMP	RY WAS

AVAILABLE), NO DETAIL ASSESSMENT OF THIS IT UPDATE TO NEW CRITICALITY.

BASED UPON DISCUSSIONS BETWEEN IOA PERSONNEL AND THE SUBSYSTEM MANAGER A NEW CRITICALITY WAS AGREED UPON. THE CRITICALITY IS DERIVED FROM THE INLET SIDE H2O SYSTEMS LEAKS RESULTING IN FREE H20 IN THE CABIN WHICH IS A 2/2 CRITICALITY. IN THE CASE OF THE GALLY THE LINE IF LEAKING CAN BE ISOLATED VIA A QUICK DISCONNECT WHICH IS CONSIDERED AS REDUNDANCY IN ISOLATING THE LEAK.

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SUBSYST MDAC ID ITEM:				LIF 119 DUM	3			ORT VALV	Έ	(1)										
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		F	ICAL LIGH	r				EDUND	AN		S	CREEN	15				CI:		Į.		
		יטא	W/FU	NC			A			В			(2							
NASA IOA		3 2	/1R /1R]]	P P]	[P P]	[)]	{	: ;	X]	*	
COMPARE	[N	/]		[]	[]	[1	1		(. 1	N]		
RECOMMEN	VDA'	TIC	ons:	(:	Ιf	đi	ff	feren	t 1	fro	m	NASA	.)								
	[/]		[]	[]	[]		ADD)/I	Œ] LE'	TE)	
* CIL RE	ETEI	NT)	ON F)ITAS	ONA.	LE	:	(If a	app	oli	.ca	ble)									
REMARKS:												·	P		QUATE QUATE]		
CONTINUO MIDBODY AND B OU	US UNI	حعد) TE		AK	- 13	S	STOPE	PEL) B	Y	SHUT	TI	NG	OR OU OFF CASE	THE	1	'Al	NKS	SA	

CONTINUOUS FLOW OF WATER INTO THE CREW MODULE OR OUTSIDE TO THE MIDBODY UNLESS THE LEAK IS STOPPED BY SHUTTING OFF THE TANKS A AND B OUTLET VALVES AND X-OVER VALVE. IN THIS CASE, THE USE OF A/L SUPPORT (EVA MISSION) AND TWO TANKS ARE LOST FROM THE WATER MANAGEMENT - MISSION IMPACT. NO REDUNDANCY EXISTS TO COMPENSATE FOR THE LOSS. ALSO, LOSS OF LIKE AND UNLIKE REDUNDANCIES (FESB, FCP RELIEF) WITH THIS FAILURE RESULTS IN CONTINUOUS FLOW OF WATER INTO CABIN - FCP OPERATING. THIS FMEA INCLUDES SEVERAL ITEMS INTO ONE ANALYSIS FOR LINES AND FITTINGS. WITHDRAW ISSUE. IR IS THE MOST CRITICAL FAILURE. LEAKS IN THE OUTLET SIDE OF THE SUPPLY H20 SYSTEM (i.e. FES INLET) CAN WITH A SECOND FAILURE CAUSE LOSS OF THE FES WHICH LEAVES NO REDUNDANCY FOR ENTRY COOLING, SINCE ONLY THE ABS AND RADIATORS ARE THEN AVAILABLE. THE CROSSOVER VALVE PROVIDES ISOLATION SUCH THAT TWO FAILURES ARE REQUIRED TO LOOSE THE FES.

ASSESSMENT DATE: 12/28/87 ASSESSMENT ID: LS-1210 NASA FMEA #: 05-6VD-2028-1																	DA: ELI: N		[
SUBSYSTE MDAC ID: ITEM:				12	FE S 10 ITCH				VAI	LVE	E	(1))									
LEAD ANA	LYS	ST:	;	М.,	J. s	A]	ΞI	I														
ASSESSME	NT:	:																				
		F	CAL	r			RE A	DUN	IDAI		∠ 3	SCI	REE	NS	c				CI	[L [EM	1	
			/FUI								_								_			•
NASA IOA	[3 2	/1R /1R]		[P P]		[]	NA F]		[P P]			[X]	*
COMPARE	[N	/]		[]		[]	N]		[]			[N]	
RECOMMEN	IDA'	ΓI	ons:		(If	d:	if	fere	ent	f	ro	m :	nas.	A)								
	[/]		[]		[]		[]		(A) DD,	/DI	ELJ	ETE)
* CIL RI	ETE:	NT	ION	RAT	'ION?	AL.	Е:	(II	f a	qq	li	.ca	ble) Il	IA IA	DEQ DEQ	LAU LAU	E E	[]	
REMARKS: BASED OF	1 A	ER	Y LI	MIT	ED 1	FM:	EA:	-EPI	D&C	D	ΑΊ	'A mu	(ON	L!	Z 2	A C	RIT	: S	UM TE	MA) MP	RY TEI	WAS

AVAILABLE), NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. WITHDRAW ISSUE.

DUMP MAY BE CONTROLLED VIA DUMP ISOLATION VALVE AND THE CONTINGENCY COLLECTION DEVICE IS AVAILABLE FOR SUBSEQUENT WASTE WATER MANAGEMENT.

NASA DATA:

ASSESSMENT DATE: 12/28/87

SUBSYSTEM: LIFE MDAC ID: 1228			[X]
		SS-TIE (1)	
LEAD ANALYST: M.J.	SAIIDI		
ASSESSMENT:			
CRITICALITY FLIGHT	REDUNDANCY S		CIL
HDW/FUNC	A B	c	ITEM
NASA [3 /1R] IOA [2 /2]	[F] [F]	[P] []	[X] * [X]
COMPARE [N /N]	[и] [и]	[N]	[]
RECOMMENDATIONS: (I		,	
[/]	[] []	[] [ADI	[D/DELETE)
* CIL RETENTION RATION REMARKS:	NALE: (If applic	able) ADEQUATE [INADEQUATE [[X]
IOA DID NOT KNOW OF THE 2-1124-2, HYDROPHOBIC THE CABIN, THIS SHOULD INTERVENTION WILL RESU (TANK B ONLY) INTO THE STILL BE ACHIEVED. WITHDRAW ISSUE. IR IS LEAKS IN THE OUTLET STILLET) CAN WITH A SECONDERVES NO REDUNDANCY FRADIATORS ARE THEN AVAISOLATION SUCH THAT TWO	FILTER, FOR WHI D BE 3/2R. LOSS ULT IN CONTINUOU E CABIN. ALSO, THE MOST CRITIC IDE OF THE SUPPL OND FAILURE CAUS FOR ENTRY COOLING AILABLE. THE CRE	CH THE WATER WILI OF FUNCTION WITH S FLOW OF WATER THE DUMP WITH X-1 CAL FAILURE. Y H2O SYSTEM (i.e E LOSS OF THE FES G, SINCE ONLY THE OSSOVER VALVE PRO	L LEAK INTO H NO CREW TIE CAN E. FES WHICH E ABS AND

				NASA DATA:	
ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	TS-1228A		BASELINE	[x]	
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUP 1228 QD, CONT		CROSS-TIE	(1)	
LEAD ANALYST:	M.J. SAI	IDI			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREEN	S	CIL ITEM
	NC	A	В	С	
NASA [2 /1R IOA [2 /2		P]	[P] [P]	[X] *
COMPARE [/N		и]	[и]	[N]	[]
RECOMMENDATIONS:					
[/] []	[]	[] (2	[] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable) ADEQUATE INADEQUATE	[x]
REMARKS: IOA DID NOT KNOW 2-1124-2, HYDRO THE CABIN, THIS INTERVENTION WI (TANK B ONLY) I STILL BE ACHIEV	SHOULD F SHOULD F LL RESULT NTO THE C	ELTER, FOR THE STATE OF THE STA	LOSS OF TINUOUS FL ALSO, THE NCLUDES SE	FUNCTION W.OW OF WATE	ITH NO CREW R X-TIE CAN S INTO LINES

THIS ASSESSMENT WAS MISTAKENLY MADE BETWEEN THE CONTINGENCY CROSSTIE BETWEEN THE SUPPLY & WASTE H20 SYSTEMS AND THE FOUR-WAY CROSS-FITTING ON THE SUPPLY WATER INLET LINES.

AND FITTINGS ANALYSIS-SEE FMEA 06-2-1135-2 (LS-1228).

WITHDRAW ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/28/8 LS-1233 06-2-11	37 3 132-2		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	1233	PPORT	INGS		. ,
LEAD ANALYST:	M.J. SA	IIDI			
ASSESSMENT:					
L TTGH.	ľ	REDUNDA	ANCY SCRE	ENS	CIL
HDW/FU	NC	A	В	С	ITEM
NASA [2 /1R IOA [2 /2] [P]	[P] []	[P] []	[X] * [X]
COMPARE [/N] [N]	[N]	[N]	[]
RECOMMENDATIONS:	(If di	ifferent	from NAS	SA)	
[2 /2] []	[]	[] (A	[] DD/DELETE)
* CIL RETENTION R	ATIONALE	: (If a	pplicable	:)	
REMARKS:				ADEQUATE INADEQUATE	į
IOA DOES NOT AGRE RADIATOR AND ABS. BEING STUDIED. C CREW MODULE - LEA FCP.	ONTINUOU K CANNOT	S FLOW (RE NOT AS	SOCIATED WI	TH THE ITEM
INCORPORATE MDAC BASED UPON DISCUSS SUBSYSTEM MANAGER CORRECT. A LEAK RESULTS IN FREE HOWOULD NOT BE A RESULTSIONS. FREE	SIONS BETHE IOA IN THE IT OF THE IT SULT OF T	TWEEN IC CRITIC! NLET SII E CABIN.	ALITY WAS DE IF THE THE DE	DETERMINED SUPPLY H20 PLETION OF F	TO BE SYSTEM

DECISIONS. FREE WATER IN THE CABIN SHOULD DICTATE MISSION

TERMINATION.

ASSESSMENT DATE: 12/28/87 ASSESSMENT ID: LS-1233A NASA FMEA #: 06-2-1162-2												SA DA ASELI N]]			
SUBSYSTEM MDAC ID: ITEM:				123	E SU 3 IES 1			RT FITTI	NG	s									
LEAD ANAI	YS	r:		M.J	r. s	ΑI	ID	I											
ASSESSMEN																	_		
C				TY REDUND					Y:	SCRE	ENS	5			CI IT				
	Н	DW	•	NC			A			В			С						
NASA IOA	[2	/1R /2]] [P]	[P]	[P]]	k
COMPARE]]		N			[]	
RECOMMEN	DAT	יוכ	ons:		(If	đ:	Ĺfi	feren	t:	fr	om Ni	ASA	.)						
	ĺ		/]		[1	[]	[]	(A)	DD/	′DI] ELE	TE)
* CIL RE	TEI	1 T	ION	RAT	NOI	AL:	E:	(If	ap	pl	icab		4 4	DEQU <i>I</i> DEQU <i>I</i>			x]	
REMARKS: IOA DOES RADIATOR BEING ST CREW MOR FCP. INCORPOR BASED UN SUBSYST CORRECT RESULTS WOULD NO DECISION TERMINA	RAT PON EM IN OT NS.	ND IE E MA A BE	ABS D. L MDA DISC NAG LEA TREE FRE	CON EAK C IC USS ER ' K I	THE NTIN CAN OA C IONS THE N TH	UO NO RI IE IE	US T TI ET A IN	FLOVE BE IS CALITY CRITICAL TO THE CALITY CRITICAL TO THE CAB	FOI FY ICA SII	F AT OA AL	WATE TED W PERS	SON VAS THE	INT HOU NEI DI SU PLI	O THI T SHO L AND ETERM JPPLY ETION R WAT	THE INEL H20 OF ER M	D- NG E N D T D S FE	AS O YS	DY OWI A BE TE: WA	OR N THE M TER ENT

ASSESSM ASSESSM NASA FM	SSESSMENT DATE: 12/28/87 SSESSMENT ID: LS-1234 SA FMEA #: 06-2-1156-2											NA:	ASEL	ATA: INE NEW	[]	
SUBSYST MDAC ID ITEM:	EM:			123	E SU 4 ES A				īGS								
LEAD AN	ALY	ST	:	M.J	. SA	II	DI										
ASSESSMI	ENT	:															
	CR	IT.	ICAL LIGH	ITY		RI	EDU	NDAN	CY	S	CREENS	;		c	:IL		
	į					A			В			С		I	TEM		
NASA IOA	[3 2	/1R /2]	[P]	[P]	[P]		[x]	*	
COMPARE	[N	/N]	[N]	[N]	[N]		[и ј		
RECOMMEN	DAT	ric	ons:	(]	If di	ff	er	ent :	fro	m	NASA)						
* CIL RE	[/]	Ţ]	ι]	[[(ADD)] /DEL	ETE	:)
REMARKS: FOR LEAK FLOW OF I WITHOUT S RETURN WI FOR LEAK COULD BE LEAKAGE - WITHDRAW LEAKS IN INLET) CA LEAVES NO RADIATORS ISOLATION	AGE FCP SHU ITH AGE IS: TH:	B (TTT E DO OL. ES:	ETWE PRIM ING XIST OWNS ATED S SE E. OUTL TH A UNDA	EN TEAL DOWN TREA , AN VERE IR IS ET SECONCY	THE A, TER) THE LEAK, M OF THAN S THE COND FOR E	/B TO FO NK I OF FAI	ANO CUEL HE B PRE MOS TH	ID B/C REW B/C KEPT VIOU T CR E SU RE C	C CALS	REBI	LIEF V N - NC 2) TAN EF VAI IN OR SE. AL FAI H2O S LOSS , SINC	VALVE : COER CE OF CE OF	VES: AY TO C/D TO E. OEM (THE NLY	TANK ISOL	CONTILLABITED FESSION OF THE STATE CONTILLABITED FESSION OF THE STATE CONTILLABITED FOR THE STATE CONTILLABITED FESSION OF THE STATE CONTILLABITED FOR THE STATE CONTILLAB	ANI THI	EAK FOR D D E

NASA DATA:

ASSESSME ASSESSME NASA FME	:NT :NT :A #	DA II :	ATE:	12/ LS- 06-	28/ 123 2 - 1	87 5 16	55-	·2						ASA DA' BASELI N		[
SUBSYSTE MDAC ID:	EM:			LIF 123	ES	UF	PC												
LEAD ANA	LYS	ST	:	M.J	·. s	A]	II	Ι											
ASSESSMI	ENT:	:																	
	CR		ICAL: LIGH				RE	EDUNI	OANC	CY	SCI	REEN	S				L EM		
		HDI	W/FU	NC						В			С						
NASA IOA	[[3 2	/1R /2]		[P]	[P]	[P]		[x]	*
COMPARE	[N	/N]		[N]	[N]	[N	1		[N]	
RECOMME	NDA'	TI	ons:	;	(If	d :	if	fere	nt :	fr	om 1	NASA)						
	(/]		[]	(]	[]	(Al] ELI	ETE)
* CIL R	ETE	NT	ION	RAT:	IONA	ΑL	E:	(If	ap	pl.	ica	ble) I	A NA	DEQUAT DEQUAT	PE PE	[]	
REMARKS LEAKAGE DOWN IN TANKS R LEAKAGE SHUTDOW PRIMARY AVAILAE WITHDRA LEAKS I INLET) LEAVES RADIATO ISOLATI	UP OR ESE DO N I DU LE W I CAN	DE RV WN N PI SS HE RE	ER TO E; - STRE ORDE O, X- JUS F SUE. COUT IITH	STO AM O TIE TES IR LET A S DANC	OP TONKS OF TON FEED IS SIN ECON Y FO	TH A TH OC NC DE ND OR	E E P TIN HE F AB	LEAK ND B X-OV THE ON, E B. MOS F TH AILU NTRY LE.	; - AN ER LEA AND T C E S RE CO	D VA K; A RI UP CA E	OSS FES LVE /L TIC PLY USE ING CRO	OF FEE LOSS SUPI AL H H20 LOS	FE DL OPOR AI SS NER	S FEEL INE A ANKS A FEST; - CLURE. SYSTEM OF THE COLUMN CO	AV. AA FE ONL (i E F Y T E P	NE AI ND ED Y .es HE RO	LA: B LI: TW: W. A	BLI NE O S HIC BS	AND TWO E. O BE A, FANKS S CH AND S

NASA DATA:

ASSESSMENT DATE: 12/28/87

ASSESSMENT ID: NASA FMEA #:	LS-1235A BASELINE [] 06-2-1164-2 NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 1235 LINES AND FITTI	ngs							
LEAD ANALYST:	M.J. SAIIDI								
ASSESSMENT:									
CRITICAI FLIGH	CIL ITEM								
	NC A								
NASA [3 /1R IOA [2 /2	[P]	[P] [P] [] []	[] * [X]						
COMPARE [N /N] [N]	[и] [и]	[N]						
RECOMMENDATIONS:	(If different	from NASA)							
[/] []		[] D/DELETE)						
* CIL RETENTION	RATIONALE: (If a		_						
REMARKS:		ADEQUATE INADEQUATE	[]						
LEAKAGE UPSTREAM DOWN IN ORDER TO TANKS RESERVE; - LEAKAGE DOWNSTRE SHUTDOWN IN ORDE PRIMARY DUMP, X-AVAILABLE PLUS FWITHDRAW ISSUE. LEAKS IN THE OUT INLET) CAN WITH LEAVES NO REDUND RADIATORS ARE TH	STOP THE LEAK; TANKS A AND B AND THE X-OVER TO STOP THE LEAG THE FUNCTION, AND ES FEEDLINE B. IR IS THE MOST OF LET SIDE OF THE SEA A SECOND FAILURE ANCY FOR ENTRY COEN AVAILABLE.	ALVE: - TANKS C/D TO - LOSS OF FES FEEDLINE ND FES FEEDLINE A AVAI VALVE: - TANKS A ANI AK; - LOSS OF FES FEED D A/L SUPPORT; - ONLY CRITICAL FAILURE. SUPPLY H20 SYSTEM (i.e. CAUSE LOSS OF THE FES DOLING, SINCE ONLY THE HE CROSSOVER VALVE PRO ARE REQUIRED TO LOSE	E B, AND TWO ILABLE. D B TO BE DLINE A, TWO TANKS E. FES S WHICH E ABS AND						

NASA DATA: ASSESSMENT DATE: 12/28/87 BASELINE [ASSESSMENT ID: LS-1255X NEW [X] NASA FMEA #: 06-2-1103-1 LIFE SUPPORT SUBSYSTEM: 1255 MDAC ID: LINES AND FITTINGS, H2 VENT ITEM: LEAD ANALYST: M.J. SAIIDI ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT В Α HDW/FUNC [P] [P] [P] NASA [3 /1R] IOA [2 /2] COMPARE [N /N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) [] [] [] [] [A] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE [REMARKS: THE LOSS OF FUNCTION PLUS THIS FAILURE WILL ONLY RESULT IN INABILITY TO REMOVE H2 FROM WATER - WATER FROM FCP STILL FLOWS TO THE TANKS. WITHDRAW ISSUE. LIST CRITICALITY REFLECTING POSSIBLE LOSS OF CREW/VEHICLE. THE GREATEST CONCERN IS H2 IN EMU H2O. FIRST FAILURE MEANS THE H2 CONCENTRATION WILL INCREASE. SECOND FAILURE (2ND SEPARATOR) MEANS FURTHER PROBLEMS. IF WATER MANAGEMENT PROCEDURALLY ALLOWS H2 INTO THE EMU SOURCE TANK C, PROBLEMS CAN BE EXPECTED AND LOSS OF CREWMAN IS POSSIBLE.

	LS-2040											
SUBSYSTEM: MDAC ID: ITEM:	2040	IFE SUPPORT 040 CS TO WWS QD (1)										
LEAD ANALYST: K. BARICKMAN												
ASSESSMENT:												
CRITICAL: FLIGHT		EDUNDANCY	SCREENS	;	CIL							
HDW/FU		В		С	ITEM							
NASA [2 /2 IOA [3 /2R] [] [P] [] [P] [P]	[X] *							
COMPARE [N /N] [N] [N] [N]	[N]							
RECOMMENDATIONS:	(If dif:	ferent fr	om NASA)									
[/] [] [] [[] DD/DELETE)							
* CIL RETENTION F REMARKS: IOA FM: RESTRICT		(If appl		ADEQUATE ADEQUATE	[]							
NASA FM: RESTRIC		מוות אופס	TMOTITORO	ADG TIVES								

NASA FM: RESTRICTED FLOW BUT ALSO INCLUDES ARS LINES.
IOA COMMENT: THE LOSS OF THE QD BY RESTRICTED FLOW ONLY
RESTRICTS THE USE OF THE WCS, IN WHICH CASE THE FCB AND UCD
SUPPLIES MUST BE USED. THE FCB AND UCD SUPPLIES MAY BE
INSUFFICIENT FOR MISSION DURATION, THUS CREATING A MISSION LOSS
CRITICALITY 3/2R PNP. THOSE NASA FMEA WHICH INCLUDE A COLLECTION
OF HARDWARE ITEMS MAY NOT MATCH THE IOA ANALYSIS. THE IOA
ANALYSES PROVIDED SEPARATE ANALYSES FOR EACH PIECE OF EQUIPMENT.
THE BASIC PREMISE OF THE NASA FMEA DID AGREE WITH THE IOA
ANALYSIS. WITHDRAW ISSUE. LIST THE NASA CRITICALITY. THE FCB
AND UCD ARE ONLY A ONE DAY SUPPLY AND ARE NOT CONSIDERED AS
REDUNDANCY IN THE STRICKEST SENSE.

NASA DATA: ASSESSMENT DATE: 12/22/87 BASELINE [NEW [ASSESSMENT ID: LS-2040A NEW [06-2-0443-1 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 2040 MDAC ID: WCS TO WWS QD (1) ITEM: LEAD ANALYST: K. BARICKMAN ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT a B HDW/FUNC NASA [2 /2] [] [] [] IOA [3 /2R] [P] COMPARE [N /N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) [3/2R] [P] [NA] [P] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEOUATE [INADEQUATE [**REMARKS:**

IOA/NASA FM: RESTRICTED FLOW
IOA COMMENT: THE LOSS OF THE QD BY RESTRICTED FLOW ONLY
RESTRICTS THE USE OF THE WCS, IN WHICH CASE THE FCB AND UCD
SUPPLIES MUST BE USED. THE FCB AND UCD SUPPLIES MAY BE
INSUFFICIENT FOR MISSION DURATION, THUS CREATING A MISSION LOSS
CRITICALITY 3/2R PNP. THOSE NASA FMEA WHICH INCLUDE A COLLECTION
OF HARDWARE ITEMS MAY NOT MATCH THE IOA ANALYSIS. THE IOA
ANALYSES PROVIDED SEPARATE ANALYSES FOR EACH PIECE OF EQUIPMENT.
THE BASIC PREMISE OF THE NASA FMEA DID AGREE WITH THE IOA
ANALYSIS. WITHDRAW ISSUE. LIST THE NASA CRITICALITY. THE FCB
AND UCD ARE ONLY A ONE DAY SUPPLY AND ARE NOT CONSIDERED AS
REDUNDANCY IN THE STRICKEST SENSE.

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	TE: 12/22 : LS-20 06-2-	12/22/87 NASA DAT LS-2044 BASELIN 06-2-0435-1 NE										
SUBSYSTEM: MDAC ID: ITEM:	2044		NATUBE (1)								
LEAD ANALYST:	K. BAI	RICKMAN										
ASSESSMENT:												
FL	CALITY CGHT		DANCY SC	REENS	CIL ITEM							
HDW	FUNC	A	В	С	2221							
NASA [2 ,	72] 73]	[]	[]	[]	[X] * []							
COMPARE [N /	'N]	[]	[]	[]	[N]							
RECOMMENDATION	s: (If	differe	nt from]	NASA)								
[/]	[]	[]		[] (ADD/DELETE)							
* CIL RETENTIO	N RATIONA	LE: (If	applical	ole)	_							
REMARKS:				ADEQUATI	E [] E []							
IOA/NASA FM: RESTRICTED FLOW IOA COMMENT: THE LOSS OF THE DYNATUBE BY RESTRICTED FLOW ONLY RESTRICTS THE USE OF THE WCS, IN WHICH CASE THE FCB AND UCD SUPPLIES MUST BE USED. THE FCB AND UCD SUPPLIES MAY BE INSUFFICIENT FOR MISSION DURATION, THUS CREATING A MISSION LOSS												

CRITICALITY 3/2R PNP. THOSE NASA FMEA WHICH INCLUDE A COLLECTION

ANALYSES PROVIDED SEPARATE ANALYSES FOR EACH PIECE OF EQUIPMENT.

ANALYSIS. WITHDRAW ISSUE. LIST THE NASA CRITICALITY. THE FCB AND UCD ARE ONLY A ONE DAY SUPPLY AND ARE NOT CONSIDERED AS

OF HARDWARE ITEMS MAY NOT MATCH THE IOA ANALYSIS. THE IOA

THE BASIC PREMISE OF THE NASA FMEA DID AGREE WITH THE IOA

REDUNDANCY IN THE STRICKEST SENSE.

ASSESSMEN ASSESSMEN NASA FME	TΓ	ID	:	06-2-0443-1 NEW [A]										
SUBSYSTEM MDAC ID:				20	FE SU 44 S TO			ATUBE	(1)					
LEAD ANA	LYS	T:		K.	BAR	ICKM	IAN							,
ASSESSME	NT:	;												
	CR]			LITY		RI	EDUND	ANCY	SCRE	ENS		CII		
	I		LIG N/F	UNC		A		В		С				
NASA IOA	[2	/2 /3]		[]	[]	[]	[]	(] *	
COMPARE	[N	/N	[]		[1	[]	[1	[1	1]	
RECOMMEN	IDA'	TI:	ONS	:	(If	dif	fere	nt fr	om NA	ASA)				
			/					[] (2] DELET	'E)
* CIL R	ETE	NT	IOI	I RAT	ANOIT	LE:	(If	appl	icab:	A	DEQUATE DEQUATE	[]	
REMARKS IOA/NAS IOA COM RESTRIC	A F MEN	T:	,	nttn '	TOCC	OF HE W	THE ICS.	IN WH	ICH	CASE	STRICTE THE FCB	ANL	UCD	1LY

IOA/NASA FM: RESTRICTED FLOW
IOA COMMENT: THE LOSS OF THE DYNATUBE BY RESTRICTED FLOW ONLY
RESTRICTS THE USE OF THE WCS, IN WHICH CASE THE FCB AND UCD
SUPPLIES MUST BE USED. THE FCB AND UCD SUPPLIES MAY BE
INSUFFICIENT FOR MISSION DURATION, THUS CREATING A MISSION LOSS
CRITICALITY 3/2R PNP. THOSE NASA FMEA WHICH INCLUDE A COLLECTION
OF HARDWARE ITEMS MAY NOT MATCH THE IOA ANALYSIS. THE IOA
ANALYSES PROVIDED SEPARATE ANALYSES FOR EACH PIECE OF EQUIPMENT.
THE BASIC PREMISE OF THE NASA FMEA DID AGREE WITH THE IOA
ANALYSIS. WITHDRAW ISSUE. LIST THE NASA CRITICALITY. THE FCB
AND UCD ARE ONLY A ONE DAY SUPPLY AND ARE NOT CONSIDERED AS
REDUNDANCY IN THE STRICKEST SENSE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA BASELINE NEW		
	LIFE SUPPORT 2048 MANUAL VENT VA	LVE (1)		
LEAD ANALYST:	K. BARICKMAN			
ASSESSMENT:				
CRITICALI		ANCY SCREENS		CIL
FLIGHT HDW/FUN	C A	В	С	ITEM
NASA [2 /1R IOA [3 /2R] [P]] [P]	[P] [[P] [P] P]	[X] *
COMPARE [N /N] []	[]]	[N]
RECOMMENDATIONS:	(If different]	[]
* CIL RETENTION R REMARKS:		•	ADEQUATE ADEQUATE	DD/DELETE)
LATTOKE TO BE AT I	THE VALVE EXTER DWNSTREAM OF THE LOSS OF LIFE WO N PRESSURE LOSS CTION TO RESTRI BE 3/1R PNP. VIEWED THE FIRS LITY, HOWEVER SE THE NASA FMEA CO LEAST A MISSION RAW ISSUE. NAS ULY REDUNDANCY	HE VALVE CONTOULD BE POSSIBLE IF THE VACUATION OF THE AIR IN THE AIR IN THE POSSIBLE IT IN THE POSSIBLE IT IN THE ITE IS THE LEFT IS THE	TROLLER (PIBLE DUE TO JUM VENT I FLOW. THE DIE A NON TURES COUTEWED THE DIE A LIFE OF	AST 2 SEALS) O SOLATION RECOMMENDED -MISSION LD CREATE FIRST THREATENING

NASA DATA: ASSESSMENT DATE: 12/22/87 ASSESSMENT ID: LS-2126 BASELINE [NEW [X 1 06-2-0314-2 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 2126 MDAC ID: WASTE TANK N2 HYDROPHOBIC FILTER (1) ITEM: LEAD ANALYST: K. BARICKMAN ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT В A HDW/FUNC [F] [F] [P] NASA [3 /2R] IOA [3 /3] COMPARE [/N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) /] [] [] [(ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE IOA/NASA FM: INTERNAL LEAKAGE IOA COMMENT: THE FAILURE OF THE FILTER IS NO CRITICALITY CHANGE, REMARKS: HOWEVER IF THE LOSS OF THE BELLOWS OCCURS THEN THE FCB AND UCD MUST BE USED AS REDUNDANT SUPPLIES WHICH MAY REQUIRE TERMINATION OF THE MISSION BECAUSE OF INSUFFICIENT UCD SUPPLIES PAST 3-DAYS USAGE. THE NEW CRITICALITY SHOULD BE 3/2R FNP. THE DISAGREEMENT IN THE REDUNDANCY SCREENS WAS DUE TO NO DETAILED DISCUSSION WITH THE NASA SUBSYSTEM MANAGERS REGARDING THE REDUNDANT PATHS. WITHDRAW ISSUE. NASA CRITICALITY IS CORRECT, AS STATED IN

PREVIOUS IOA REMARKS.

ASSESSM ASSESSM NASA FM	ENT ENT EA	NT DATE: 12/22/87 NASA DATA NT ID: LS-2131 BASELINI A #: 06-2-0420-2 NEW																	
SUBSYST	EM:			21	FE SU 31 E FII				'G	(1)						-		
LEAD AND	ALY	ST	:	ĸ.	BAR	CI	MAN	ī											
ASSESSMI	ENT	:																	
CRITICALITY RED FLIGHT								NDAN	CY	S	CREEN	18			CIL				
	1					A			В			С			I.	TEN	1		
NASA IOA	[3	/2R /3]]	F	`]	[F]]	P]]	x]	*	
COMPARE	[/N]	[N]	[N]	[N]		[N]		
RECOMMEN	[AD]	ric	ons:	((If d	if	fer	ent :	fro	m	NASA	()							
					ſ								J	(A		'DE		TE)	ı
* CIL RE	TEN	ITI	ON F	LTA9	ONAL	E:	(I:	f app	oli	.ca	ble)	ΑI	EOU.	ATE	ſ		1		
REMARKS:											I	NAL	EQU.	ATE	[]		
IOA/NASA IOA COMM THE CAP, OF LIFE (3/1R FFP THE IOA (ATMOSPHEI STREAM, WITHDRAW OCCURS THE BE MAINTA THE QD AN BE WORST	ENT AS OCC ANA RE IO IS HE AIN	UR LY LE BE SU LE CA	IF ECON S DU SIS AK, A L E. AK R EAS P SE	THE DAR E T VIE IF IFE NAS ATE	E LEAD EY SEA O CAL EWED T A SEC CRIT A CRI WOUL	KAC AL BIII CON CIC TI	GE I , AI N PF COUNTY CAL ICAL BE	ESO FEESTURE OF THE POINT OF TH	RE IO	LS N 0 IO RRI HA'	, THE OSS OF A CCURE NO. ECT.	EN FOR PO ED	A POTENT	OTENT CRITI FIAL THE I HE IC V PRE	CA CA RED	L LI' BII UNI FAI	FOR TY N DAN ILU E C	OF OEY JRE	OSS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/22/87 LS-2136 06-2-0438-2	NASA DATA: BASELINE NEW	
SUBSYSTEM:	LIFE SUPPORT	INGS, JOINTS AND UN	ions
LEAD ANALYST:	K. BARICKMAN		
ASSESSMENT:			
	ITY REDUNDANG	CY SCREENS	CIL ITEM
•	NC A	В С	
NASA [2 /1R IOA [2 /2] [P] [] []	P] [P]	[X] *
COMPARE [/N] [N][N] [N]	[]
RECOMMENDATIONS:	(If different	from NASA)	
[2 /2] [] [] [] (A	[A] .DD/DELETE)
	RATIONALE: (If ap	plicable) ADEQUATE INADEQUATE	[]
LOSS OF MISSION THE IOA ANALYSIS PATHS FOR THIS I INCORPORATE MDAG CONSIDERATIONS	E EXTERNAL LEAKAGE WITH NO CHANGE IN TEAM COULD NOT INTERPOLATION TO IOA CRITICALITY AND ADD 3/1R PPP OF THIS IS CONSISTED.	OF THE DUMP LINE EN CRITICAL EVENTS. DETERMINE ANY APPARE ON FOR THE WASTE WATER ORTICALITY FOR SUPPICATION VALUE OF THE V	ENT REDUNDANT R DUMP LY WATER DUMP WASTE WATER

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/22/87 LS-2137 06-2-0438-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:			CONNECTIONS	S
LEAD ANALYST:	K. BARICKMAN			
ASSESSMENT:				
FLIGHT		ANCY SCREENS) 	CIL ITEM
HDW/FUN	VC A	В	С	
NASA [2 /1R IOA [2 /2] [P]] []] [AN]] [P]	[X] * [X]
COMPARE [/N] [N]	[N]	N]	[]
RECOMMENDATIONS: (If different from NASA)				
[2 /2] []	[]] (AD	[A] DD/DELETE)
* CIL RETENTION R	ATIONALE: (If a	applicable)		
REMARKS:		INZ	ADEQUATE ADEQUATE	[]
IOA/NASA FM: RES IOA COMMENT: THE OF MISSION WITH N THE IOA ANALYSIS PATHS FOR THIS HA INCORPORATE MDAC CONSIDERATIONS AN	RESTRICTED FLOW O CHANGE IN CRI TEAM COULD NOT RDWARE OR FUNCT IOA CRITICALITY D ADD 3/1R PPP	OF THE DUMP TICAL EVENTS DETERMINE AN TION FOR THE WAS	S. NY APPAREN' STE WATER	T REDUNDANT
CONSIDERATIONS. OUMP COMPONENTS DO	THIS IS CONSTST	ידא עורדע אינו	OMBED MA	COD III ODD

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LS-2141 06-2-0438-2	14	BASELINE [] NEW [X]	
SUBSYSTEM:			CR (2)	
LEAD ANALYST:	K. BARICKMAN			
ASSESSMENT:				
CRITICAL: FLIGHT		ANCY SCREENS	CIL ITEM	
HDW/FU		В		
NASA [2 /1R IOA [2 /2] [P]] []	[P] [F [] [?] [X] * [X]	
COMPARE [/N] [N]	[N] [N	1] []	
RECOMMENDATIONS: (If different from NASA)				
[2 /2] []	[] [] [A] (ADD/DELETE)	
* CIL RETENTION	RATIONALE: (If	1	ADEQUATE [] ADEQUATE []	
REMARKS: IOA/NASA FM: EXTERNAL LEAKAGE IOA COMMENT: LOSS OF DUMP LINE AND WCS FUNCTION REQUIRES USE OF CONTINGENCY WASTE COLLECTION METHODS AND A LOSS OF MISSION DUE TO LOSS OF ARS CONDENSATE STORAGE CAPABILITY. THE IOA ANALYSIS TEAM COULD NOT DETERMINE ANY APPARENT REDUNDANT PATHS FOR THIS HARDWARE OR FUNCTION INCORPORATE MDAC IOA CRITICALITY FOR THE WASTE WATER DUMP CONSIDERATIONS AND ADD 3/1R PPP CRTICALITY FOR SUPPLY WATER DUMP CONSIDERATIONS. THIS IS CONSISTENT WITH ALL OTHER WASTE WATER DUMP COMPONENTS DOWNSTREAM OF THE DUMP ISOLATION VALVE.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/22/87 LS-2142A 06-2-0438-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID:	LIFE SUPPORT)	
LEAD ANALYST:	K. BARICKMAN			
ASSESSMENT:				
CRITICALI FLIGHT	TY REDUND	ANCY SCREE	ens	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [2 /1R IOA [2 /2] [P]] []	[NA] []	[P] []	[X] * [X]
COMPARE [/N] [N]	[N]	[N]	[]
RECOMMENDATIONS: (If different from NASA)				
[2 /2] []	[]	[] (AI	[A] DD/DELETE)
* CIL RETENTION F	RATIONALE: (If	applicable	<u>.</u>)	
REMARKS:	·		ADEQUATE INADEQUATE	[]
IOA/NASA FM: RES NOTE TO NASA: WH	STRICTED/BLOCKE HY ARE 06-2-042	D FLOW 3-1 AND 06	5-2-0438-1 NO	OT CONSISTENT
FOR CRITICALITY? THE IOA ANALYSIS PATHS FOR THIS HA	RDWARE OR FUNC	TION		
INCORPORATE MDAC IOA CRITICALITY FOR THE WASTE WATER DUMP CONSIDERATIONS AND ADD 3/1R PPP CRTICALITY FOR SUPPLY WATER DUMP CONSIDERATIONS. THIS IS CONSISTENT WITH ALL OTHER WASTE WATER DUMP COMPONENTS DOWNSTREAM OF THE DUMP ISOLATION VALVE.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		nasa Basi	DATA: ELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 2144 CONTINGENCY H20	CROSS-TIE QD AI	ND PLUG (1)
LEAD ANALYST:	K. BARICKMAN		
ASSESSMENT:			
CRITICAL		ANCY SCREENS	CIL ITEM
FLIGH HDW/FU	INC A	в с	
		[MA] [P] [I	[x] *
COMPARE [N /N] [N]	[N] [N]	[и]
RECOMMENDATIONS	: (If differen	t from NASA)	
[/] []	[] []	[] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable) ADE	QUATE [] QUATE []
	ITY TO MATE/DE-	MATE, FAILS TO O	PEN, RESTRICTED
IOA COMMENT: I CONTINGENCY WAS LOSS OF ARS CON THE IOA ANALYSI PATHS FOR THIS WITHDRAW ISSUE CRITICALITY OF	TE COLLECTION MIDENSATE STORAGE S TEAM COULD NO HARDWARE OR FUN IN THE STRICT	ETHODS AND A LOS CAPABILITY. T DETERMINE ANY CTION EST SENSE THIS S 20 AND 3/1R FOR WASTE CRITICAL	ON REQUIRES USE OF S OF MISSION DUE TO APPARENT REDUNDANT SHOULD HAVE A DUAL SUPPLY H2O. THE

ASSESSMENT DATE: 12/22/87 NASA DATA: ASSESSMENT ID: LS-2189 BASELINE [NASA FMEA #: 05-6VF-2001-1 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 2189 ITEM: DUMP VALVE/NOZZLE HEATER CIRCUIT BREAKER (1) LEAD ANALYST: K. BARICKMAN ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A В С NASA [2 /1R] [P] [NA] [P] IOA [3 /2R] [P] [P] COMPARE [N/N] [] [N] [N] RECOMMENDATIONS: (If different from NASA) [3/1R] [P] [NA] [P] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE REMARKS: IOA/NASA FM: FAILS TO REMAIN CLOSED IOA COMMENT: THE LOSS OF THE WASTE WATER DUMP REQUIRES USE OF THE CWC FOR FLUID STORAGE THUS 3/2R CRITICALITY, NOT LOSS OF THE NASA VIEWED ANY LOSS OF WATER DUMP CAPABILITY, EITHER SUPPLY OR WASTE WATER, AS A LOSS OF LIFE OR VEHICLE CONDITION. HOWEVER THE IOA ANALYSIS DID NOT RECOGNIZE THIS LIMITATION AND VIEWED THE LOSS OF WASTE WATER DUMP CAPABILITY TO BE ONLY A LOSS OF MISSION CONDITION. INCORPORATE REVISED CRITICALITY AS RECOMMENDED. IN THE STRICTEST SENSE THIS SHOULD HAVE A DUAL CRITICALITY OF 2/2 FOR WASTE H2O AND 3/1R FOR SUPPLY H2O, THUS THE 3/1R APPLIES.

NASA DATA: ASSESSMENT DATE: 12/22/87 BASELINE [ASSESSMENT ID: LS-2191 NEW [X] 05-6VE-2002-1 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 2191 MDAC ID: DUMP VALVE ENABLE/NOZZLE HEATER SWITCH (1) ITEM: LEAD ANALYST: K. BARICKMAN ASSESSMENT: REDUNDANCY SCREENS CIL CRITICALITY ITEM FLIGHT В HDW/FUNC NASA [2 /1R] [P] [P] [P] IOA [3 /2R] [P] [P] COMPARE [N /N] [] [N] RECOMMENDATIONS: (If different from NASA) [3/1R] [P] [NA] [P] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE [REMARKS: IOA FM: SHORTED TO GROUND NASA FM: OPEN, SHORTED TO GROUND IOA COMMENT: LOSS OF SWITCH ELIMINATES WASTE WATER DUMP CAPABILITY THRU THE NORMAL CHANNELS, BUT DUMP CAN STILL BE DONE THRU THE SUPPLY WATER SYSTEM. IF THE FAILURE OCCURS DURING A VALVE OPEN PHASE, THEN A POTENTIAL LOSS OF LIFE CAN OCCUR IF THE DUMP ISOLATION VALVE ALSO FAILS - THUS A CRITICALITY OF 3/1R PNP. THE IOA ANALYSIS VIEWED THE FIRST FAILURE TO BE A NON-MISSION ESSENTIAL CRITICALITY, HOWEVER SECONDARY FAILURES COULD CREATE MAJOR PROBLEMS. THE NASA FMEA CRITICALITY VIEWED THE FIRST FAILURE TO BE AT LEAST A MISSION LOSS, IF NOT A LIFE THREATENING CONDITION. INCORPORATE MDAC IOA CRITICALITY. IN THE STRICTEST SENSE THIS SHOULD HAVE A DUAL CRITICALITY OF 2/2 FOR

WASTE H2O AND 3/1R FOR SUPPLY H2O, THUS THE 3/1R APPLIES.

ASSESSMENT DATE: 12/22/87 NASA DATA: ASSESSMENT ID: LS-2192 BASELINE [NASA FMEA #: NEW [X] 05-6VE-2024-1 LIFE SUPPORT SUBSYSTEM: MDAC ID: 2192 ITEM: DUMP VALVE ENABLE/NOZZLE HEATER SWITCH (1) LEAD ANALYST: K. BARICKMAN ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A в с [P] [P] [P] [P] [P] [P] NASA [2 /1R] IOA [3 /2R] COMPARE [N /N] [] [] [7 RECOMMENDATIONS: (If different from NASA) [3/1R] [P] [NA] [P] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE REMARKS: IOA FM: PHYSICAL BINDING/JAMMING NASA FM: OPEN, SHORTED TO GROUND IOA COMMENT: LOSS OF SWITCH ELIMINATES WASTE WATER DUMP CAPABILITY THRU THE NORMAL CHANNELS, BUT DUMP CAN STILL BE DONE THRU THE SUPPLY WATER SYSTEM. IF THE FAILURE OCCURS DURING A VALVE OPEN PHASE, THEN A POTENTIAL LOSS OF LIFE CAN OCCUR IF THE DUMP ISOLATION VALVE ALSO FAILS - THUS A CRITICALITY OF 3/1R PNP. THE IOA ANALYSIS VIEWED THE FIRST FAILURE TO BE A NON-MISSION ESSENTIAL CRITICALITY, HOWEVER SECONDARY FAILURES COULD CREATE

MAJOR PROBLEMS. THE NASA FMEA CRITICALITY VIEWED

THE FIRST FAILURE TO BE AT LEAST A MISSION LOSS, IF NOT A LIFE THREATENING CONDITION. INCORPORATE MDAC IOA CRITICALITY. IN THE STRICTEST SENSE THIS SHOULD HAVE A DUAL CRITICALITY OF 2/2 FOR

WASTE H2O AND 3/1R FOR SUPPLY H2O, THUS THE 3/1R APPLIES.

NASA DATA:

ASSESSMENT DATE: 12/22/87 BASELINE [ASSESSMENT ID: LS-2193 NEW [X] 05-6VC-2024-1 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 2193 MDAC ID: DUMP VALVE ENABLE/NOZZLE HEATER SWITCH (1) ITEM: LEAD ANALYST: K. BARICKMAN ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL ITEM FLIGHT ВС HDW/FUNC Α NASA [2 /1R] [P] [P] [P] IOA [3 /2R] [P] COMPARE [N /N] [] [] [N] RECOMMENDATIONS: (If different from NASA) [3/1R] [P] [NA] [P] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEOUATE [INADEQUATE REMARKS: IOA FM: OPEN (ELECTRICAL) NASA FM: OPEN, SHORT TO GROUND WHILE VALVE CLOSED. IOA COMMENT: LOSS OF SWITCH ELIMINATES WASTE WATER DUMP CAPABILITY THRU NORMAL CHANNELS. IF THE FAILURE OCCURS DURING A VALVE CLOSED PHASE, THEN A POTENTIAL LOSS OF LIFE CAN OCCUR IF THE DUMP ISOLATION VALVE ALSO FAILS-THUS A CRITICALITY OF 3/1R THE IOA ANALYSIS VIEWED THE FIRST FAILURE TO BE A NON-MISSION ESSENTIAL CRITICALITY, HOWEVER SECONDARY FAILURES COULD CREATE MAJOR PROBLEMS. THE NASA FMEA CRITICALITY VIEWED THE FIRST FAILURE TO BE AT LEAST A MISSION LOSS, IF NOT A LIFE THREATENING CONDITION. INCORPORATE MDAC IOA CRITICALITY. IN THE STRICTEST SENSE THIS SHOULD HAVE A DUAL CRITICALITY OF 2/2 FOR WASTE H20 AND 3/1R FOR SUPPLY H2O, THUS THE 3/1R APPLIES.

ASSESSM ASSESSM NASA FM	ASSESSMENT DATE: 1: ASSESSMENT ID: L: NASA FMEA #: 00 SUBSYSTEM: L: MDAC ID: 22							-1					DAT <i>I</i> LINE NEW	3							
SUBSYST MDAC ID ITEM:	EM:	•		2	211				T NOZ:	ZLE	: (1)									
LEAD AND	ALY	SI	?:	K	. BA	RI	ск	MA	N.												
ASSESSMI	ENI	1:																			
	CR	IT F	'ICA 'LIGI	LIT HT	Y		R	ED	JNDA	ICY	S	CREE	ENS	5				ΙL			
							В				С			1.	ΓEN	1					
NASA IOA	NASA [2 /1R] IOA [1 /1]]]	P]		[P]		[x x]	*	
COMPARE	COMPARE [N /N]					[N]	[N]		[N]		[]		
RECOMMEN	IDA'	ri.	ons:	1	(If	đi	iff	fer	ent	fr	om	NAS	A)								
	[1	/1]		[]	[3		[]	(AI	[OD/	A 'DE] :LE	TE)
* CIL RE	TEI	T.	ION	RAI	CIONA	ALE	:	(I	f ap	pli	ica	ble		מ ג	FOIIZ	TE			,		
REMARKS:													IN	AD	EQUA	TE	[]		
IOA/NASA	FN	1:	RE	STR	ICTE	D/	BI	ЮC	KED	FT.C	١W										
TON COMM	CN.		THI	SM	AY P	1 F.	DE	ישרדי	DMTN	רוים	$m \circ$	PF	λ	11	NOM-	יים פיט.	\T -	T	••		
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	v -	OULD BE POSSIBLE, HENCE TO VIEWED THE LOSS OF THE VIEWED THE LOSS OF THE VIEWED THE HEATERS AS A DOMESTIC OF THE HEATERS AS A DOMEST									ບບ	M VE	NT D	UM	P	LII	ΝE	ву			

BLOCKAGE OR LOSS OF THE HEATERS AS A POTENTIAL LOSS OF

HYDROGEN AND OXYGEN COULD OCCUR IF THE LINE WERE BLOCKED.

LIFE/VEHICLE CONDITION. A POTENTIALLY HAZARDOUS ATMOSPHERE OF

WITHDRAW ISSUE. NASA CRITICALITY IS CORRECT. A SECOND FAILURE WHICH INDUCES O2 INTO THE ENVIRONMENT IS REQUIRED TO PRODUCE AN

EXPLOSIVE ENVIRONMENT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/22/87 LS-2213		SA DATA: ASELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM:	2213	r LINE HEATER THER	MOSTAT (2)
LEAD ANALYST:	K. BARICKMAI	N	
ASSESSMENT:			
CRITICAL FLIGH		UNDANCY SCREENS	CIL ITEM
HDW/FU	NC A	ВС	
NASA [/ IOA [2 /1F	[] [P]	[] [[P] [P] [] *
COMPARE [N /N] [N]	[N] [N] []
RECOMMENDATIONS:	(If diffe	rent from NASA)	
[3 /3] []	[] [] [A] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (If applicable) AI INAI	DEQUATE [] DEQUATE []
THE NASA ANALYST REALLOCATED TO A REVISE CRITICAL AGAINST 06-2E-0 CLOSED OR OPEN WATTAGE IS NOT OPEN THE REDUNDANT HEATE	SA WMS FMEA WIS MAY BE COMANOTHER SUBSYITY TO 3/3.424 & 0425.DOES NOT CREASUFFICIENT EN R IS AVAILABLE ACTUALLY DOLINE (i.e. H2	WHICH MATCHED THE IBINED WITH SOME OF THIS SHOULD HAVE THE FAILURE OF THE ATE A PROBLEM. WHOUGH TO OVER TEMPORES NOT REQUIRE HERE	THER HARDWARE OR BEEN ASSESSED HE THERMOSTAT EITHER HEN CLOSED THE

ASSESSME ASSESSME NASA FME	ENT ENT EA	D I #:	ATE: D:	12/ LS- 05-	22/87 2218 6VC-20	06-1				TA: NE [] EW [X]	
SUBSYSTE MDAC ID:	EM:			LIF 221	E SUPP	ORT			BREA	KER (1)	
LEAD ANA	LY	ST	:	K.	BARICK	MAN					
ASSESSME	NT	:									
	CR		ICAL LIGH		R	EDUN	DANCY	SCF	REENS		CIL ITEM
	1			NC	A		E	3	(С	
NASA IOA	[3 1	/3 /1]	[]	[]	[]	[
COMPARE	[N	/N]	[]	[]	[]	[N]
RECOMMEN	DA:	ric	ons:	(If dif	fere	nt fr	om N	IASA)		
	[3	/3]	[]	[1	[[] (ADD/DELETE)
* CIL RE	TEI	VT.	ION :	RATI(ONALE:	(If	appl	icab	· ,	ADEQUATI ADEQUATI	E [] E []
HEATERS ENVIRONM THE IOA	IS ACCEPTED, EN LOSS OF THE Y DANGEROUS GAS										
BLOCKAGE LIFE/VEH HYDROGEN	PMOSPHERE OF										

WITHDRAW ISSUE. NASA CRITICALITY IS CORRECT. THE HEATER IS SIZED TO KEEP ANY FROST FROM BUILDING UP IN THE DUCT. THE

MOISTURE (VERY LOW LEVEL) IS VENTED OVERBOARD FROM THE COMMODE OR THE AIRLOCK DEPRESS VALVE. ANY FREEZING IN THIS CASE WOULD NOT COMPLETELY BLOCK FLOW NOR WOULD THE ICE BUILD UP BE SIGNIFICANT.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	12/22/87 LS-2219	7	NASA DATA: BASELINE NEW	[]	
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUI 2219 NOZZLE I		WITCH (1)		
LEAD ANALYST:	K. BARI	CKMAN			
ASSESSMENT:					_
CRITICA FLIG	LITY	REDUNDA	NCY SCREE	NS	CIL ITEM
HDW/F	UNC	A	В	С	
NASA [/ IOA [1 /1] [1	[]		[X]
COMPARE [N /] []	[]	[]	[N]
RECOMMENDATIONS	: (If d	lifferent	from NAS	5A)	
[3 /	,] [[]	[]		[A] DD/DELETE)
* CIL RETENTION	N RATIONAL	LE: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: IOA FM: ELECT THERE WAS NO N THE NASA ANALY REALLOCATED TO WITHDRAW ISSUE SIZED TO KEEP MOISTURE (VERY THE AIRLOCK DE	SIS MAY B ANOTHER . NASA C ANY FROST LOW LEVE	MEA WHICH E COMBINI SUBSYSTER RITICALIT FROM BUT L) IS VE	M. TY IS COR ILDING UP NTED OVER	RECT. THE E	HEATER IS TO THE THE COMMODE OR TO WOULD NOT

ASSESSM ASSESSM NASA FM	ENI ENI EA	! [! I #:	DATE D:	LS- 05-	22/87 2220 6VE-2	411-	1			NASA BAS	DATA: ELINE [] NEW [X]
SUBSYSTI MDAC ID ITEM:	EM:			222	0		R SWIT	СĦ	(1)		
LEAD AND	ALY	ST						CII	(1)		
ASSESSMI	ENT	:									
	CR	IT F	ICA:	LITY HT	I	REDUI	NDANCY	SCI	REENS		CIL
	HDW/FUNC						В		C	2	ITEM
NASA IOA	Ĩ]	[]	[]	[
COMPARE	PARE [N /N]]	[]	E]	[N]
RECOMMEN									*		
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* CIL RE	TEN	IT]	ON	RATIC	NALE:	(If	appli	.cab		DEOU	ЭТЕ Г 1
REMARKS:											ATE []
HEATERS (ENVIRONM	HE COU ENT	PR	ESE CA	NCE O USE L	F THE INE F	VAC REEZ	TY FOR UUM VE ING AN	NT DA	NE FRE HEATE POTE	EEZI RS, NTIA	NG IS ACCEPTED, THEN LOSS OF THE LLY DANGEROUS GAS
LIFE/VEHI HYDROGEN WITHDRAW SIZED TO MOISTURE THE AIRLO	ICL AN IS KE (V	E D SU EP ER	CON OXY(E. AN Y L(EPR)	DITIO GEN C NASA Y FROS DW LE	N. A OULD (CRITI ST FRO VEL) 1	POT: CCUI CAL: M BI	ENTIAL R IF TI ITY IS UILDING	LY I HE I COI G UI	TENTIA HAZARI LINE V RRECT. P IN T RBOARI	AL LA DOUS VERE THE I	ATMOSPHERE OF BLOCKED.

ASSESSMEN ASSESSMEN NASA FMEA	T T #	DA' ID :	re:	12/2 LS-2 05-6									
SUBSYSTEM MDAC ID: ITEM:	i:			2220	SUPPO LE HEA		SWITC	ЭН ([1)				
LEAD ANAI	LYS	T:		к. н	BARICK	IAN							
ASSESSMEN													
C	CRI	TI	CAL JIGH	ITY T	RI	EDUN	IDANCY	SCI			CIL ITEM		
	HDW/FUNC						В		С				
NASA IOA	[3	/3 /1]	[]	[[]	[]	[] * [X]		
COMPARE											[и]		
RECOMMEN	DA!	rI	ons:	. (If dif	fer	ent fr	om	NASA)				
	(3	/3]	[]	(]	[]	[A] (ADD/DELETE)		
* CIL RE	TE	NT	ION	RATI	ONALE:	(I	f appl	ica	ble) IN	ADEQU ADEQU	JATE [] JATE []		
DUE TO THEATERS ENVIRONS THE IOA BLOCKAGS LIFE/VES HYDROGES WITHDRAS	S MEN CO MEN AN E C HIC N A	T: FOUI IAI OR CLE ANI ISS	PRESIDE COLORS OF A	F THE ENCE AUSE S VII S OF NDIT YGEN NA NY F LOW	OF THE LINE I EWED THE THE HI ION. A COULD SA CRI'S ROST FI	E VAFREE HE I EATE A PO TICA ROM IS	COUM VENTE	VENTAND F THALLY THI IS O	HEAT A POT HE VAC POTENT Y HAZA E LINE CORREC UP IN VERBOA	ERS, ENTIA UUM 'IAL 'I RDOUS' WERN T. ' THE	THEN LOSS OF THE ALLY DANGEROUS GAS		

COMPLETELY BLOCK FLOW NOR WOULD THE ICE BUILD UP BE SIGNIFICANT.

ASSESSMENT DATE: 12/22/87 NASA DATA: ASSESSMENT ID: LS-2222 BASELINE [NASA FMEA #: 06-2-0425-1 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 2222 ITEM: VACUUM VENT NOZZLE HEATER (1) LEAD ANALYST: K. BARICKMAN ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A В С NASA [3 /3 IOA [1 /1] COMPARE [N/N] [] [] 1 [N] RECOMMENDATIONS: (If different from NASA) [3/3][][] [A] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE REMARKS: IOA FM: ELECTRICAL OPEN, SHORT. NASA FM: OPEN. NOTE: NASA CRITICALITY WERE 2R/3 DURING A PREVIOUS ANALYSIS. IOA COMMENT: IF THE POSSIBILITY FOR LINE FREEZING IS ACCEPTED, DUE TO THE PRESENCE OF THE VACUUM VENT HEATERS, THEN LOSS OF THE HEATERS COULD CAUSE LINE FREEZING AND A POTENTIALLY DANGEROUS GAS ENVIRONMENT. THE IOA ANALYSIS VIEWED THE LOSS OF THE VACUUM VENT DUMP LINE BY BLOCKAGE OR LOSS OF THE HEATERS AS A POTENTIAL LOSS OF LIFE/VEHICLE CONDITION. A POTENTIALLY HAZARDOUS ATMOSPHERE OF

HYDROGEN AND OXYGEN COULD OCCUR IF THE LINE WERE BLOCKED.

MOISTURE (VERY LOW LEVEL) IS VENTED OVERBOARD FROM THE COMMODE OR THE AIRLOCK DEPRESS VALVE. ANY FREEZING IN THIS CASE WOULD NOT COMPLETELY BLOCK FLOW NOR WOULD THE ICE BUILD UP BE SIGNIFICANT.

SIZED TO KEEP ANY FROST FROM BUILDING UP IN THE DUCT.

THE HEATER IS

WITHDRAW ISSUE. NASA CRITICALITY IS CORRECT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LS-2233X		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 2233 WCS CHECK VA	LVE LINES TO V	ws QD	
LEAD ANALYST:	K. BARICKMAN			
ASSESSMENT:				
CRITICAL		NDANCY SCREEN	S	CIL ITEM
FLIGH HDW/FU		В	С	
NASA [2 /2 IOA [3 /2R] []] [P]] [[NA]	P]	[X] * []
COMPARE [N /N			N]	[N]
RECOMMENDATIONS:	(If differ	rent from NASA)	
[/] []	[] [] (A)	[DD/DELETE)
* CIL RETENTION	RATIONALE: (If applicable)	ADEQUATE NADEQUATE	[]
REMARKS: IOA/NASA FM: RI THOSE NASA FMEA	ESTRICTED FLOWHICH INCLUD	E A COLLECTION	OF HARDWA	RE ITEMS MA ED SEPARATE

IOA/NASA FM: RESTRICTED FLOW
THOSE NASA FMEA WHICH INCLUDE A COLLECTION OF HARDWARE ITEMS MAY
NOT MATCH THE IOA ANALYSIS. THE IOA ANALYSES PROVIDED SEPARATE
ANALYSES FOR EACH PIECE OF EQUIPMENT. THE BASIC PREMISE OF THE
NASA FMEA DID AGREE WITH THE IOA ANALYSIS.
WITHDRAW ISSUE. LIST THE NASA CRITICALITY. THE FCB AND UCD ARE
ONLY A ONE DAY SUPPLY AND ARE NOT CONSIDERED AS REDUNDANCY IN THE
STRICKEST SENSE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/22/87 LS-2236X 06-2-0445-1	NASA DATA BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT	MUFFLER HOUSING INLET	DUCT			
LEAD ANALYST:	K. BARICKMAN					
ASSESSMENT:						
CRITICALI FLIGHT		DANCY SCREENS	CIL			
_	ic a	В С	ITEM			
NASA [2 /2 IOA [3 /2R] []]	[] [] [NA] [P]	[X] *			
COMPARE [N /N] [N]		[N]			
RECOMMENDATIONS:	(If differen	t from NASA)				
[/] []		[] D/DELETE)			
* CIL RETENTION R	ATIONALE: (If					
DEMARKS.		ADEQUATE INADEQUATE				
2 02 120 OCD BUFFL	VIEWED AS IMM IES. THE FCB A	EDIATE MISSION CRITICA ND UCD SUPPLY USAGE MA SSION DURATION DUE TO	V ODDAME :			

THE IOA ANALYSIS VIEWED THE FIRST FAILURE TO BE A NON-MISSION ESSENTIAL CRITICALITY, HOWEVER SECONDARY FAILURES COULD CREATE MAJOR PROBLEMS. THE NASA FMEA CRITICALITY VIEWED THE FIRST FAILURE TO BE AT LEAST A MISSION LOSS, IF NOT A LIFE THREATENING CONDITION.

WITHDRAW ISSUE. LIST THE NASA CRITICALITY. THE FCB AND UCD ARE ONLY A ONE DAY SUPPLY AND ARE NOT CONSIDERED AS REDUNDANCY IN THE STRICKEST SENSE.

NASA DATA: ASSESSMENT DATE: 12/22/87 BASELINE [ASSESSMENT ID: LS-2237X NEW [X] NASA FMEA #: 06-2-0445-1 LIFE SUPPORT SUBSYSTEM: 2237 MDAC ID: MUFFLER HOUSING ASSEMBLY (1) ITEM: LEAD ANALYST: K. BARICKMAN ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT С В Α HDW/FUNC [] [] [NA] [P] [P] NASA [2 /2 IOA [3 /2R] COMPARE [N /N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) /] [] []] [(ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE [**REMARKS:** IOA/NASA FM: RESTRICTED/BLOCKED FLOW
IOA COMMENT: NOT VIEWED AS IMMEDIATE MISSION CRITICAL BECAUSE OF FCB AND UCD SUPPLIES. THE FCB AND UCD SUPPLY USAGE MAY CREATE A LOSS OF MISSION DEPENDING ON MISSION DURATION DUE TO LACK OF SUPPLIES. THE IOA ANALYSIS VIEWED THE FIRST FAILURE TO BE A NON-MISSION ESSENTIAL CRITICALITY, HOWEVER SECONDARY FAILURES COULD CREATE MAJOR PROBLEMS. THE NASA FMEA CRITICALITY VIEWED THE FIRST FAILURE TO BE AT LEAST A MISSION LOSS, IF NOT A LIFE THREATENING CONDITION. WITHDRAW ISSUE. LIST THE NASA CRITICALITY. THE FCB AND UCD ARE ONLY A ONE DAY SUPPLY AND ARE NOT CONSIDERED AS REDUNDANCY IN THE STRICKEST SENSE.

ASSESSMEN ASSESSMEN NASA FMEA	/87 523 C=2	7 X 2 O :	37-2						ASA DATA BASELINE NEW	[
SUBSYSTEM MDAC ID: ITEM:	:		LIFE 2252 WASTE				VE	sı	WITCH							
LEAD ANAL	YST	:	K. BA	RIC	CKI	MAN										
ASSESSMEN'	T:															
														IL		
		A			В			С		I'	TEI	Y				
NASA IOA	/1R /1R	[P P]	[P NA]	[P P]	[x x]	*		
COMPARE	[/]	[]	[N]	[]	[]	
RECOMMENDA	ATIC	ONS:	(If	di	ff	erent	t 1	fro	om NAS	SA)	ı					
	[2	/2]	[]	[]	[[,dc	/DE] ELE	ETE)
* CIL RETE	ENTI	ON F	RATIONA	LE	:	(If a	app	oli	.cable	∍)		-	·			,
REMARKS:											AE IAE	EQUATE EQUATE	[]	
IOA/NASA E	FM:	SHC	RTED 1	0	GR	OUND										
IOA COMMEN	NT:	THE	FIRST	F	ΑI	LURE	IS	P	OTENT	'IA	L	PROBLEM	I	, A	'ΑΙ	VE
OPEN AT FA	LOS	S OF	LIFE	IF	D	UMP 1	SC	LA	TION	VA	T.V	E FATES	TC) (ת די	97 TP
DOWL AVEAR	2 12	OPE	N AT F	'AI	LU	RE. I	יוווי	IS .	CRITT	CA	T.T	TV 2/10	DN	σt		
THE DISAGR	CEEM	LENT	IN THE	R	REDUNDANCY SCREENS							S WAS DUE T			TO NO DETAILED	

DISCUSSION WITH THE NASA SUBSYSTEM MANAGERS REGARDING THE REDUNDANT PATHS.
INCORPORATE REVISED CRITICALITY AS RECOMMENDED FOR THE WASTE WATER DUMP CONSIDERATIONS AND ADD 3/1R PPP CRITICALITY FOR SUPPLY WATER DUMP CONSIDERATIONS. CONSISTENT WITH ALL OTHER WASTE WATER DUMP COMPONENTS DOWNSTREAM OF THE DUMP ISOLATION VALVE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/05/88 LS-3001 05-6V-200	00-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM: 7)	DITE DOL	. 01.1		1B/3A, 1A/2	B (CB8, 7,
LEAD ANALYST:	J.D. ARB	ET			
ASSESSMENT:					
CRITICAL	ITY	REDUNDAN	CY SCREE	INS	CIL ITEM
FLIGH HDW/FU	NC	A	В	С	
NASA [2 /1F IOA [2 /1F		P] [P]	[P] [P]	[X] *
COMPARE [/			[N]		[]
RECOMMENDATIONS	(If d	ifferent	from NAS	SA)	
	R] [r P l	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicabl	e) ADEQUATE INADEQUATE	[]
REMARKS: PER NSTS-222006 THE SENSORS ARE CIRCUIT BREAKER ADDITION TO THE FDA IF THE OUTF SENSOR. WITHDRAW THE IC THE DETERMINATI SINCE DETECTABL	S IS NOT SMOKE COUT FAILS OA ISSUE.	CONSIDER ONCENTRAT TO ZERO,	ED DETECTION OUTF	SCREEN B FAI ISUAL OPEN S TABLE. A PO UT WOULD BE TING LOSS OF	ILS BECAUSE STATE OF DSSIBLE TO TRIGGER POWER TO THE UESTION. AGE AND THE

ITEM IS ALREADY A CIL IT APPEARS THE ITEM HAS BEEN GIVEN

SUFFICIENT VISABILITY WITHIN THE CCB AND PRCB.

ASSESSMI ASSESSMI NASA FMI	ENT :	ID:	003		00-1					NASA DATA: BASELINE [] NEW [X]						
SUBSYSTI MDAC ID: ITEM:			LIFE 3003 CB-SM				I L/	'R	FLT	r DE	CK	(CB		·	-	
LEAD ANA	LYSI	?:	J.D.	AR	BE	T										
ASSESSME	ENT:															
	F	LIGH!	_		R	EDUN	DAN	CY	sc	REE	15			CII ITE		
		A			В			C	!		TIM					
NASA IOA	HDW/FUNC A [2 /1R] A [2 /1R]]	[P N] A]	! [P	'] ']		K] K]	[]	*
COMPARE	[/]	[]	[N]	[•]		(]	
RECOMMEN	DATI	ons:	(If	di	fi	fere	nt :	fro	om :	NASA	.)					
]								P]	(2	[ADD/D] ELE'	TE)
* CIL RE	rent:	ION R	ATION	ALE	:	(If	app	oli	cal	ble)						
REMARKS:										I	NAI	DEQU	IATE IATE	ĺ]	
PER NSTS-	-2220)6 (C	N 4) I	PAR	AG	RAPH	12.	з.	5 A	SCR	EEI	1 B	FAII	S BE	CAUS	उद्द गाम

SENSORS ARE OPERATING DURING LOS. VISUAL OPEN STATE OF CIRCUIT BREAKERS IS NOT CONSIDERED DETECTABLE. A POSSIBLE ADDITION TO THE SMOKE CONCENTRATION OUTPUT WOULD BE TO TRIGGER FDA IF THE OUTPUT FAILS TO ZERO, INDICATING LOSS OF POWER TO SENSOR. WITHDRAW THE IOA ISSUE.

THE DETERMINATION OF ON-ORBIT DETECTABILITY IS AT QUESTION. SINCE DETECTABILITY IS AVAILABLE WITH STATION COVERAGE AND THE ITEM IS ALREADY A CIL IT APPEARS THE ITEM HAS BEEN GIVEN SUFFICIENT VISABILITY WITHIN THE CCB AND PRCB.

ASSESSME ASSESSME NASA FME	NT	ID		LS-	05/88 -300! -6V-	5	00-	-1	NASA DATA: BASELINE [] NEW [X]												
SUBSYSTE MDAC ID: ITEM:				300	FE ST 05 -SMO				CAB	IN	(CB6)									
LEAD ANA	AD ANALYST: J.D. ARBET																				
ASSESSME	:TN	:																			
	CRI		[CAL]				RE	DUND	ANC	Y	SCREE	NS			_	IL TEN	1				
	FLIGHT HDW/FUNC A								В С												
NASA IOA	[2 2	/1R /1R]		[P P]	[[P NA]]	P P]	[X]	*			
COMPARE	[/]		[]	[N]	[]	(]				
RECOMME	NDA'	ΓI	ons:		(If	di	.ff	eren	t:	fro	om NAS	A)									
	Į	2	/1R]		[P]	[P]	[P) (ADI	D/D	ELI	ETE)			
* CIL R	ETE	NT	ION	RAI	MOI	ALI	Ξ:	(If	ap)	pl:	icable			DEQUATE DEQUATE		[]				

REMARKS:

PER NSTS-22206 (CN 4) PARAGRAPH 2.3.5A SCREEN B FAILS BECAUSE THE SENSORS ARE OPERATING DURING LOS. VISUAL OPEN STATE OF CIRCUIT BREAKERS IS NOT CONSIDERED DETECTABLE. A POSSIBLE ADDITION TO THE SMOKE CONCENTRATION OUTPUT WOULD BE TO TRIGGER FDA IF THE OUTPUT FAILS TO ZERO, INDICATING LOSS OF POWER TO THE SENSOR. WITHDRAW THE IOA ISSUE.

THE DETERMINATION OF ON-ORBIT DETECTABILITY IS AT QUESTION. SINCE DETECTABILITY IS AVAILABLE WITH STATION COVERAGE AND THE ITEM IS ALREADY A CIL IT APPEARS THE ITEM HAS BEEN GIVEN SUFFICIENT VISABILITY WITHIN THE CCB AND PRCB.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/09/88 LS-3027 05-6V-2075	5-2	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM: (1.2K)	LIFE SUPPO	ORT 11R1, R2, R3, R	4, R5, R8, 1	R9, R10, R11
LEAD ANALYST:	J.D. ARBET	•		
ASSESSMENT:				
CRITICALI FLIGHT	ITY RE	DUNDANCY SCREE	NS	CIL
	IC A	В	С	ITEM
NASA [3 /1R IOA [3 /1R] [P]] [F]] [P]	[P] [P]	[X] *
COMPARE [/] [] [N]	.]	[N]
RECOMMENDATIONS:	(If diffe	erent from NASA	۸)	
[3 /1R] [P]] [P] ([D] DD/DELETE)
* CIL RETENTION R	ATIONALE:	·	ADEQUATE NADEQUATE	
REMARKS: THE ALARM STILL W PARAMETER AND THE NASA CRITICALITY	APPROPRIAT	PE FIRE LIGHT W	ITT.I. TT.TIIMTN	አጣው
NASA CRITICALITY P). THE ACCUMULA INDICATES THE LAT	TED RESULTS	S TABLE (SMOKE)	ከልጥፑስ 3/1/	/00

NASA DATA: ASSESSMENT DATE: 2/08/88 BASELINE [ASSESSMENT ID: LS-3030 NEW [X] 05-6V-2251-1 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 3030 MDAC ID: DIODE A1CR1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 ITEM: LEAD ANALYST: J.D. ARBET ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM HDW/FUNC С A B NASA [3 /1R] [P] [F] [P] [O] [P] [X] * COMPARE [/] [] [N] RECOMMENDATIONS: (If different from NASA) [3/1R] [P] [F] [P] [D](ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE [

REMARKS: THE FAILURE IS DETECTED BY THE SMOKE DETECTOR CONCENTRATION FDA ALERT AND SUBSEQUENT ANALYSIS.

WITHDRAW THE IOA ISSUE.
THE DETERMINATION OF ON-ORBIT DETECTABILITY IS AT QUESTION. THE IOA ANALYSIS CONSIDERED THE FAILURE DETECTABLE AND ISOLATABLE UPON SENSOR ACTIVATION, WHERE-AS NASA CONSIDERED IT NON-DETECTABLE BECAUSE IT COULD BE IN EXISTANCE A LONG TIME BEFORE THE SENSOR IS ACTIVATED. THIS IS ANOTHER CASE OF THE APPLICATION OF DETECTABILITY AS DEFINED IN NSTS-22206. IOA ACCEPTS THE NASA ANALYSIS BASED UPON THE HIGHER CRITICALITY WHICH PROVIDES EVEN GREATER VISABILITY INTO THE FAILURE AND ITS EFFECTS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/08/88 LS-3033 05-6V-20	075-2	nasa data Baselini Nev	
	LIFE SUE			
LEAD ANALYST:			· (1.2K)	
ASSESSMENT:				
CRITICAL: FLIGH		REDUNDANCY	SCREENS	CIL
		А в	С	ITEM
NASA [3 /1R IOA [3 /3		P] [F] [P]] []	[X] *
COMPARE [/N] [и][и] [N]	[N]
RECOMMENDATIONS:	(If di	fferent from	m NASA)	
[3 /1R] []	P] [P] [P}	[D] DD/DELETE)
* CIL RETENTION R	ATIONALE	(If applion		
REMARKS:			AD EQUATE INAD EQUATE	• 4
THESE RESISTORS O ALARMS WORK TO IN UNLIKE REDUNDANCY LOSS OF THE CREW/ NASA CRITCALITY C	(ALL ALA	RM OUTPUTS)	COULD POSSIBLY	L LIKE AND RESULT IN
NASA CRITCALITY C P). THE ACCUMULA INDICATES THE LAT	TED RESUL	TS TABLE (S ANALYSIS AG	1 10A CRITI CAL ITY SMOKE) D ATED 3/14 SREES WI TH THE 10	(B SCREEN, /88 A ANALYSIS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LS-3036	%/09/88 NASA DATA: S-3036 BASELINE (05-6V-2251-1 NEW (
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUP 3036 DIODE A6		2					
LEAD ANALYST:	J.D. ARB	J.D. ARBET						
ASSESSMENT:								
CRITICAL	REDUNDA	CIL						
FLIGH HDW/FU		A	В		С			
NASA [3 /1R IOA [3 /1R] [P] P]	[F] [P] P]	[X] * []		
COMPARE [/] [1	[N] [1	[N]		
RECOMMENDATIONS:	(If di	fferent	fro	om NASA	A)			
[3 /1F	?] [P]	[F]	[P] (A	[D] DD/DELETE)		
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []							
REMARKS: ALL OTHER ALARMS	S WORK TO	INDICAT	TE T	HE FIR	E AND THE S	OURCE CAN B		

3E IDENTIFIED BY SUBSEQUENT ANALYSIS.

WITHDRAW THE IOA ISSUE.

THE DETERMINATION OF ON-ORBIT DETECTABILITY IS AT QUESTION. THE IOA ANALYSIS CONSIDERED THE FAILURE DETECTABLE AND ISOLATABLE UPON SENSOR ACTIVATION, WHERE-AS NASA CONSIDERED IT NON-DETECTABLE BECAUSE IT COULD BE IN EXISTANCE A LONG TIME BEFORE THE SENSOR IS ACTIVATED. THIS IS ANOTHER CASE OF THE APPLICATION OF DETECTABILITY AS DEFINED IN NSTS-22206. IOA ACCEPTS THE NASA ANALYSIS BASED UPON THE HIGHER CRITICALITY WHICH PROVIDES EVEN GREATER VISABILITY INTO THE FAILURE AND ITS EFFECTS.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/09/88 LS-3042 05-6V-231	11-1	N	ASA DATA: BASELINE NEW	="
SUBSYSTEM: MDAC ID:	3042				
ITEM:	SMOKE DET	TECTION LI	GHT MATRI	X-LAMPS	
LEAD ANALYST:	J.D. ARBE	ET			
ASSESSMENT:					
FLIGHT		SCREENS		CIL ITEM	
HDW/FUN	IC A	В	C		IIIM
NASA [3 /1R IOA [3 /1R] [P)] [P]	[X] *
COMPARE [/] [] [N] []	[N]
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)		
[3 /1R] [P	'] [P] [P		[D] D/DELETE)
* CIL RETENTION R	ATIONALE:	(If appl			
REMARKS:				EQUATE EQUATE	-
FAILURE CAN BE DE BUT LIGHT DOES NO NASA CRITICALITY	T. SOFTW	ARE FOA DI	OUTUES SO	TIDOR OF	OTDO
P). THE ACCUMULA INDICATES THE LAT	TED KESOF	TS TABLE	(SMOKE) DA	TED 2/11	/00

NASA DATA: ASSESSMENT DATE: 1/09/88 BASELINE [] NEW [X] ASSESSMENT ID: LS-3054 NASA FMEA #: 05-6V-2253-1 LIFE SUPPORT SUBSYSTEM: 3054 MDAC ID: DIODE-NO IDENTIFIER ITEM: LEAD ANALYST: J.D. ARBET ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT В HDW/FUNC [N] [X] * [P] NASA [2 /1R] IOA [3 /3] COMPARE [N /N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) [2/1R] [P] [N] [P] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE [**REMARKS:** POST LAUNCH, OPEN ACTUALLY ISOLATES THE GROUND CIRCUIT BETTER THAN ANY OTHER CONDITION AND DOES NOT EFFECT THE FLIGHT CIRCUIT PRE-LAUNCH THE CIRCUIT PROVIDES CAPABILITY TO FIGHT A FIRE THROUGH GROUND COMMAND CAPABILITIES. THIS DIODE, THE ON BOARD CIRCUIT, AND THE PORTABLE BOTTLES MUST FAILS TO RESULT IN LOSS OF CREW/VEHICLE. CONSIDERATIONS OF PREMATURE FIRING ARE ACTUALLY A FAIL SAFE CONDITION. WITHDRAW THE IOA ISSUE. THE IOA ASSESSMENT RATIONALE THAT CONSIDERED USE OF THE PORTABLE EXTINGUISHER AS ANOTHER BACKUP IS SUSPECT. IN THE VERTICAL

POSITION THE REACH FROM THE AFT AREA TO THE AV BAY FIRE PORTS IS

RATHER DIFFICULT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/06/88 LS-3055 05-6V-2	3 5 2073-1	NASA DATA: BASELINE [] NEW [X]				
SUBSYSTEM:	LIFE SU		11K)				
LEAD ANALYST:	J.D. AR	RBET					
ASSESSMENT:	ASSESSMENT:						
CRITICAL FLIGH		REDUNDANCY SCREENS	· — —				
	NC	A B	ITEM C				
NASA [2 /1R IOA [3 /3] [P] [N] [P] [X] *				
COMPARE [N /N] [и] [и] [и] [и]				
RECOMMENDATIONS:	(If d	ifferent from NASA)					
[2 /1R) (рј [иј [P] [] (ADD/DELETE)				
	RATIONALI		ADEQUATE [] ADEQUATE []				
REMARKS: THE FAILURE HAS NO EFFECT ON THE FLIGHT CIRCUIT THUS THE ONLY CONSIDERATION IS ON THE LAUNCH PAD. FAILURE OF THE GROUND SYSTEMS TO DISCHARGE THE SUPPRESSANT CONTAINER IS BACKED UP BY THE FLIGHT SYSTEM, PORTABLE BOTTLES, AND LAUNCH TOWER FIRE SYSTEMS. WITHDRAW THE IOA ISSUE.							
EXTINGUISHER AS A	THE IOA ASSESSMENT RATIONALE THAT CONSIDERED USE OF THE PORTABLE EXTINGUISHER AS ANOTHER BACKUP IS SUSPECT. IN THE VERTICAL POSITION THE REACH FROM THE AFT AREA TO THE AV BAY FIRE PORTS IS						

RATHER DIFFICULT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/05/88 LS-3057 05-6V-2302-2		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM:	LIFE SUPPORT 3057 PYRO CONTROLL		3	
LEAD ANALYST:	J.D. ARBET			
ASSESSMENT:				
	ITY REDUN	DANCY SCREEN	S	CIL ITEM
FLIGH HDW/FU		В	С	
NASA [3 /1F IOA [2 /2	[P]] []	[N] [[] [P]	[x]
COMPARE [N /N] [N]	[и]	и]	[и]
RECOMMENDATIONS:	(If differe	ent from NASA	r)	
[1 /1] []	[] [] (A	[A] DD/DELETE)
* CIL RETENTION	RATIONALE: (I	f applicable)	ADEQUATE INADEQUATE	[]
REMARKS: A PREMATURE OPE: INHIBIT THE ACT VOLTAGE TO BUIL THE NSI CAN FIR NSI PRIOR TO TH CRITICALITY 3/3 NASA CRITICALIT	UAL FIRE VOLTA D UP. THUS TH E AT A LOWER V E ACTUAL FIRE SINCE THE DES	E WORST CASE OLTAGE OR IF COMMAND THE I	CRITICALIT THE FAILUR FAILURE WOU ARE ACHIEVE A RECOMMEND	Y IS 1/1. IF E FIRES THE ULD BE A CD. DED

CRITICALITY. IOA REMARKS WERE SUBSTANTIATED BY NASA SUBSYTEM

MANAGER FOR THE BASIC EPD&C COMPONENTS.

ASSESSMENT DATE: 2/10/88 NASA DATA: ASSESSMENT ID: LS-3059 BASELINE [NASA FMEA #: 06-2-330001-2 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 3059 ITEM: FIRE SUPPRESSANT ASSEMBLY (9) LEAD ANALYST: R.E. DUFFY ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A В С [X] * NASA [1 /1] IASA [1 /1] [] [] IOA [2 /2] [] COMPARE [N /N] [] [] [] RECOMMENDATIONS: (If different from NASA) (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE REMARKS: THIS FAILURE REQUIRES MORE THOUGHT THAN ONE FMEA/CIL: 1) THE FAILURE BY ITSELF SHOULD BE INDICATED BY ILLUMINATION OF THE AGENT DISCHARGE LIGHT. UPON DISCHARGE (ASSUMING A HIGH LEAD RATE) THE AV BAY WOULD BE PROTECTED FOR UP TO 50 HRS. THUS THE FAILURE ONLY HAS MISSION TERMINATION EFFECTS AND LOSS OF CREW/VEHICLE ARE NOT THE CONCERN; 2) THE FAILURE ASSUMING A SLOW LEAK WOULD REDUCE THIS AV BAY PROTECTION TIME BUT DETECTION WOULD STILL BE INDICATED VIA THE AGENT DISCHARGE LIGHT. IF THE RATE IS SLOW ENOUGH IT WILL BE DETECTED BY GROUND CHECKOUT BETWEEN MISSION; 3) THE MAJOR PROBLEM IS IF FOLLOWING GROUND CHECKOUT THE RESISTOR THAT PROVIDES CURRENT LIMITING FOR THE CIRCUIT FAILS OPEN OR THE PRESSURE SWITCH CONTACT FAILS CLOSED, OR THE CIRCUIT IS SHORTED TO GROUND NO AGENT DISCHARGE LIGHT ILLUMINATION CAN TAKE PLACE AND THEN THIS FAILURE CAN BE CATASTROPHIC IF THE LEAK IS UNDETECTED AND COMPLETE PRIOR TO THUS THE FAILURE WOULD APPEAR AS A 1R/2.

WITHDRAW THE IOA ISSUE. SINCE THE LEAK OF THE BOTTLE COULD RESULT IN NO SUPPRESSANT TO FIGHT A SUBSEQUENT FIRE AND

CREW/VEHICLE ARE AT RISK. IOA ACCEPTS THE HIGHER CRITICALITY

REPORT DATE 29 JUNE 1988 C.4-74

BASED ON GREATER VISABILITY.

ASSESSMEN' ASSESSMEN' NASA FMEA	T I	D:	;	LS-	1/88 -3062 -2-37	2	00	0-1						SA DA' BASELI N			x]	
SUBSYSTEM MDAC ID: ITEM:	:			306	IFE SUPPORT 062 ORTABLE FIRE SUPPRESSANT ASSEMBLY														
LEAD ANAL	YSI	r:		R.I	E. D	JF	FY												
ASSESSMENT:																			
C			CAL				RE	DUNI	OAN	CY	SC	REENS	5			CI	L EM	ſ	
			IGHT /FUN				A			В			С					•	
NASA IOA			/1R /1R]		[F P]	[NA P	A]	[P P]		[X]	*
COMPARE	[,	/]		[N]	ĺ	N	}	[]		[N]	
RECOMMENI	TAC	IO:	NS:		(If	di	fí	ere	nt	fr	om	NASA)						
	[/]		[]	[]	[]	(A] DD,	/DI] ELE	TE)
* CIL RET	ren	ΤI	ON	RAT	IONA	LI	€:	(If	ap	pl	ica			DEQUA' DEQUA']	
REMARKS: A JAMMED	AC	TU	OTA	R W	ILL	В	Ξ]	KNOW	IM	ME	DIA	TELY	U	PON US	SAG	E.	NT 1	R F	IAS 1

WITHDRAW THE IOA ISSUE. SINCE THE DIFFERENCE IN SCREEN B HAS NO EFFECT ON THE ANALYSIS OUTCOME THE NASA ANALYSIS IS CONSIDERED

GOOD.

ASSESSMI ASSESSMI NASA FMI	ENT DATI ENT ID: EA #:	LS-306 05-6V-	38 53 -2204-1		NASA DA BASELI N	
SUBSYSTE MDAC ID:	arr.	3063	OPPORT	(TYPE II	I) (3)	
		R.E.	UFFY			
ASSESSME	ENT:					
	FLIG	HT	REDUND	ANCY SCR	EENS	CIL ITEM
	HDW/F	UNC	A	В	С	
NASA IOA	[2 /1 [3 /3	R]	[P] []	[NA] []	[P] []	[X] *
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMEN	DATIONS	: (If	differen	t from N	ASA)	
	[2 /1	R]	[P]	[NA]		[] (ADD/DELETE)
* CIL RE	TENTION	RATIONA	LE: (If	applicab	16)	
REMARKS:			(-pp11000	ADEQUATE INADEQUATE	
THE FAIL CONSIDER SYSTEMS THE FLIGSTEMS.	TO DISC:	HARGE THE	LAUNCH E SUPPRE	PAD. FAI SSANT COI	CIRCUIT THU ILURE OF THE NTAINER IS B D LAUNCH TOW	GROUND
EVITINGOT	ASSESSMI SHER AS THE REA	ENT RATION ANOTHER ACH FROM	BACKUP	IS SUSPEC	ייי דא יייי	THE PORTABLE VERTICAL FIRE PORTS IS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/07/88 LS-3064 05-6V-2203-1 LIFE SUPPORT	NASA DA BASEL	ATA: INE [] NEW [X]				
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 3064 HYBRID DRIVER (TY						
LEAD ANALYST:	R.E. DUFFY	R.E. DUFFY					
ASSESSMENT:							
CRITICAL FLIGH	ITY REDUNDANC	Y SCREENS	CIL ITEM				
HDW/FU	INC A	В С					
NASA [2 /1R IOA [3 /3	[P] [] [] [NA] [P]	[X] *				
COMPARE [N /N] [N][N] [N]	[N]				
RECOMMENDATIONS:	(If different i	from NASA)					
[2 /1F	R] [P] [N] [P]	[] (ADD/DELETE)				
* CIL RETENTION	RATIONALE: (If app	ADEOU	ATE [] ATE []				
CONSIDERATION IS SYSTEMS TO DISCI THE FLIGHT SYSTEMS. WITHDRAW THE IS THE IOA ASSESSM	NO EFFECT ON THE SON THE LAUNCH PAR HARGE THE SUPPRESS. EM, PORTABLE BOTTL SUE. ENT RATIONALE THAT ANOTHER BACKUP IS ACH FROM THE AFT A	ANT CONTAINER IS ES, AND LAUNCH TO CONSIDERED USE SUSPECT. IN TO	OF THE PORTABLE				

RATHER DIFFICULT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/06/88 LS-3148 05-6V-2	X 028-3		NASA DATA BASELINE NEW		
	3148		SSION AV	BAY 1, 2, 3	AGENT DISCH	
LEAD ANALYST:	J.D. AR	вет				
ASSESSMENT:						
CRITICALITY REDUNDANCY SCREENS FLIGHT					CIL ITEM	
HDW/FU	NC	A	В	C	*****	
NASA [3 /1R IOA [2 /1R] [P] P]	[NA] [P]	[P] [P]	[] * [X]	
COMPARE [N /] []	[N]	[]	[N]	
RECOMMENDATIONS:	(If d	fferent	from NA	SA)		
[3 /1R] [P]	[NA]		[] DD/DELETE)	
* CIL RETENTION F	RATIONALE	E: (If a	pplicable	e) AD EQUATE INADEQU ATE	[A] []	
THE FAILURE COUPI CAN INHIBIT THE I WORST CASE IS DUF WITHDRAW THE IOA	RING ASCE	OF THE	FIRE SUE	ONE SECOND PRESSANT COM	TIME DELAY	

THE FAILURE OF THE ONE SECOND TIME DELAY IS NOT CONSIDERED A CREDIBLE FAILURE FOR THAT DEVICE. THUS THE CIRCUIT IS SUCH THAT THE CAPACITOR BANK WILL CHARGE UP AND DISCHARGE EVEN WITH THIS FAILURE. THE DIFFERENCE IN OPERATION IS THAT THE AGENT DISCH SW DOES NOT NEED TO BE DEPRESSED.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LS-3154X	(153 – 2		NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUF 3154 DIODE-NO	PPORT DIDENTIFI				
LEAD ANALYST:	J.D. ARE	3ET				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDANG	CY SCREEN	ıs	CIL ITEM	
HDW/FU		A	В	С		
·		P] [F] [NA] [P] [P] P]	[X] * [X]	
COMPARE [/] [N] [и] (]	[]	
RECOMMENDATIONS:						
[2 /1	₹] [F] [P]	[P] (A	[] ADD/DELETE)	
* CIL RETENTION	RATIONAL	E: (If ap		MDEGOVIE		
REMARKS: THE AS RUN GROUND TURNAROUND TEST UNDER MOST CONDITIONS WILL NOT DETECT THE FAILURE. NASA CRITICALITY CHANGED TO AGREE WITH IOA CRITICALITY (A SCREEN, NEXA CRITICALITY CHANGED TO AGREE (SMOKE) DATED 3/14/88 F). THE ACCUMULATED RESULTS TABLE (SMOKE) DATED 3/14/88 INDICATES THE LATEST NASA ANALYSIS AGREES WITH THE IOA ANALYSIS.						

ASSESSME ASSESSME NASA FME	NT DATE: NT ID: A #:	1/08/88 LS-31642 05-6V-22	08/88 NASA DATA: -3164X BASELINE [] -6V-2203-2 NEW [X]					
SUBSYSTEM MDAC ID:	M:	LIFE SUE	PPORT	(TYPE I)	(3)			
LEAD ANA	LYST:	J.D. ARE	BET					
ASSESSME	NT:							
C	CRITICALI FLIGHT	TTY	REDUNDA	NCY SCRE	ENS	CIL		
			A	В	С	ITEM		
NASA IOA	[1 /1 [2 /1R] [] P]	[] [P]	[] [P]	[X] * [X]		
COMPARE	[N /N] [N]	[N]		[]		
RECOMMEND	ATIONS:	(If di	fferent	from NAS	SA)			
	[1 /1] []	[]	[] (AI	[] DD/DELETE)		
* CIL RET	ENTION R	ATIONALE	(If a	pplicable				
REMARKS:					ADEQUATE INADEQUATE	į		
					TO DISCHARGE BIT AND LAND THE PRE-FLI			

WOULD BE REQUIRED TO ISSUE THE COMMAND VIA THIS FAILURE. WITHDRAW THE IOA ISSUE. THE IOA ASSESSMENT RATIONALE THAT CONSIDERED USE OF THE PORTABLE EXTINGUISHER AS ANOTHER BACKUP IS SUSPECT. IN THE VERTICAL POSITION THE REACH FROM THE AFT AREA TO THE AV BAY FIRE PORTS IS

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RATHER DIFFICULT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LS-3166X	01-1	NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM: MDAC ID: ITEM: RESET	LIFE SUP 3166 HYBRID D		PYPE I) -	SMOKE DETEC	CTOR GROUND						
LEAD ANALYST:	J.D. ARE	BET									
ASSESSMENT:											
CRITICAL		REDUNDA	CIL ITEM								
FLIGH' HDW/FU		A	В	С							
NASA [3 /1R IOA [3 /1R		P] P]	[F] [P]	[P] [P]	[X] * []						
COMPARE [/] []	[N]	[]	[N]						
RECOMMENDATIONS: (If different from NASA)											
[/] [3	[]	[] (A	[] DD/DELETE)						
* CIL RETENTION	RATIONAL	E: (If a	pplicabl	e) ADEQUATE INADEQUATE	[]						
REMARKS: THE FAILURE IS DETECTABLE THROUGH THE REDUNDANT SENSING CAPABILITY. WITHDRAW THE IOA ISSUE. THE DETERMINATION OF ON-ORBIT DETECTABILITY IS AT QUESTION. THE IOA ANALYSIS CONSIDERED THE FAILURE DETECTABLE AND ISOLATABLE											

UPON SENSOR ACTIVATION; WHERE-AS NASA CONSIDERED IT NON-

GREATER VISABILITY INTO THE FAILURE AND ITS EFFECTS.

DETECTABLE BECAUSE IT COULD BE IN EXISTANCE A LONG TIME BEFORE THE SENSOR IS ACTIVATED. THIS IS ANOTHER CASE OF THE APPLICATION OF DETECTABILITY AS DEFINED IN NSTS-22206. IOA ACCEPTS THE NASA ANALYSIS BASED UPON THE HIGHER CRITICALTY WHICH PROVIDES EVEN

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #: SUBSYSTEM:	2/15/88 LS-32583 06-2-311	⟨ L000 - 03	NASA DA BASELI N	NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	3258	PPORT CTECTOR (9)							
LEAD ANALYST:	J.D. ARE	BET							
ASSESSMENT:									
CRITICALI FLIGHT		REDUNDANCY	SCREENS	CIL					
HDW/FUN		А В	С	ITEM					
NASA [2 /1R IOA [3 /1R] [P] [P F]] [P]] [P]	[X] * [X]					
COMPARE [N /] [и] [и] []	[]					
RECOMMENDATIONS:	(If di	fferent fro	om NASA)						
] [] []	[] ADD/DELETE)					
* CIL RETENTION R REMARKS:			ADEQUATE INADEQUATE	į j					
DURING GROUND TUR CONCENTRATION PAR LEVEL WHICH THE P TO THE INFLIGHT C WITHDRAW THE IOA THE ISSUE AS DEFI NASA FAILURE IS A (i.e. THE SIGNAL	AMETER WORDCEDURES ASE. ISSUE. NED IS BA N ABSOLUT	OULD BE TO DO NOT AT ASED ON A M	VERIFY A KNOWN TEMPT. SIMILAR	CONCENTRATION LOGIC APPLIES LURES. THE					

TO THE SENSOR). THE IOA FAILURE CONSIDERED THE SENSOR COULD NOT DETECT CHANGES IN CONSENTRATION LEVEL AND ONLY OUTPUT A CONSTANT VALUE WHICH INDICATION WOULD BE GIVEN. BASED UPON THE

CONFUSION AND HIGHER CRITICALITY THE NASA CRITICALITY IS

ACCEPTED.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5003 06-1-1206-	-1	NASA DATA: BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPO 5003 EMU WATER							
LEAD ANALYST:	R.E. DUFF							
ASSESSMENT:								
CRITICAI FLIG	ITY R	EDUNDANCY SCREEN	1 S	CIL ITEM				
HDW/F		В	С					
NASA [3 /11 IOA [2 /2	?] [P	P] [NA]] []	[P] []	[x] *				
COMPARE [N /N] [N	1] [N]	[N]	[и]				
		fferent from NAS	r 1	[] .DD/DELETE)				
* CIL RETENTION	RATIONALE:	: (If applicable	ADEQUATE	[]				
REMARKS: FUNCTIONAL LOSS IS LOSS OF MISSION. THE AIRLOCK IS NOT AN EMERGENCY PIECE OF EQUIPMENT. ASSUMING AN EMERGENCY EVA LOSS DUE TO THIS FAILURE IS NOT CORRECT BECAUSE THE LATTER IS A SECOND TO THIS FAILURE IS NOT CORRECT BECAUSE THE LATTER IS A SECOND FAILURE WHICH VIOLATES SPECIFICATION NSTS 22206. FOR WORST CASE ANALYSIS SEE IOA ANALYSIS #5003. ISSUE RESOLUTION: WITHDRAW ISSUE LIST NASA CRITICALTLY. THE CRITICALITY ASSIGNED TO THIS HARDWARE DEPENDS ON HOW THE INSTRUCTIONS IN NSTS 22206 ARE INTERPRETED AND WHETHER THE FAILURE EFFECT IS LOSS OF PLANNED OR LOSS OF CONTINGENCY EVA CAPABILITY. FROM FURTHER REVIEW, THE IOA AGREES THAT THE TWO EMU WATER SUPPLY VALVES PROVIDE SOME DEGREE IF REDUNDANCY WHICH SHOULD BE REFLECTED IN THE FUNCTIONAL CRITICALITY. ALSO, THE WORST CASE SCENARIO WOULD BE LOSS OF VEHICLE AND CREW BECAUSE OF								
mit mitte MACA /1	OT 3/11 EVA	ALUATION, PASSAGE MODE AS A CIL	C OL Y WID	C SCREENS, AND				

ASSESSMENT DATE: 3/08/88 ASSESSMENT ID: LS-5005 NASA FMEA #: 06-1-120														ASA DATA BASELINE NEW	[x]			
SUBSYSTI MDAC ID: ITEM:					50	LIFE SUPPORT 5005 EMU WATER SUPPLY VALVE (2)														
LEAD ANA	ALY	ST	:		R.	R.E. DUFFY														
ASSESSMENT:																				
CRITICALITY FLIGHT						REDUNDANCY SCREENS						s		CIL ITEM						
	1	HD	W/E	Uľ	IC			A				В			С					
NASA IOA	[2	/1 /2	LR ?]]	P]]	P]	[P]	[2	ζ ζ] ;]	*
COMPARE	[/N	Ī]		[N]		[N]	[N]	[]	
RECOMMENDATIONS: (If different from NASA)																				
	[/]		[]		[]	[[D/E	EI	EJ.	ΓE)
* CIL RETENTION RATIONALE: (If applicable)																				
REMARKS:																EQUATE EQUATE	[[]		
SEE IOA ANALYSIS #5005. LOSS OF THE FUNCTION TO SEAL THE WATER ON THE LINE DOES NOT LEAD TO LOSS OF FES. A REVALVING OF THE SUPPLY WATER SYSTEM WILL CORRECT THE FAILURE; HOWEVER EVA MISSIONS ARE STILL LOST. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST THE NASA CRITICALITY.																				
BOTH NAC	7 / D	T	A MI	D .	T 🔿		~ .\ > T	1277		220	<u> </u>	~ 471.A	n PT:	> .T.	T.H	e nasa c	KIT	IC	ΑĹ	ΙΤΥ.

BOTH NASA/RI AND IOA ANALYSIS AGREE THAT THE HARDWARE FAILURE MODE SHOULD BE INCLUDED AS A CIL ITEM. THE IOA CONCURS WITH THE IR FUNCTIONAL CRITICALITY ASSIGNED BY NASA/RI IF THE FAILURE EFFECT IS CONSIDERED TO BE LOSS OF CONTINGENCY EVA CAPABILITY.

NASA DATA:

ASSESSMENT DATE: 3/08/88 BASELINE [ASSESSMENT ID: LS-5006 NEW [X] 05-6UA-2008-1 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 5006 MDAC ID: EMU WATER SUPPLY SWITCH (2) ITEM: LEAD ANALYST: R.E. DUFFY ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT В HDW/FUNC [P] [] [P] [NA] NASA [3 / 1R]IOA [2 /2] COMPARE [N /N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) [] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE

REMARKS: SEE IOA ANALYSIS #5006. FUNCTIONAL LOSS IS LOSS OF MISSION. AIRLOCK IS NOT AN EMERGENCY PIECE OF EQUIPMENT. ASSUMING AN EMERGENCY EVA LOSS OF DUE TO THIS FAILURE IS NOT CORRECT BECAUSE THE LATTER IS A SECOND FAILURE WHICH VIOLATES SPECIFICATION NSTS 22206. FOR WORST CASE ANALYSIS SEE IOA ANALYSIS #5003. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW AND TO BE CONSISTENT WITH IOA ASSESSMENT #5003, THE IOA CONCURS WITH THE NASA/RI 3/1R EVALUATION, PASSAGE OF SCREENS A AND C, AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.

ASSESSMENT DATE: 3/08/88 NASA DATA: ASSESSMENT ID: LS-5006A BASELINE [NASA FMEA #: 05-6UA-2008-2 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 5006 ITEM: EMU WATER SUPPLY SWITCH (2) LEAD ANALYST: R.E. DUFFY ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC Α В С NASA [3 /1R] [P] [N] [P] IOA [2 /2] [] [] COMPARE [N/N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) [/] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE REMARKS:

SEE IOA ANALYSIS #5006. FUNCTIONAL LOSS IS LOSS OF MISSION. THE AIRLOCK IS NOT AN EMERGENCY PIECE OF EQUIPMENT. ASSUMING AN EMERGENCY EVA LOSS DUE TO THIS FAILURE IS NOT CORRECT BECAUSE THE LATTER IS A SECOND FAILURE WHICH VIOLATES SPECIFICATION NSTS 22206. FOR WORST CASE ANALYSIS SEE IOA ANALYSIS #5003. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW AND TO BE CONSISTENT WITH IOA ASSESSMENT #5003, THE IOA CONCURS WITH THE NASA/RI 3/1R EVALUATION, PASSAGE OF SCREENS A AND C, AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5009 05-6UA-2000-	NASA D BASEI 1								
SUBSYSTEM:	LIFE SUPPORT	LIFE SUPPORT								
LEAD ANALYST:										
ASSESSMENT:										
CRITICAL FLIGH	ITY REDU	INDANCY SCREENS	CIL ITEM							
HDW/FU	NC A	В С								
NASA [3 /1F IOA [2 /2	[P]	[NA] [P] [] []	[
COMPARE [N /N										
RECOMMENDATIONS	: (If diffe	rent from NASA)								
[/] []	[] []	[] (ADD/DELETE)							
* CIL RETENTION	RATIONALE: (JATE [] JATE []							
NASA DATA IS NO CONSISTENT WITH LOGIC OF ASSESS ISSUE RESOLUTIO FROM FURTHER RE	T AVAILABLE, #5003 & 06-1 MENT #5003. N: WITHDRAW VIEW AND TO B	S FOR VALVE FAILED OF BUT IOA & NASA'A CRIA-1206-1 THUS, THE INSUE AND LIST NASA OF CONSISTENT WITH ION THE NASA/RI 3/1R EVALUATION OF THIS FAILURE.	CRITICALITY. DA ASSESSMENT							

ASSESSM NASA FM	ENT	'I	D:	3/0 LS- 06-	8/88 5011 1-12	12	-1					N	ASA DA BASELI 1	ATA: [NE NEW	[) X]		
SUBSYST MDAC ID ITEM:	:			LIF 501 EMU	1				VA	LVI	E (2))						
LEAD AND	ALY	ST	:	R.E	. DUI	FF:	Y											
ASSESSMI	ENT	:																
		T	TIGU					NDAN	CY	sc	REEN	IS			CII			
		HD	W/FU	NC		A			В			С			ITEM			
NASA IOA	[3 2	/2R /2]	[[P]	[P]]	P]		[[}]	*	
COMPARE	[N	/N]	[N]	[N]	(N	3		[N	[]		
RECOMMEN	DA!	ri	ONS:	(1	f di	ff	ere	ent i	fro)m	NASA	.)						
	[/]	[]	[]	[]	(ADI	[D/D] ELE	ETE)	
* CIL RE	TE	IT.	CON F	RATIO	NALE	:	(I1	app	oli	.ca	ble)							
REMARKS:													EQUAT:]		
SEE IOA REDUNDAN REDUNDAN ISSUE RE	CY, SOI	רט. רט.	HOWE THUS TION:	VER, LOSS WI	WIT OF THDR	H MI AW	TWC SSI	SUI ON. SUF	TE an	. D	CREW	MAN	, THE	RE]	s.			
WATER VA ASSIGNING THE FAIL OF PLANN MODE WIL	LVE G E URE ED L E	S III EV EV	DO F CHER CFFEC A CA EXCL	PROVI A 3/ T IS PABI	THE DE R 1R O CON LITY AS	ED R SI A	A C UND 3/2 DER SI CIL	ONCL ANCY R CR ED L NCE ITE	UD IT OS AL M	ES TI ICI S (L S	THA! HIS ! ALIT! OF CO SCREI	T T SHO Y D ONT	HE TWO ULD BI EPENDI INGENO	O WME REING	U FL ON R	WAS ECT WH LOS	TE ED BY ETHER	
ACKNOWLE	DGE	S	ጥዘልጥ	ਾਮਾ	MAC	N /1	DT	DV/AT	***	m T /	``		,	1	· • •			

ACKNOWLEDGES THAT THE NASA/RI EVALUATION IS ACCEPTABLE.

ASSESSMEN ASSESSMEN NASA FME	NT I NT I A #:	ATE:	3/08/ LS-50 05-6U	/08/88 NASA DATA: S-5014 BASELINE [] 5-6UA-2009-1 NEW [X]									
SUBSYSTEM MDAC ID:			LIFE 5014 EMU W					(2)					
LEAD ANALYST: R.E. DUFFY													
ASSESSMENT:													
,	I	LIGH	ITY T NC			ANCY B		EENS C		CIL ITEM			
NASA IOA	[3	3 /1R 2 /2]	[P]	[N	A]	[F)]	[x] *		
COMPARE	[1	N /N]	[N]	[N]	[N	1]	[N]		
RECOMMEN	DAT:	IONS:	(Ii	dif	ferer	nt fr	om N	ASA)					
	[/]	ſ]	[1	[] ([ADD/DE			
* CIL RE		rion	RATIO	NALE:	(If	appl	icab	2	ADEQUATE ADEQUATE	[]		
SAME SCE (NASA 06 REDUNDAN ISSUE RE FROM FUT THE IOA	NAR -1- CY SOL HER ACK	1212- THUS UTION REVI NOWLE	1). V LOSS (: WI' EW, Al	NITH OF MI THDRA ND TO THAT	TWO S SSION W ISS BE C THE N	SUITE SUE A CONSI NASA/	D CR ND I STEN 'RI E	EWMAN LIST N IT WIT	I THERE NASA CRI TH ASSES ATION IS	IS NO TICALI SMENT ACCEF	TY. #50011		
(NASA 06 REDUNDAN ISSUE RE	NAR -1- CY SOL HER ACK	1212- THUS UTION REVI NOWLE	1). V LOSS (: WI' EW, Al	NITH OF MI THDRA ND TO THAT	TWO S SSION W ISS BE C THE N	SUITE SUE A CONSI NASA/	D CR ND I STEN 'RI E	FAII REWMAN LIST N T WIT	LED CLOS N THERE NASA CRI TH ASSES ATION IS	ED (#5 IS NO TICALI SMENT ACCEF	011), TY. #5001		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5014A 05-6UA-2009-	-2	NASA DATA: BASELINE [NEW [
SUBSYSTEM: MDAC ID:		?	(2)										
LEAD ANALYST: R.E. DUFFY													
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
	IC A	В	С	11411									
NASA [3 /2R IOA [2 /2] [P]] []	[NA] []	[P] []	[] * [x]									
COMPARE [N /N] [N]	[N]	[N]	[и]									
RECOMMENDATIONS:	(If differ	ent from NA	SA)										
[/] []	[]	[] (A	[] .DD/DELETE)									
* CIL RETENTION F	RATIONALE: (I	f applicable	e) ADEQUATE INADEQUATE	[]									
REMARKS: SAME SCENARIO (WORST CASE) AS FOR VALVE FAILED CLOSED (#5011), (NASA 06-1-1212-1). WITH TWO SUITED CREWMAN THERE IS NO REDUNDANCY, THUS MISSION LOSS.													
REDUNDANCY, THUS MISSION LOSS. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FUTHER REVIEW, AND TO BE CONSISTENT WITH ASSESSMENT #50011 THE IOA ACKNOWLEDGES THAT THE NASA/RI EVALUATION IS ACCEPTABLE AND THAT THE FAILURE SHOULD BE EXCLUDED AS A CIL ITEM.													

ASSESSMENT ASSESSMENT NASA FMEA #	TD.	T.S=5017								
SUBSYSTEM: MDAC ID: ITEM:		LIFE SU 5017 EMU WA	JPPOF							
LEAD ANALYS	ST:	R.E. D	UFFY							
ASSESSMENT:	:									
CR	TICAL FLIGH		RE	DUNDAN	CY SCREE	INS	CIL ITEM			
	HDW/FU	NC	A		В	С				
NASA [IOA [3 /2R 2 /2]	[P] [NA]	[P] []	[
COMPARE [N /N	1	[N] [N]	[N]	[]		
RECOMMENDA	TIONS:	(If	diff	erent	from NAS	SA)				
					3	r 1	[.DD/DI] ELETE)		
* CIL RETE	NTION	RATION	ALE:	(If ap	plicabl	e) ADEQUATE INADEQUATE	[[]		
REDUNDANCY REMAIN CLO ISSUE RESO FROM FUTHE	FOR DESENTION LUTION R REV	EACH CRIND LOSS N: WITH	EWMEN OF N HDRAN D TO	MISSION MISSION MISSUN BE CON	N. E AND LI NSISTENT	EWMEN THERE OF CB FORCES ST NASA CRIT WITH ASSESS ALUATION IS AS A CIL ITI	TICAL SMENT ACCE	ITY. #50011,		

ASSESSMENT DATE: 3/08/88 ASSESSMENT ID: LS-5020 NASA FMEA #: 06-1-1208-1 SUBSYSTEM: LIFE SUPPORT MDAC ID: 5020 ITEM: EMU WATER SUPPLY LINES AND FITTING LEAD ANALYST: R.E. DUFFY													
LEAD ANALYST: R.E. DUFFY													
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL ITEM													
HDW/FUNC A B C													
NASA [3/1R] [P] [P] [P] [] [X]	t												
COMPARE [N /N] [N] [N] [N]													
RECOMMENDATIONS: (If different from NASA)													
[/] [] [] (ADD/DELET	'E)												
* CIL RETENTION RATIONALE: (If applicable)													
REMARKS: ADEQUATE [] INADEQUATE []													
SEE IOA ANALYSIS #5020. FUNCTIONAL LOSS LEADS TO INABILITY TO SERVICE THE EMU'S. HOWEVER, AIRLOCK IS NOT AN EMERGENCY ITEM. FOR FURTHER EXPLANATION SEE ASSESSMENT #5003. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW AND TO BE CONSISTENT WITH ASSESSMENT #5003, THE IOA CONCURS WITH THE NACY (FIRST CONTINUE WITH ASSESSMENT #5003,													

THE IOA CONCURS WITH THE NASA/RI 3/1R EVALUATION, PASSAGE OF ALL

SCREENS, AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA: BASELINE [] NEW []								
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 5022 O2 SUPPLY LINES AND FITTI	NGS								
LEAD ANALYST:	R.E. DUFFY									
ASSESSMENT:										
FLIGH'	ITY REDUNDANCY SCREEN I NC A B	S CIL ITEM C								
NASA [/ IOA [2 /1R] [] [] [] [P] [P]	[] * P] [X]								
COMPARE [N /N] [N] [N] [N] [N]								
RECOMMENDATIONS:	(If different from NASA)								
[/] [] [] [] [] (ADD/DELETE)								
	RATIONALE: (If applicable)	ADEQUATE [] NADEQUATE []								
IOA ANALYSIS #50: ISSUE RESOLUTION THIS SHOULD HAVE	VALENT NASA FMEA WAS FOUND 22). : WITHDRAW ISSUE. REFERENCED NASA FMEA # 06 1/1. SINCE IT COMBINES A	-1C-1510-1 WHICH SHOWS								
THAT IS THE WORS' CONSIDERED BY IT: CAPABILITIES. T	F CASE CRITICALTIY. WHEN SELF THE CRITICALITY IS 2/ HUS THE IOA ANALYSIS WAS T	THE AIRLOCK IS 1R DUE TO ISOLATION O A FINER LEVEL AND								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5025 06-1-1201-1		NASA DATA BASELINI NEI	
MDAC ID:	LIFE SUPPORT 5025 EMU O2 SUPPLY			
LEAD ANALYST:	R.E. DUFFY			
ASSESSMENT:				
CRITICAL: FLIGHT	ITY REDUI	NDANCY SCRE	ENS	CIL ITEM
	NC A	В	С	
NASA [3 /2R IOA [2 /2] [P]] []	[P] []	[P] []	[x] *
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If differe	ent from NA	SA)	
[/] []	[]		[ADD/DELETE)
* CIL RETENTION	RATIONALE: (I	f applicabl	e) ADEQUATE INADEQUATE	[]
REMARKS: SEE IOA ANALYSIS CREWMEMBERS AND CREWMEMBERS SHAR LOSS OF MISSION. ISSUE RESOLUTION FROM FURTHER REV TO THE EMU WATER 5003. IT SHOULD CIL ITEM SINCE A FAILURE IS SIMIL	NO CREW ACTION ING ONE SCU IS : WITHDRAW IS IEW, THE IOA OF SUPPLY VALVE BE ASSIGNED OF LL REDUDNANCY	N (RULE 2.3 S NOT A "NO SSUE AND LI CONCLUDES T FAILURE AD A 3/2R CRIT SCREENS AR	LINE OF TWO .3.f OF NST MINAL CREW ST NASA CRI HIS FAILURE DRESSED IN ICALITY AND	SUITED S 22206). TWO ACTION", THUS TICALITY. IS ANALOGOUS ASSESSMENT #

	ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5026 06-1-1201-2		NASA DATA: BASELINE NEW									
	SUBSYSTEM: MDAC ID:												
	LEAD ANALYST:												
ASSESSMENT:													
	CRITICAL: FLIGHT HDW/FUI	CIL ITEM											
	NASA [2 /1R IOA [3 /2R] [P] [] [P]	F] [P] [P] P]	[X] *								
	COMPARE [N /N] [] [N] []	[N]								
	RECOMMENDATIONS:	(If different	from NASA)	l									
	[/] [] [] [] (AD	[] DD/DELETE)								
		RATIONALE: (If app	-	ADEQUATE NADEQUATE	[]								
	LOSS OF EVA AND SEWOULD BE CLOSED, FUNCTION LOSS, THE FOR THE NEXT PLS. ISSUE RESOLUTION: THE IOA ACKNOWLED MODE REPRESENTS APPLICATION OF INTHE NASA EVALUATION SUPPLY VALVE INTERIOR OF THE NASA EVALUATION.	#5026. LOSS OF CENUTTLE MISSION. AND THIS ACTION IN THE MISSION IS TERM WITHDRAW ISSUE DOES THAT THE NASA MORE CONSERVATIONS CONTAINS TRUCTIONS CONTAINS ACCEPTABLE ERNAL LEAKAGE FAIR	O2 ISOLATI THIS IS E ISOLATES T MINATED AN AND LIST A/RI ANALY VE INTERPR INED IN NS AND THE I	CON FUNCTION SECAUSE LV3 THE LEH'S. ND DEORBIT NASA CRITICATION AND RETATION AND STS 22206. ENGLUSION O	ON LEADS TO S AND LV4 THUS, UPON PLANNED CCALITY. ES FAILURE ID THEREFORE, OF THE EMU 02								
	APPROPRIATE.												

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5029 06-1-112			NASA DATA: BASELINE NEW									
SUBSYSTEM: MDAC ID: ITEM:	5029	IFE SUPPORT 029 EPRESS CAP VENT (1)											
LEAD ANALYST:	R.E. DUI	FFY											
ASSESSMENT:													
CRITICAL: FLIGH		REDUNDANC	Y SCREENS	5	CIL ITEM								
HDW/FU		A	В	С									
NASA [3 /1R IOA [2 /2] [P] [P] [P]	[] * [X]								
COMPARE [N /N] [и] [N] [N]	[N]								
RECOMMENDATIONS:	(If d	ifferent f	rom NASA))									
[/] [] [] [] (Al	[] DD/DELETE)								
* CIL RETENTION	RATIONAL	E: (If app	olicable)										
			II	ADEQUATE NADEQUATE	[]								
REMARKS:													
FUNCTIONAL LOSS	IS LOSS	OF MISSION	I. THE A	IRLOCK IS	NOT AN								
EMERGENCY PIECE TO THIS FAILURE	OF EQUIP	MENT. ASS	NA DRIMO	LATTER IS	A SECOND								
FAILURE WHICH VI	OLATES S	PECIFICAT	ON NSTS	22206. FO	R WORST CASE								
ANALYSIS SEE IOA	ANALYSI	S #5003.											
ISSUE RESOLUTION	: WITHD	RAW ISSUE	AND LIST	NASA CRIT	ICALITY.								

FROM FURTHER REVIEW, THE IOA CONCLUDES THAT THE TWO EQUALIZATION VALVES ON THE AIRLOCK HATCH LEADING TO THE PAYLOAD BAY PROVIDE REDUNDANCY TO THE AIRLOCK DEPRESS VALVE. THE WORST CASE SCENARIO

THEREFORE, THE IOA ACKNOWLEDGES THE NASA/RI 3/1R EVALUATION, PASSAGE OF ALL SCREENS AND EXCLUSION OF THIS FAILURE MODE AS A

IS LOSS OF CAPABILITY TO PERFORM CONTINGENCY EVA;

CIL ITEM.

NASA DATA:

ASSESSMENT DATE: 3/08/88

ASSESSMENT ID: LS-5030 BASELINE [NASA FMEA #: 06-1-1127-1 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 5030 ITEM: CAP VENT DEBRIS SCREEN (1) LEAD ANALYST: R.E. DUFFY ASSESSMENT: REDUNDANCY SCREENS CIL CRITICALITY FLIGHT ITEM HDW/FUNC Α В С [P] [P] [P] [] [] NASA [3 /1R] IOA [2 /2] COMPARE [N/N] [N] [N] [N]RECOMMENDATIONS: (If different from NASA) [/] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE REMARKS: FUNCTIONAL LOSS IS LOSS OF MISSION. THE AIRLOCK IS NOT AN EMERGENCY PIECE OF EQUIPMENT. ASSUMING AN EMERGENCY EVA LOSS DUE TO THIS FAILURE IS NOT CORRECT BECAUSE THE LATTER IS A SECOND FAILURE WHICH VIOLATES SPECIFICATION NSTS 22206. FOR WORST CASE ANALYSIS SEE IOA ANALYSIS #5003. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA CONCLUDES THAT THE TWO EQUALIZATION VALVES ON THE AIRLOCK HATCH LEADING TO THE PAYLOAD BAY PROVIDE REDUNDANCY TO THE AIRLOCK DEPRESS VALVE. THE WORST CASE SCENARIO IS LOSS OF CAPABILITY TO PERFORM CONTINGENCY EVA; THEREFORE, THE IOA ACKNOWLEDGES THE NASA/RI 3/1R EVALUATION, PASSAGE OF ALL SCREENS AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LS-5031	-1	NASA DATA: BASELINE NEW									
MDAC ID:	LIFE SUPPO 5031 CAP VENT		CREEN (1))								
LEAD ANALYST:	R.E. DUFF	Y										
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM												
HDW/FU		I	3	С	TIEM							
NASA [3 /1R IOA [2 /2] [P] []	P] [P]	[x]	*						
COMPARE [N /N] [N] [1	N] [и]	[N]							
RECOMMENDATIONS:	(If dif	ferent fi	rom NASA)								
[/] [] [] [[] DD/DEL							
* CIL RETENTION	RATIONALE:	(If app	•	ADEQUATE NADEQUATE								
EMERGENCY PIECE	•											
TO THIS FAILURE												

ANALYSIS SEE IOA ANALYSIS #5003.

ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA CONCLUDES THAT THE TWO EQUALIZATION VALVES ON THE AIRLOCK HATCH LEADING TO THE PAYLOAD BAY PROVIDE REDUNDANCY TO THE AIRLOCK DEPRESS VALVE. THE WORST CASE SCENARIO IS LOSS OF CAPABILITY TO PERFORM CONTINGENCY EVA; THEREFORE, THE IOA ACKNOWLEDGES THE NASA/RI 3/1R EVALUATION, PASSAGE OF ALL SCREENS AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.

ASSESSMENT DATE: 3/08/8 ASSESSMENT ID: LS-503 NASA FMEA #: 06-1-1								A	-4						ASA DA BASELI N		[]		
SUBSYSTEM: LIFE MDAC ID: 5032 ITEM: DEPR										/CA	P	(1	EACH	I)							
	LEAD ANA	ST	:	R.	E. 1	DUI	FF	Y													
	ASSESSMENT:																				
			F	ICAL:	r					DAN		sc	REEN	s c				L			
			יעה	W/FUI	NC.			A			В			C							
	NASA IOA	[2 3	/1R /1R]		[P P]	[P P]]	P P]]	X]	*	
	COMPARE	[N	/]		[]	(]	[]		[N]		
	RECOMMEN	DA'	TI	ons:		(If	d:	if	fere	nt	fr	om	NASA	.)							
		[/]		[1	[]	[]	(AI		DE		TE)	ı
	* CIL RE	TE	NT:	ION 1	RAT	ION	ALI	Ξ:	(If	ap	pl:	ica	•	ΑI	DEQUAT	E	[]		
	REMARKS:		IT	ED F1	1EA	DAT	ΓA	((ONLY	A	CR:	ITI			DEQUAT SUMMA				j		
	AVAILABI	E	FOI	R THI	E P	OST	51	L -]	L NA										ES	SME	ENT
	OF THIS									CIID	3.1	ı.	TTCM	M 2	S CD	TMT	. ~ 3	т т	mu	,	
	THE IOA																				
	FAILURE A CIL IT			BY 1	NAS	A/RI	[]	/NI	TH.	ΕI	NC:	LUS	ION	OF	THE F	'AII	UR	Œ	MO	DE	AS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LS-5033				NASA DATA: BASELINE NEW			
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUI 5033 DEPRESS	PPORT VALVE (1)					
LEAD ANALYST:	R.E. DUFFY							
ASSESSMENT:								
CRITICALITY FLIGHT		REDUNDA	NCY	SCREENS	5	CIL ITEM		
	ИС	A	В		С			
NASA [3 /1R IOA [2 /2] [P]	[P] [P]	[x] *		
COMPARE [N /N] [N]	[N] [и]	[N]		
RECOMMENDATIONS:	(If d	ifferent	fro	om NASA)	•			
[/] [1	[] [] (A)	[] DD/DELETE)		
* CIL RETENTION	RATIONAL	E: (If a	pp1		ADEQUATE NADEQUATE			
REMARKS: FUNCTIONAL LOSS EMERGENCY PIECE TO THIS FAILURE FAILURE WHICH VI	OF EQUIP IS NOT C OLATES S	MENT. A ORRECT B PECIFICA	SSU	THE AIMING AND SE THE	IRLOCK IS I EMERGENCY LATTER IS	NOT AN EVA LOSS DUE		

ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA CONCLUDES THAT THE TWO EQUALIZATION VALVES ON THE AIRLOCK HATCH LEADING TO THE PAYLOAD BAY PROVIDE REDUNDANCY TO THE AIRLOCK DEPRESS VALVE. THE WORST CASE SCENARIO IS LOSS OF CAPABILITY TO PERFORM CONTINGENCY EVA; THEREFORE, THE IOA ACKNOWLEDGES THE NASA/RI 3/1R EVALUATION, PASSAGE OF ALL SCREENS AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5035 06-1-1603-2	NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 5035 AIRLOCK TO CABI		(2)	
LEAD ANALYST:	R.E. DUFFY			
ASSESSMENT:				
CRITICAL FLIGH	ITY REDUNDA T			CIL ITEM
	NC A	В	С	
NASA [3 /1R IOA [2 /1R] [P]] [P]	[NA] [[P] [P] P]	[x] *
COMPARE [N /] []	[N] []	[N]
RECOMMENDATIONS:	(If different	from NASA)	
[/] []	[] [[] DD/DELETE)
* CIL RETENTION	RATIONALE: (If a	pplicable)	ADEQUATE NADEQUATE	[]
REMARKS: SEE IOA ANALYSIS ARE ONLY TWO EQU HARDWARE THAT CA EVA. ISSUE RESOLUTION FROM FURTHER REV THE EQUALIZATION THEREFORE THE WO CAPS ON THE AIRL CAPABILITY TO PE	ALIZATION VALVES IN ALLOW REPRESSU I: WITHDRAW ISSU IEW, THE IOA CON I CAPS ARE REMOVE ORST CASE EFFECT OCK TO CABIN HATERFORM A CONTINGE	IEA NOT AVA THUS ONL TRIZATION OF THE AND LIST THE AND	ILABLE. HOY TWO PIECT THE AIRLE NASA CRITHE NASA/RETHE STARTILITY TO RELOSS OF THREE PATH	OWEVER, THERE ES OF OCK AFTER AN ICALITY. I EVALUATION. OF AN EVA, EMOVE THE
DEPRESS VALVE AN	ID TWO EQUALIZATI	ON VALVE/C	APS.	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5035A 06-1-1603-	-3	NASA DATA: BASELINE NEW				
MDAC ID:	LIFE SUPPO 5035 AIRLOCK TO	ORT O CABIN VENT CAP	(2)				
LEAD ANALYST:	R.E. DUFFY						
ASSESSMENT:							
CRITICALI FLIGHT		EDUNDANCY SCREEN	S	CIL ITEM			
HDW/FUN	IC A	В	С				
NASA [3 /1R IOA [2 /1R] [P] [P] [P] [] [P]	P] P]	[] *			
COMPARE [N /] [] [] []	[N]			
RECOMMENDATIONS:	(If diff	ferent from NASA)				
[/] [] [] [[] DD/DELETE)			
* CIL RETENTION R REMARKS:	ATIONALE:		ADEQUATE NADEQUATE				
SEE IOA ANALYSIS ARE ONLY TWO EQUA	LIZATION V	ASA FMEA NOT AVA VALVES, THUS ONL	ILABLE. HO	WEVER, THERE			

HARDWARE THAT CAN ALLOW REPRESSURIZATION OF THE AIRLOCK AFTER AN EVA.

ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA CONCURS WITH THE NASA/RI EVALUATION. THE EQUALIZATION CAPS ARE REMOVED PRIOR TO THE START OF AN EVA, THEREFORE THE WORST CASE EFFECT OF AN INABILITY TO REMOVE THE CAPS ON THE AIRLOCK TO CABIN HATCH WOULD BE LOSS OF CAPABILITY TO PERFORM A CONTINGENCY EVA. THREE PATHS EXIST, THE DEPRESS VALVE AND TWO EQUALIZATION VALVE/CAPS.

NASA DATA:

ASSESSMENT DATE: 3/08/88

LS-5036

ASSESSMENT ID:

BASELINE [NASA FMEA #: 06-1-1603-1 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 5036 AIRLOCK TO CABIN VENT CAP (2) ITEM: LEAD ANALYST: R.E. DUFFY ASSESSMENT: REDUNDANCY SCREENS CRITICALITY CIL ITEM FLIGHT HDW/FUNC Α В С [P] [P] [P] NASA [2 /1R] [X] * [3 /3] COMPARE [N /N] [N] [N] [N][N]RECOMMENDATIONS: (If different from NASA) /] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE **REMARKS:** FUNCTIONAL LOSS IS LOSS OF MISSION SINCE THE VALVE IS AN UNLIKE REDUNDANCY TO THE CAP. HOWEVER THE AIRLOCK IS NOT AN EMERGENCY PIECE OF EQUIPMENT. FOR FURTHER CLARIFICATION SEE ASSESSMENT #LS-5003. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA AGREES THE WORST SCENARIO WOULD BE LOSS OF CONTINGENCY EVA CAPABILITY (IR FUNCTIONAL CRITICALTIY). TO BE CONSISTANT WITH OTHER ANALOGOUS AIRLOCK COMPONENT FAILURES, THE IOA WOULD ASSIGN A LEVEL 3 CRITICALITY TO THE HARDWARE FAILURE. HOWEVER, SINCE THE NASA/RI EVALUATION REPRESENTS A MORE CONSERVATIVE INTERPRETATION AND APPLICATION OF GROUNDRULES CONTAINED IN NSTS 22206, THE IOA ACKNOWLEDGES THE 2/1R

CRITICALITY AND INCLUSION OF THE HARDWARE FAILURE MODE AS A CIL

ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5040 06-1-160	3/08/88 NASA DATA: LS-5040 BASELINE D6-1-1601-2 NEW					
MDAC ID:	5040	TORT	EQUALIZATIO	N VALVE (2)			
LEAD ANALYST:	R.E. DU	FFY					
ASSESSMENT:							
CRITICALITY REDUNDANCY SCREENS FLIGHT			CIL ITEM				
HDW/FU		A	В С	IIIM			
NASA [2 /1R IOA [3 /2R] [P] [P] [P] [P P]	[X] * []			
COMPARE [N /N] [] [] [] [N]			
RECOMMENDATIONS:	(If d	ifferent f	from NASA)				
[/] [] [] [[] (ADD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If app	AD:	EQUATE []			
REMARKS: WORST CASE SCENARIO HARDWARE LOSS IS VALVE OPEN, CAP DOES NOT MATE. EVA MISSION IS CALLED SHORT/OFF AND FURTHER MISSIONS ARE CANCELLED. THUS FUNCTION LOSS IS LOSS OF EVA MISSION. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA AGREES THE WORST SCENARIO WOULD BE							

TO BE CONSISTANT WITH OTHER ANALOGOUS AIRLOCK COMPONENT FAILURES,

FAILURE. HOWEVER, SINCE THE NASA/RI EVALUATION REPRESENTS A MORE

CRITICALITY AND INCLUSION OF THE HARDWARE FAILURE MODE AS A CIL

THE IOA WOULD ASSIGN A LEVEL 3 CRITICALITY TO THE HARDWARE

CONSERVATIVE INTERPRETATION AND APPLICATION OF GROUNDRULES CONTAINED IN NSTS 22206, THE IOA ACKNOWLEDGES THE 2/1R

ITEM.

NASA DATA:

ASSESSME ASSESSME NASA FME	NΤ	ID	TE:	3/08/8 LS-504 06-1-3	38 41 1601	NASA DATA: BASELINE [] NEW [X]										
SUBSYSTE MDAC ID: ITEM:				5041	SUPP	JKI		QUALI	ZATI	ON VAL	VΕ	(2	2)			
LEAD ANA	LYS	T:		R.E.	DUFF	Y										
ASSESSME	NT:															
			CAL:	ITY r	R	EDUND	ANCY	SCRE	EENS		CIL ITEM					
				NC	A		В		С							
NASA IOA	[1 2	/1 /2]	[]] []	[[]		[X X]	*	
COMPARE	(N	/N]	C]	ί]	(]		[3		
RECOMMENDATIONS: (If different from NASA)																
	[/]	(]	[]	[]	(AI	[,D	/DI] ELH	ETE)	
* CIL RE		T	ION :	RATION	ALE:	(If	appl	icab:	λ	DEQUAT DEQUAT	E E	[]		
REMARKS: AIRLOCK EMERGENG LATTER ANALYSIS ISSUE RI FROM FUI WOULD BI CRITICAL COMPONED THE HARI REPRESED GROUND 1/1 CRITICAL ITEM.	IS CY E IS # ESOI RTHE E LO LITY NT H DWAH NTS RULL	EVA SEE LU'ER OSS SEE A REE A RES	A LO SECO THE FION REV S OF LUR FAI MOR	SS DUE ND FAI LIFE : WIT IEW, T CONTI O BE C ES, TH LURE.	TO LURE SUPP HDRA HE I NGEN ONSI HE IC HOW ERVA	THIS WHICE ORT I W ISS OA CO ICY EV STANTO A WOU IEVER, TIVE NSTS	FAIL TH VI TO# 5 TOWN TOWN TOWN TOWN TOWN TOWN TOWN TOWN TOWN	URE OLAT 041. ND L DES PABI H OT SSIG CE T RPRE 6, T	IS NO ES NS IST N THE W LITY HER A N A I HE NA TATIO	T CORRESTS 222 (ASA CRIORST CONTROLOGICAL CORREST CONTROLOGICAL CORREST CONTROLOGICAL CORREST	RITI CASI INC: OUS CI EVAPI	IC. IC. ARITALLE	ALISCIONI TIC	CAU OR IT! EN! AL LOC CA! TIC AT!	ISE THE IOA Y. ARIO CK LITY TO ON ION OF	го

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5043 06-1-1604-3		NASA DATA BASELINE NEW	
	LIFE SUPPORT 5043 AIRLOCK TO C		E DIFFERENT	IAL (2)
LEAD ANALYST:	R.E. DUFFY			
ASSESSMENT:				
CRITICALI FLIGHT HDW/FUN		NDANCY SCREE B	ens C	CIL ITEM
NASA [2 /1R IOA [2 /2] [P]	[P] []	[P] []	[X] * [X]
COMPARE [/N] [N]	[N]	[N]	[]
RECOMMENDATIONS:	(If differ	ent from NAS	A)	
\]] []	[]		[] DD/DELETE)
* CIL RETENTION F	RATIONALE: (I) ADEQUATE INADEQUATE	[]
WORST CASE SCENAR MATE. EVA MISSIC CANCELLED. THUS	ON IS CALLED	SHORT/OFF AN	D FURTHER M	ISSIONS AR

WORST CASE SCENARIO HARDWARE LOSS IS VALVE OPEN, CAP DOES NOT MATE. EVA MISSION IS CALLED SHORT/OFF AND FURTHER MISSIONS ARE CANCELLED. THUS FUNCTION LOSS IS LOSS OF EVA MISSION. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA AGREES WITH THE NASA/RI EVALUATION THAT THIS FAILURE MODE COULD RESULT IN LOSS OF CAPABILITY TO PERFORM A CONTINGENCY EVA WHICH PER OPERATIONS GROUND RULES IS FUNCTIONAL CRITICALITY 1.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-50432 06-1-160	3/08/88 NASA DATA LS-5043A BASELINE 06-1-1605-3 NEW					
SUBSYSTEM: MDAC ID:	LIFE SUI	PPORT		E DIFFERENT	IAL (2)		
LEAD ANALYST:	R.E. DUI	FFY					
ASSESSMENT:							
CRITICAL: FLIGH	REDUNDA	NCY SCREE	NS	CIL ITEM			
	NC	A	В	С			
NASA [2 /1R IOA [2 /2] [P]	[P] []	[P] []	[X] * [X]		
COMPARE [/N] [N]	[N]	[и]	[]		
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)			
[/] [3	[]	[] (A)	[DD/DELETE)		
* CIL RETENTION	RATIONAL	E: (If a		ADEQUATE	[]		
INADEQUATE [] REMARKS: WORST CASE SCENARIO HARDWARE LOSS IS VALVE OPEN, CAP DOES NOT MATE. EVA MISSION IS CALLED SHORT/OFF AND FURTHER MISSIONS ARE CANCELLED. THUS FUNCTION LOSS IS LOSS OF EVA MISSION. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY.							

FROM FURTHER REVIEW, THE IOA AGREES WITH THE NASA/RI EVALUATION THAT THIS FAILURE MODE COULD RESULT IN LOSS OF CAPABILITY TO PERFORM A CONTINGENCY EVA WHICH PER OPERATIONS GROUND RULES IS

FUNCTIONAL CRITICALITY 1.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5047 06-1-112	24-1	NASA DATA: BASELINE [] NEW [X]				
MDAC ID:	LIFE SUI 5047 AIRLOCK		VENT CAP (2)				
LEAD ANALYST: R.E. DUFFY							
ASSESSMENT:							
CRITICALI FLIGHT		REDUNDANCY	SCREENS	CIL ITEM			
	NC	A B	С	T T 15171			
NASA [2 /1R IOA [3 /3] [P] [P] [P]] []	[X] * []			
COMPARE [N /N] [N] [N] [N]	[N]			
RECOMMENDATIONS:	(If di	ifferent fro	om NASA)				
[/] [] [] [] (A	[] DD/DELETE)			
* CIL RETENTION F	RATIONALE	E: (If appli	icable) ADEQUATE INADEQUATE	[]			
REMARKS: DUE TO LIMITED NA AVAILABLE FOR THE OF THIS ITEM WAS ISSUE RESOLUTION: CRITICALITY. FRO	E POST 51 ATTEMPTE : WITHDE	l-L nasa ana Ed. Raw Issue an	A CRITICALITY SUI ALYSIS), NO DETAI ND INCORPORATE NAS	MMARY WAS L ASSESSMENT			

POSSIBILITY OF THE FAILURE OCCURRING IS INDEPENDENT OF WHETHER THE TUNNEL ADAPTER IS ATTACHED AND THAT THE EFFECT OF THIS FAILURE MODE AND ASSOCIATED REDUNDANCY (i.e. LOSS OF AIRLOCK REPRESS CAPABILITY) IS POTENTIALLY CATASTROPHIC. THEREFORE, THE

IOA CONCURS WITH THE NASA/RI EVALUATION.

NASA DATA:

ASSESSMENT DATE: 3/08/88 ASSESSMENT ID: LS-5051 BASELINE [NEW [X] 06-1-1122-2 NASA FMEA #: LIFE SUPPORT SUBSYSTEM: 5051 MDAC ID: AIRLOCK TO AMBIENT EQUALIZATION VALVE (2) ITEM: LEAD ANALYST: R.E. DUFFY ASSESSMENT: CIL REDUNDANCY SCREENS CRITICALITY ITEM FLIGHT С В A HDW/FUNC [X] * NASA [2 /1R] [P] [NA] IOA [3 /3] [] [P] COMPARE [N /N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA) [/] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE [**REMARKS:** IOA ANALYSIS #5041 ASSUMED THE TUNNEL ADAPTER WAS ATTACHED. WITHOUT THIS THE AIRLOCK WOULD LEAK TO SPACE FORCING EVALUATION BY THE AIRLOCK CREW. THE LEAK CANNOT BE GREATER THAN TWO EQUALIZATION VALVES WIDE OPEN ON THE CABIN SIDE. EACH VALVE ALSO HAS A THREATED CAP WHICH IS CAPABLE OF A PRESSURE SEAL. WORST CASE SCENARIO IS LOSS OF FURTHER MISSIONS. ISSUE RESOLUTION: WITHDRAW ISSUE AND INCORPORATE NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA CONCLUDES THE POSSIBILITY OF THE FAILURE OCCURRING IS INDEPENDENT OF WHETHER

THE TUNNEL ADAPTER IS ATTACHED AND THAT THE EFFECT OF THIS FAILURE MODE AND ASSOCIATED REDUNDANCY (i.e. LOSS OF AIRLOCK REPRESS CAPABILITY) IS POTENTIALLY CATASTROPHIC. THEREFORE, THE

IOA CONCURS WITH THE NASA/RI EVALUATION.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	LS-5052	- 4		NASA DATA: BASELINE [] NEW [X]				
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPO 5052 AIRLOCK TO		r EQUA	EQUALIZATION VALVE (2)				
LEAD ANALYST:	R.E. DUFF	R.E. DUFFY						
ASSESSMENT:								
CRITICALITY REDUNDANCY S FLIGHT			Y SCRE	ens	CIL			
HDW/FU		1	В	С	ITEM			
NASA [1 /1 IOA [2 /2] [] []	[]	[X] * [X]			
COMPARE [N /N] [] [1	[]	[]			
RECOMMENDATIONS:	(If dif	ferent f	rom NAS	5 A)				
[/] [] []	[] (2	[] ADD/DELETE)			
* CIL RETENTION F	RATIONALE:	(If app	licable	ADEQUATE INADEQUATE				
REMARKS: AIRLOCK IS NOT AN EMERGENCY EVA LOS	N EMERGENCY SS DUE TO T	PIECE (OF EQUI	IPMENT. AS: NOT CORREC	SUMING AN CT BECAUSE THE			

AIRLOCK IS NOT AN EMERGENCY PIECE OF EQUIPMENT. ASSUMING AN EMERGENCY EVA LOSS DUE TO THIS FAILURE IS NOT CORRECT BECAUSE THE LATTER IS A SECOND FAILURE WHICH VIOLATES NSTS 22206. FOR IOA ANALYSIS SEE THE LIFE SUPPORT ID# 5041.

ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW THE IOA CONCLUDES THAT THE INABILITY TO PRESSURIZE THE AIRLOCK BECAUSE OF EXTERNAL LEAKAGE THROUGH THE EQUALIZATION VALVE IS POTENTIALLY CATASTROPHIC (IF FAILURE OCCURS WHILE EVA IS UNDERWAY). THEREFORE, THE IOA CONCURS WITH THE NASA/RI EVALUATION.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 NASA DATA: LS-5054 BASELINE [] 06-1-1120-4 NEW [X]						
SUBSYSTEM: MDAC ID: ITEM:	5054	IFE SUPPORT 054 IRLOCK TO AMBIENT PRESSURE DIFFEREN'					
LEAD ANALYST:	R.E. DUFF	FY					
ASSESSMENT:							
CRITICAL FLIGH		REDUNDANCY	SCREENS	CIL ITEM			
HDW/FU	NC A	A B	С				
NASA [2 /2 IOA [3 /2R] [[] [P] [P] []] [P]	[X] * []			
COMPARE [N /N] [1	N] [N] [N]	[N]			
RECOMMENDATIONS: (If different from NASA)							
[2 /1R	.] []	P] [P] [P]	[] (ADD/DELETE)			
* CIL RETENTION	RATIONALE	: (If appli	icable)				
			ADEQUATI INADEQUATI	E [] E []			
REMARKS: DUE TO LIMITED N AVAILABLE FOR TH OF THIS ITEM WAS ISSUE RESOLUTION CRITICALITY. FROM FURTHER REV	E POST 51- ATTEMPTE S WITHDRA	-L NASA ANZ D. AW ISSUE AI OA CONCLUDI	ALYSIS), NO DETA ND LIST CORRECT ES THAT THE INA	AIL ASSESSMENT NASA BILITY TO			
PRESSURIZE THE AIRLOCK BECAUSE OF EXTERNAL LEAKAGE THROUGH THE EQUALIZATION VALVE IS POTENTIALLY CATASTROPHIC (IF FAILURE OCCURS WHILE EVA IS UNDERWAY). THEREFORE, THE IOA CONCURS WITH THE							
NOTE: THE NASA VS. 2/2 ERRONEOU	NASA/RI EVALUATION. NOTE: THE NASA CRITICALITY ASSIGNED TO THIS FAILURE MODE IS 2/1R VS. 2/2 ERRONEOUSLY SHOWN ON THE ORIGINAL ASSESSMENT WORKSHEET. (REDUNDANCY SCREENS ARE PPP).						

ASSESSMEI ASSESSMEI NASA FMEA	II TN):	LS-505													
SUBSYSTEM MDAC ID: ITEM:	M:		5054	LIFE SUPPORT 5054 AIRLOCK TO AMBIENT PRESS					SUE	RE	DIFFER	ENT:	IAI	2) د	2)	
LEAD ANA	NALYST: R.E. DUFFY															
ASSESSME	NT:															
CRITICALITY REDUNDANCY SCREEN			ENS				CIL									
		/FUN			A			В			С		17	ITEM		
NASA IOA	[2 [3	/2 /2R]	[P]	[P]	[P]	[[x] *	r
COMPARE	[N	/N	1	[N]	[N]	[N]	[N]	
RECOMMENI	DATIC	ons:	(If	di	ff	erent	f	rc	m NAS	SA)						
	[2	/1R]	[P]	[P]	(P		[ADD/	/DE] :LET	E)
* CIL RET	TENT I	ON R	ATIONA	LE	:	(If a	pp	li	.cable	-		EQUATE EQUATE]	
REMARKS:																

DUE TO LIMITED NASA FMEA DATA (ONLY A CRITICALITY SUMMARY WAS AVAILABLE FOR THE POST 51-L NASA ANALYSIS), NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED.

ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST CORRECT NASA CRITICALITY.

FROM FURTHER REVIEW THE IOA CONCLUDES THAT THE INABILITY TO PRESSURIZE THE AIRLOCK BECAUSE OF EXTERNAL LEAKAGE THROUGH THE EQUALIZATION VALVE IS POTENTIALLY CATASTROPHIC (IF FAILURE OCCURS WHILE EVA IS UNDERWAY). THEREFORE, THE IOA CONCURS WITH THE NASA/RI EVALUATION.

NOTE: THE NASA CRITICALITY ASSIGNED TO THIS FAILURE MODE IS 2/1R VS. 2/2 ERRONEOUSLY SHOWN ON THE ORIGINAL ASSESSMENT WORKSHEET. (REDUNDANCY SCREENS ARE PPP).

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5055 05-6UA-2008-1	NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	5055	HARGER BUS SELECT SWITCH (2)					
LEAD ANALYST:	R.E. DUFFY						
ASSESSMENT:							
CRITICAI FLIG	LITY REDUNDANCY	SCREENS CIL ITEM					
HDW/FC	JNC A B						
NASA [3 /11 IOA [2 /2	R] [P] [NA] [] [] [P] [] *] [X]					
COMPARE [N /N] [N] [N] [N] [N]					
RECOMMENDATIONS: (If different from NASA)							
[3 /2]	R] [P] [P] [P] [] (ADD/DELETE)					
	RATIONALE: (If appli	cable) ADEQUATE [] INADEQUATE []					
REMARKS: DUE TO LIMITED NASA FMEA DATA (ONLY A CRITICALITY SUMMARY WAS AVAILABLE FOR THE POST 51-L NASA ANALYSIS), NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THERE IS NO REDUNDANCY TO EACH OF THE SWITCH/SYSTEMS. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST PROPER NASA CRITICALITY. THIS ITEM WAS INITIALLY ASSESSED AGAINST THE WRONG CIL. THE PROPER NASA CIL LISTS A CRITICALITY OF 2R/3. FROM FURTHER REVIEW, THE IOA CONCLUDES THAT THE CRITICALITY IF THE HARDWARE FAILURE DEPENDS ON THE STATUS OF THE ASSOCIATED EMU BATTERY AND THAT THE WORST CASE SCENARIO IF ALL REDUNDANCY WERE TO FAIL IS LOSS OF CAPABILITY TO PERFORM EVA AFTER THE BATTERIES ARE DEPLETED. THEREFORE, THE IOA RECOMMENDS THE FLIGHT CRITICALITY BE 3/2R, WITH PASSAGE OF A AND C SCREEN AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5055A 05-6UA-20	08-2	NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM: MDAC ID:	LIFE SUPPO	LIFE SUPPORT							
LEAD ANALYST:	R.E. DUFF	Y							
ASSESSMENT:									
CRITICAL FLIGH	ITY R	EDUNDANCY SCREENS							
	NC A	В	ITEM C						
NASA [3 /1R IOA [2 /2] [P] [NA] [] [P] [] *						
COMPARE [N /N] [N	[N] [и] [и]						
RECOMMENDATIONS:	(If dif	ferent from NASA)							
[3 /2R] [P] [P] [P] [] (ADD/DELETE)						
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []									
REMARKS: DUE TO LIMITED NASA FMEA DATA (ONLY A CRITICALITY SUMMARY WAS AVAILABLE FOR THE POST 51-L NASA ANALYSIS), NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THERE IS NO REDUNDANCY TO EACH OF THE SWITCH/SYSTEMS. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST PROPER NASA CRITICALTIY. THIS ITEM WAS INITIALLY ASSESSED AGAINST THE WRONG CIL. THE PROPER NASA CIL LISTS A CRITICALITY OF 2R/3. FROM FURTHER REVIEW, THE IOA CONCLUDES THAT THE CRITICALITY IF THE HARDWARE FAILURE DEPENDS ON THE STATUS OF THE ASSOCIATED EMU BATTERY AND THAT THE WORST CASE SCENARIO IF ALL REDUNDANCY WERE TO FAIL IS LOSS OF CAPABILITY TO PERFORM EVA AFTER THE BATTERIES ARE DEPLETED. THEREFORE, THE IOA RECOMMENDS THE FLIGHT CRITICALITY BE 3/2R, WITH PASSAGE OF A AND C SCREEN AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5056	[]						
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 5056 EMU POWER/BATT							
LEAD ANALYST:	R.E. DUFFY							
ASSESSMENT:								
FLIGHT				CIL ITEM				
HDW/FUI	NC A	В	С					
NASA [/ IOA [2 /2			[]	[] * [X]				
COMPARE [N /N] []	נ ז	[]	[N]				
RECOMMENDATIONS:	(If differer	nt from NA	SA)					
[3 /2R	[P]	[NA]	[P]	[] .DD/DELETE)				
* CIL RETENTION	RATIONALE: (If	applicabl	e) ADEQUATE INADEQUATE					
REMARKS: THERE WAS NO NASA ALSS FMEA WHICH MATCHED THE IOA DESCRIPTION. THE NASA ANALYSIS MAY BE COMBINED WITH SOME OTHER HARDWARE OR REALLOCATED TO ANOTHER SUBSYSTEM. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST PROPER NASA CRITICALITY. FROM FURTHER REVIEW THE IOA EVALUATION OF THIS FAILURE MODE IS DOWNGRADED FROM 2/2 TO 3/2R. THE A AND C SCREENS PASS AND B SCREEN IS N/A. THEREFORE, THE FAILURE MODE SHOULD BE EXCLUDED AS A CIL ITEM.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:			NASA DA' BASELII N							
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPOR' 5059 EMU POWER/B									
LEAD ANALYST:	R.E. DUFFY	R.E. DUFFY								
ASSESSMENT:										
CRITICAI FLIGH	ITY REDI	JNDANCY SCRE	EENS	CIL						
HDW/FU		В	С	ITEM						
NASA [/ IOA [2 /2] []	[]	[]	[] * [x]						
COMPARE [N /N] []	[]	[]	[N]						
RECOMMENDATIONS:	(If differ	ent from NA	SA)							
[3 /2R] [P]	[NA]		[] (ADD/DELETE)						
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] REMARKS:										
THERE WAS NO NAS	A ALSS FMEA W	HICH MATCHE	D THE IOA D	ESCRIPTION.						
THE NASA ANALYSIS MAY BE COMBINED WITH SOME OTHER HARDWARE OR REALLOCATED TO ANOTHER SUBSYSTEM. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST PROPER NASA CRITICALITY.										
FROM FURTHER REVIEW THE IOA EVALUATION OF THIS FAILURE MODE IS DOWNGRADED FROM 2/2 TO 3/2R. THE A AND C SCREENS PASS AND B SCREEN IS N/A. THEREFORE, THE FAILURE MODE SHOULD BE EXCLUDED AS										

A CIL ITEM.

ASSESSMENT DA ASSESSMENT II NASA FMEA #:		LS-5060 BASELINE									
SUBSYSTEM: MDAC ID: ITEM:		LIFE S 5060 EMU PO			ERY C	HARGE	ER PC	WER SUP	PLY ((2)	
LEAD ANALYST:	:	R.E. D	UFFY								
ASSESSMENT:											
Fl	LIGHT	TY C			ANCY		ENS C		CIL ITEM		
IID.	·/ FON	C	A				J				
NASA [IOA [2	/2]	[[]	[]	[]	[x] *	
COMPARE [N	/N]	[]	[]	[]	[14]	
RECOMMENDATIO	ons:	(If	diff	erent	t fro	m NAS	SA)				
[3	/2R]	[P]	[NA	.]	[P] (A	[DD/DI] ELETE)	
* CIL RETENT:	ION R	ATIONA	LE:	(If a	appli	.cable	≥) A[INA[EQUATE EQUATE	[]	
REMARKS: THERE WAS NO THE NASA ANA REALLOCATED	LYSIS	MAY B	E CC	DMBIN	ED WI	TCHEI	THE C	E IOA DE OTHER HA	SCRII RDWAI	PTION. RE OR	
ISSUE RESOLU'CRITICALITY.FROM FURTHER	rion:	WITH	DRAV	V ISS	UE AN					ODE IS	
DOWNGRADED FI SCREEN IS N/	ROM 2	/2 TO	3/2I	R. T	HE A	AND (C SCI	REENS PA	SS Al	ND B	AS
A CIL ITEM.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #: SUBSYSTEM:	3/08/88 LS-5066 06-1-1631-1		NASA DATA: BASELINE NEW							
	5066	r ISOLATION VALV	E (1)							
LEAD ANALYST:	R.E. DUFFY									
ASSESSMENT:										
CRITICAL FLIGH		UNDANCY SCREENS		CIL ITEM						
HDW/FU		В	С	TIEM						
NASA [2 /1R IOA [2 /1R] [P]] [P]	[P] [[F] [P] P]	[X] * [X]						
COMPARE [/] []	[N]]	[]						
RECOMMENDATIONS: (If different from NASA)										
[/] []	[] [[] DD/DELETE)						
* CIL RETENTION	RATIONALE: ()		ADEQUATE	r 1						
DEMADUC.		IN	ADEQUATE	נ ז						
ISSUE RESOLUTION FROM FURTHER REV	REMARKS: ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA CONCLUDES THAT THE CREW CAN DETECT									
THE VALVE FAIL TO	O CLOSE FROM	THE POSITION T	ALKBACK;]	THEREFORE,						

SCREEN B PASSES WHICH AGREES WITH THE NASA EVALUATION.

ASSESSME ASSESSME NASA FME	NT NT A	DA II ‡:	ATE:	3/08/88 NASA DATA: LS-5067 BASELINE [] 05-6VC-2026-1 NEW [X]]									
	M:			LIF:	LIFE SUPPORT																
LEAD ANA	LYS	3T :	:	R.E	. D	UI	FFY	<u> </u>													
ASSESSME	NT:	:																			
	CR:		ICAL:				RE	EDU	IND	ANC	CY	SCI	REEN	S				CIL ITEM			
	I		LIGH W/FU				A				В			С						•	
NASA IOA	[2	/1R /1R]		[P P]]	P F]	[P P]]	X]	*
COMPARE	[N	/]		[]		[N]	[]			[N]	
RECOMMENDATIONS: (If different from NASA)																					
	[/]		[]		[]	[]	((AD			ELI	ETE)
* CIL RE		NT:	ION	RATI	ONA	AL	Е:	()	Ιf	ap]	pl.	ical	ble) I	A NA	DE(QUATE QUATE	<u> </u>	[]	
REMARKS: DUE TO LIMITED NASA FMEA DATA (ONLY A CRITICALITY SUMMARY WAS AVAILABLE FOR THE POST 51-L NASA ANALYSIS), NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. IOA COMMENT: THE LOSS OF THE VACUUM VENT ISOLATION VALVE CONTROLS WAS NOT CONSIDERED BY THE IOA TO BE AN IMMEDIATE LOSS OF MISSION, AS IT WAS FOR THE NASA FMEA, BUT A NON-MISSION ESSENTIAL EFFECT FOR THE FIRST FAILURE IN THE IOA ANALYSIS. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA CONCLUDES THAT FAILURE OF THE CONTROL SWITCH PLUS FAILURE OF THE AIRLOCK DEPRESS VALVE TO CLOSE WHILE EVA IS UNDERWAY WOULD BE CATASTROPHIC. ALSO, THE SCREEN B PASSES BECAUSE THE POSITION TALKBACK PROVIDES A FAILURE DETECTION CAPABILITY. THEREFORE, THE IOA CONCURS WITH THE NASA EVALUATION OF THIS FAILURE MODE.																					
EVALUAT:	ГОИ	0	F TH	IS F	AI	LU	RE	M	ODE	•											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5068 05-6VC-2026-1	N.	NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM: MDAC ID:											
LEAD ANALYST:	R.E. DUFFY										
ASSESSMENT:											
CRITICALI FLIGHT	TY REDUND	ANCY SCREENS	CIL I TEM								
	IC A	В С									
NASA [2 /1R IOA [3 /2R] [P]] [P]	[P] [P [P] [X] *								
COMPARE [N /N] []	[] [] [N]								
RECOMMENDATIONS:	(If differen	t from NASA)									
[/] []	[] [] [] (ADD/DELETE)								
* CIL RETENTION R REMARKS:	·	A) INA)	DEQUATE [] DEQUATE []								
DUE TO LIMITED NA AVAILABLE FOR THE OF THIS ITEM WAS IOA COMMENT: THE	POST 51-L NAS.	A ANALYSIS), I	NO DETAIL ASSESSMENT								
CONTROLS WAS NOT	CONSIDERED BY S	THE IOA TO BE FMEA, BUT A 1	AN IMMEDIATE LOSS OF NON-MISSION ESSENTIAL								
ISSUE RESOLUTION: FROM FURTHER REVI CONTROL SWITCH PL	WITHDRAW ISSI EW, THE IOA COL US FAILURE OF '	UE AND LIST NA NCLUDES THAT I THE AIRLOCK DI	ASA CRITICALITY. FAILURE OF THE EPRESS VALVE CAN								
RESULT IN THE LOS AIRLOCK. THIS CA AN EVA IS UNDERWA BEING PERFORMED.	N HAVE CATASTRO Y OR WHETHER I	OPHIC EFFECTS I PREVENTS A (DEPENDING ON WHETHER CONTINGENCY EVA FROM								

EVALUATION OF THIS FAILURE MODE AND THE INCLUSION AS A CIL ITEM.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 3/08/88 LS-5068A 05-6VC-20	026-2	NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPE	FE SUPPORT								
LEAD ANALYST:	R.E. DUFI	FY								
ASSESSMENT:										
FLIG		REDUNDANCY SCRI A B	eens C	CIL ITEM						
NASA [2 /1 IOA [3 /2	R] []	P] [P] P] [P]	[P] [P]	[X] *						
COMPARE [N /N] [] []	[]	[N]						
RECOMMENDATIONS	·			[]						
ι /	jį] []	r ,	ADD/DELETE)						
* CIL RETENTION	RATIONALE	: (If applicab	le) ADEQUATE INADEQUATE							
AVAILABLE FOR T	HE POST 51	-L NASA ANALYS	RITICALITY S IS), NO DETA	SUMMARY WAS ALL ASSESSMENT						
DUE TO LIMITED NASA FMEA DATA (ONLY A CRITICALITY SUMMARY WAS AVAILABLE FOR THE POST 51-L NASA ANALYSIS), NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. IOA COMMENT: THE LOSS OF THE VACUUM VENT ISOLATION VALVE CONTROLS WAS NOT CONSIDERED BY THE IOA TO BE AN IMMEDIATE LOSS OF MISSION, AS IT WAS FOR THE NASA FMEA, BUT A NON-MISSION ESSENTIAL EFFECT FOR THE FIRST FAILURE IN THE IOA ANALYSIS. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA CONCLUDES THAT FAILURE OF THE CONTROL SWITCH PLUS FAILURE OF THE AIRLOCK DEPRESS VALVE CAN RESULT IN THE LOSS OF CAPABILITY TO VENT OR PRESSURIZE THE AIRLOCK. THIS CAN HAVE CATASTROPHIC EFFECTS DEPENDING ON WHETHER AN EVA IS UNDERWAY OR WHETHER IT PREVENTS A CONTINGENCY EVA FROM BEING PERFORMED. THEREFORE, THE IOA CONCURS WITH THE NASA										
EVALUATION OF T	HIS FAILUR	E MODE AND THE	INCLUSION A	AS A CIL ITEM.						

ASSESSMENT DATE: 3/08/88 NASA DATA: ASSESSMENT ID: LS-5069 BASELINE [NASA FMEA #: 05-6VC-2027-1 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 5069 ITEM: VACUUM VENT ISOL. VLV. BUS SELECT SWITCH (1) LEAD ANALYST: R.E. DUFFY ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC Α В С NASA [2 /1R] [P] [NA] [P]
IOA [3 /1R] [P] [F] [P] [X] * [X]COMPARE [N /] [] [N] [] RECOMMENDATIONS: (If different from NASA) /] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE [**REMARKS:** DUE TO LIMITED NASA FMEA DATA (ONLY A CRITICALITY SUMMARY WAS AVAILABLE FOR THE POST 51-L NASA ANALYSIS), NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. IOA COMMENT: THE LOSS OF THE VACUUM VENT ISOLATION VALVE EFFECT FOR THE FIRST FAILURE IN THE IOA ANALYSIS.

CONTROLS WAS NOT CONSIDERED BY THE IOA TO BE AN IMMEDIATE LOSS OF MISSION, AS IT WAS FOR THE NASA FMEA, BUT A NON-MISSION ESSENTIAL EFFECT FOR THE FIRST FAILURE IN THE IOA ANALYSIS.
ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY.
FROM FURTHER REVIEW, THE IOA CONCLUDES THAT FAILURE OF THE BUS SELECT SWITCH PLUS FAILURE OF THE AIRLOCK DEPRESS VALVE CAN RESULT IN THE LOSS OF CAPABILITY TO VENT OR PRESSURIZE THE AIRLOCK. THIS CAN HAVE CATASTROPHIC EFFECTS DEPENDING ON WHETHER AN EVA IS UNDERWAY OR WHETHER IT PREVENTS A CONTINGENCY EVA FROM BEING PERFORMED. THEREFORE, THE IOA CONCURS WITH THE NASA

EVALUATION OF THIS FAILURE AND THE INCLUSION AS A CIL ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5081A 05-6VC-20	44-2	NA B	SA DATA: ASELINE NEW	[X]						
SUBSYSTEM: MDAC ID:	LIFE SUPP										
LEAD ANALYST: R.E. DUFFY											
ASSESSMENT:											
CRITICAL FLIGH	ITY R	EDUNDANCY	SCREENS		CIL						
HDW/FU	NC A		С								
NASA [3 /1R IOA [3 /3] [F	'] [F] [P]	[X] *						
COMPARE [/N] [N	, i] [N]	[N]						
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)								
[/] [] [] [] (AD	[] DD/DELETE)						
* CIL RETENTION	RATIONALE:	(If appl:	icable) AI INAI	EQUATE	[]						
ADEQUATE [] INADEQUATE [] REMARKS: THE INTEGRATED SCHEMATIC RESISTOR VALUES ARE IN ERROR. THE VALUE SHOULD BE 1.2K OHM, INSTEAD OF THE 5.1K OHM SHOWN FOR THE SCHEMATIC. DUE TO LIMITED NASA FMEA DATA (ONLY A CRITICALITY SUMMARY WAS AVAILABLE FOR THE POST 51-L NASA ANALYSIS), NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM REVIEW OF THE FMEA, THE IOA AGREES WITH THE NASA/RI EVALUATION. END-TO-END SHORTS OF BOTH RESISTORS RESULT IN A LOSS OF CONTROL OVER THE VACUUM VENT ISOLATION VALVE. REGARDLESS OF THE POSITION IN WHICH THE VALVE STICKS (OPEN OR CLOSED) A SIMILAR FAILURE OF THE DEPRESS VALVE WOULD RESULT IN THE LOSS OF CAPABILITY TO PERFORM A CONTINGENCY EVA.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		₹ 2012 - 1		NASA DATA: BASELINE NEW						
MDAC ID:	5085	LIFE SUPPORT 5085 EMU WATER SUPPLY STATUS INDICATOR (2)								
LEAD ANALYST:	R. DUFFY	R. DUFFY								
ASSESSMENT:										
CRITICAL FLIGH	T		CY SCREENS		CIL ITEM					
HDW/FU	NC	A	В	С						
NASA [3 /1R IOA [2 /2] [P] [NA] [P]	[x] *					
COMPARE [N /N] [и] [n] [N]	[N]					
RECOMMENDATIONS:	(If di	ifferent f	from NASA)							
[/	[/] [] [] (ADD/DELETE)									
CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE [] REMARKS:										
SHORTS TO GROUND)										

WITH LINE SHORTED TO GROUND, AS THE SWITCH IS MADE, THE BREAKER WILL OPEN DUE TO HIGH DEMAND AND THE VALVE WILL NOT ACTUATE. EMU SUIT CAN NOT BE SERVICED, THUS LOSS OF MISSION. FURTHER ASSESSMENT CANNOT BE MADE DUE TO LACK OF NASA FMEA DATA. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW AND TO BE CONSISTENT WITH IOA ASSESSMENT # 5003 APPROACH, THE IOA CONCURS WITH THE NASA/RI 3/1R EVALUATION, PACKAGE OF SCREEN A AND C, AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5086X 05-6UA-2013-1		NASA DATA: BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	LIFE SUPPORT 5086 EMU WASTE WAT	LIFE SUPPORT 5086 EMU WASTE WATER STATUS INDICATOR								
LEAD ANALYST:										
ASSESSMENT:										
CRITICAL FLIGH	ITY REDUN	IDANCY SCREENS	5	CIL ITEM						
	NC A	В	С							
NASA [3 /1R IOA [2 /2] [P]] []] [AN]] []	P]	[] * [X]						
COMPARE [N /N] [N]	[N] [N]	[N]						
RECOMMENDATIONS:	(If differe	ent from NASA)							
[3 /2R] [P]	[NA] [P] (AI	[] DD/DELETE)						
* CIL RETENTION	RATIONALE: (If	f applicable)	ADEQUATE NADEQUATE	[]						
(SHORTS TO GROUN WITH THE LINE SH BREAKER WILL OPE ACTUATE. EMU SU FURTHER ASSESSME ISSUE RESOLUTION FROM FURTHER AND	REMARKS: (SHORTS TO GROUND) WITH THE LINE SHORTED TO GROUND, AS THE SWITCH IS MADE, THE BREAKER WILL OPEN DUE TO HIGH DEMAND, AND THE VALVE WILL NOT ACTUATE. EMU SUIT CANNOT BE SERVICED, THUS LOSS OF MISSION. FURTHER ASSESSMENT CANNOT BE MADE DUE TO LACK IF NASA FMEA DATA. ISSUE RESOLUTION: INCORPORATE REVISED CRITICALITY. FROM FURTHER AND TO BE CONSISTENT WITH IOA ASSESSMENT # 5011 APPROACH, THE IOA ACKNOWLEDGES THAT THE FAILURE SHOULD BE MISSION									

ASSESSME ASSESSME NASA FME	NT	II		LS	5-508	87	-	-2				NASA DATA: BASELINE [] NEW [X]							
SUBSYSTE MDAC ID: ITEM:	LIFE SUPPORT 5087 EMU WATER SUPPLY LINES					& :	FI	TTIN	GS										
LEAD ANALYST: R. DUFFY																			
ASSESSME	ASSESSMENT:																		
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM																			
	F	IDV	/FU	NC			A			В			С						
NASA IOA	[3 2	/1R /2]		[P]	[[P]]	P]		[X] *	
COMPARE	[N	/N]		[N]	[N]	C	N]		[N]	
RECOMMEN	DAI	'IC	ons:		(If	đ:	ifi	fere	nt i	fro	om N	ASA)						
[/] [] [] (ADD/DELETE)																			
* CIL RE	* CIL RETENTION RATIONALE: (If applicable)																		
	ADEQUATE []																		
•	INADEQUATE [] REMARKS: (RESTRICTED FLOW)																		

FUNCTIONAL LOSS LEADS TO INABILITY TO SERVICE THE EMU'S. HOWEVER, THE AIRLOCK IS NOT AN EMERGENCY ITEM. ASSUMING AN EMERGENCY EVA LOSS DUE TO THIS FAILURE IS NOT CORRECT BECAUSE THE LATTER IS A SECOND FAILURE WHICH VIOLATES SPECIFICATION NSTS 22206.

ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW AND TO BE CONSISTENT WITH IOA ASSESSMENT # 5003 APPROACH, THE IOA CONCURS WITH THE NASA/RI 3/1R EVALUATION, PASSAGE OF ALL SCREENS, AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5088X 06-1-1402-1	NASA DAT BASELIN NE								
	LIFE SUPPORT	LIFE SUPPORT								
LEAD ANALYST:	R. DUFFY									
ASSESSMENT:										
FLIGH			CIL ITEM							
NASA [2 /1R IOA [2 /2	[P]	[NA] [P] [] []	[X] * [X]							
COMPARE [/N] [N]	[N] [N]	[]							
RECOMMENDATIONS:	(If differe	ent from NASA)								
[/] []	[] []	[] (ADD/DELETE)							
* CIL RETENTION	RATIONALE: (I	f applicable) ADEQUATI INADEQUATI	E [] E []							
ADEQUATE []										

ASSESSMENT DATE: 3/08/88 NASA DATA: BASELINE [ASSESSMENT ID: LS-5089X NEW (X) NASA FMEA #: 06-1-1402-2 SUBSYSTEM: LIFE SUPPORT MDAC ID: 5089 ITEM: LCG SUPPLY & RETURN, LINES & FITTINGS LEAD ANALYST: R. DUFFY **ASSESSMENT:** CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC Α В C NASA [3 /2R] [P] [P] [P] IOA [2 /2] [] [] į x j COMPARE [N/N] [N] [N] ſNl RECOMMENDATIONS: (If different from NASA) [/] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEOUATE INADEQUATE [REMARKS: (RESTRICTED FLOW) LOSS OF MISSION DUE TO INABILITY TO PERFORM FUNCTION. ASSUMING A TWO MAN CREW (BASELINE MISSION), RECOVERY CANNOT BE PERFORMED SINCE EACH SCU CONNECTION HAS NO REDUNDANCY AND SHARING ONE SCU WOULD BE CREW ACTION WHICH IS AGAINST SPEC NSTS 22206. THE AIRLOCK IS NOT AN EMERGENCY ITEM. FOR FURTHER CLARIFICATION SEE ASSESSMENT #5003. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW, THE IOA CONCLUDES THE WORST CASE SCENARIO FOR RESTRICTED FLOW THROUGH THE LCVG LINES & FITTINGS WOULD BE INADEQUATE COOLING TO A STANDBY CREWMAN CONNECTED TO AN SCU DURING A SCHEDULED OR UNSCHEDULED EVA. THEREFORE, THE IOA CONCURS WITH THE NASA/RI EVALUATION, PASSAGE OF ALL SCREENS, AND EXCLUSION OF THIS FAILURE MODE AS A CIL ITEM. EVEN THOUGH MISSION CAPABILITY IS LOST, IT WOULD STILL BE POSSIBLE FOR ONE

CREWMAN TO PERFORM A CONTINGENCY EVA.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5090X 06-1-120	9-2	NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM:	LIFE SUP	LIFE SUPPORT						
LEAD ANALYST:	R. DUFFY							
ASSESSMENT:								
CRITICAL FLIGH	ITY T	REDUNDANG	Y SCREE	INS	CIL ITEM			
HDW/FU	NC		В	С				
NASA [3 /2R IOA [2 /2] [P] [NA]	[P] []	[x] *			
COMPARE [N /N] [N] [N]	[N]	[N]			
RECOMMENDATIONS:	(If di	ifferent	from NAS	SA)				
[/] [] []	[] (A	[] DD/DELETE)			
* CIL RETENTION	RATIONALE	E: (If ap	plicable	e) ADEQUATE INADEQUATE	[]			
REMARKS: (RESTRICTED FLOW ASSUMING A TWO M THERE IS NO REDU ISSUE RESOLUTION FROM FURTHER REV	IAN CREW, INDANCY FO I: WITHDI	OR EACH C RAW ISSUE IOA CONCI	REWMAN. AND LISUDES TH	ST NASA CRIT	CICALITY.			
BE WORST CASE SO DOES PROVIDE REI THEREFORE, THE I EXCLUSION OF THI	ENARIO BU DUNDANCY I TOA CONCUI	UT THAT T FOR THE S RS WITH T	HE SECOI TANDBY (HE NASA,	ND SCU IN TH CREWMAN DURI /RI EVALUATI	ING AN EVA.			

ASSESSMENT DATE: 3/08/88 NASA DATA: ASSESSMENT ID: LS-5091X BASELINE [NASA FMEA #: 06-1-1205-1 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 5091 ITEM: O2 QUICK COUPLINGS (NOT USED FOR SCU) AND CAP LEAD ANALYST: R. DUFFY ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC Α В С [**F**] NASA [3 /1R] [NA] [P] IOA [3 /3] 1 [] 1 COMPARE [/N] [N] [N] [N]RECOMMENDATIONS: (If different from NASA) /] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE REMARKS: (INABILITY TO CLOSE, INTERNAL LEAKAGE). THE HARDWARE ITEMS TO PREVENT LEAKS ARE THE VALVE, COUPLING AND CAP. FUNCTIONALLY THIS FAILURE IS NOT IMPORTANT SINCE BY DEFINITION THIS LEAK IS "INTERNAL". THUS THE CREW IS NOT EVEN AWARE OF THIS FAILURE. THAT IS, BY DEFINITION "INTERNAL LEAK" MEANS NOT ALL THE SEALS CAN FAIL (THIS WOULD BE EXTERNAL LEAKAGE). INABILITY TO CLOSE IS MOOT SINCE THE CAP WOULD NEVER BE TAKEN OFF DURING FLIGHT (CREW USES THE SCU). ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICLAITY. FROM FURTHER REVIEW THE IOA CONCURS THAT IF ALL REDUNDANT 02 SHUTOFF VALVES EXPERIENCED INTERNAL LEAKS, AND EITHER THE SCU COUPLINGS OR CAPS LEAKED, THE 02 CONCENTATION COULD BECOME EXCESSIVE, AN EXPLOSION OR FIRE COULD CASUE LOSS OF CREW AND VEHICLE. THEREFORE, THE IOA AGREES THE NASA/RI EVALUATION IS VALID AND THE HARDWARE FAILURE MODE SHOULD BE INCLUDED AS A CIL ITEM.

NASA DATA: ASSESSMENT DATE: 3/08/88 BASELINE [ASSESSMENT ID: LS-5094X NEW [X] NASA FMEA #: 06-1-1124-3 LIFE SUPPORT SUBSYSTEM: 5094 MDAC ID: ITEM: AIRLOCK TO AMBIENT CAP LEAD ANALYST: R. DUFFY ASSESSMENT: REDUNDANCY SCREENS CIL CRITICALITY ITEM FLIGHT В HDW/FUNC Α [F] [P] NASA [2 /1R] IOA [/NA] COMPARE [N /N] [N] [N] [N]RECOMMENDATIONS: (If different from NASA)] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE REMARKS: (EXTERNAL LEAK) THIS FAILURE IS NOT REALISTIC SINCE THIS VALVE WOULD NOT BE USED DURING A NORMAL MISSION. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICLAITY. FROM FURTHER REVIEW THE IOA CONCLUDES THAT IF THE OUTER HATCH EQUALIZATION VALVES AND CAPS LEAK, IT MAY NOT BE POSSIBLE TO REPRESSURIZE THE AIRLOCK AFTER AN EVA. THIS COULD CAUSE LOSS OF CREW. THE FAILURE COULD ALSO CAUSE THE LOSS OF CAPABILITY TO PERFORM A CONTINGENCY EVA. THEREFORE, THE IOA AGREES WITH THE

NASA/RI EVALUATION OF THIS FAILURE MODE.

ASSESSMI ASSESSMI NASA FMI	D: 11	AT D:	E:	3/ LS 06	3/08/88 LS-5095X 06-1-1631-3 LIFE SUPPORT				NASA DATA: BASELINE [] NEW [X]									
SUBSYSTEMDAC ID					50	LIFE SUPPORT 5095 VACUUM VENT ISOLATION VALVE (1)												
LEAD AN	:		R.	. DU	FFY													
ASSESSMI	ENT	:																
		F	LI	GH'	r						REENS				IL Pem			
	J	HDI	N/	FUI	NC		A		В		С							
NASA IOA	[1 2	/	1 2]		[]	[]	[]		[X X]	*	
COMPARE	[N	/	N]		[]	[]	[]		(]		
RECOMME	NDA!	ri	NC	s:		(If	dif	fere	ent fr	om 1	NASA)							
	[/]		[]	[]	[]	(AI		/DE		TE))
* CIL RI	ETEI	NT:	10	N I	RAT	'ION	ALE:	(If	f appl	icak	· A		ATE ATE]		
REMARKS: (EXTERNAL LEAK CAN THE ONLY UNREALISTHE O-RITHAN CONCORRECT OF MISSIES FROM FURSHOULD IN ISOLATIC PRESSURE)	AL INOCUMENTAL ING THIS ING THIS ING ING ING ING ING ING ING ING ING ING	THIC () MMM E I DU ER CON VAI	BE ER CR LA LA LA FA UE FI R IV	TI PI CK LES ILU ON: EVI IDI	HRC LAC HE OF URE URE IEW ERE	DUGH CES (O-RI FLOW. FLOW. C LEA N UN WITH HITH CD A HE LE	THE COUL ING NO HADS NO HDRA HE CRE EAKA	PAC D BE WHICE T BI OWEV TO T TROI W IS OA C DIBI GE F	CKING THE THE SEA GENO VER, A THE AS LLABLE SSUE A CONCLU LE EVE	IN TCASI LS TUGH SSUM SIGN LEA ND I DES NT. ATH	THE VAING ITS THE VAING COMMENT AK. LIST NATHER FOR SOULD	LVES SELF LVE AIN REW OF A ASA EXTE THE BE	PENI WHIC TO TH THE (INAB) N IMN CRITI RNAL VACUU FROM	ETF CH HE CAF (LI MEI LE JM TH	RATISION BUILDING BUI	IO LK T TE TY AG	HEA AST O LC	AD. TER OSS
PER THE OF CABIN	NAS	SA/	/R	I	EVA	LUAT	rion	. A	N EXC	ESSI	VE LE	AK C	OULD	CA	US	E		

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5096X 06-1-1630-1	NAS BA	SA DATA: ASELINE [] NEW [X]						
	LIFE SUPPORT								
LEAD ANALYST:	R. DUFFY								
ASSESSMENT:									
CRITICAL FLIGH	ITY REDUNDA	NCY SCREENS	CIL ITEM						
	NC A	в с							
NASA [1 /1 IOA [2 /1R] []]]	[] [[P] [P	[X] * [X]						
COMPARE [N /N] [N]	[N] [N] []						
RECOMMENDATIONS:	(If different	from NASA)							
[/] []	[] [] [] (ADD/DELETE)						
* CIL RETENTION	RATIONALE: (If a	applicable) AD TNAD	EQUATE [] EQUATE []						
REMARKS: (EXTERNAL LEAKAGE) THE LEAK CAN BE CONTROLLED WITH THE VACUUM VENT ISOLATION VALVE. LOSS OF FUNCTION CREATES A LEAK IN THE CABIN WITH POTENTIAL LOSS OF LIFE/VEHICLE. EVEN THOUGH THE VACUUM ISOLATION VALVE HAS A DRAIN ORIFICE, THERE IS A POTENTIAL BUILD UP OF H2 IF THE LEAK IS DOWNSTREAM OF THE INTERFACE, WHICH ALSO HAS THE POTENTIAL FOR LOSS OF LIFE/VEHICLE IF H2 IGNITES. THUS, MISSION IS TERMINATED ON FIRST FAILURE. ISSUE RESOLUTION: WITHDRAW ISSUE. FROM FURTHER REVIEW, THE IOA CONCLUDES THE WORST CASE EFFECT OF THIS FAILURE MODE COULD BE LOSS OF CREW/VEHICLE. THEREFORE, THE NASA/RI EVALUATION IS APPROPRIATE.									

ASSESSMENT DATE: 3/08/88 NASA DATA: ASSESSMENT ID: LS-5097X BASELINE [NASA FMEA #: 06-1-1630-2 NEW [X] SUBSYSTEM: LIFE SUPPORT MDAC ID: 5097 ITEM: LINES & FITTINGS, 2 INCH DEPRESSURIZATION LEAD ANALYST: R. DUFFY ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC Α В C [P] [P] [P] NASA [2 /1R] [X] * /NA] [COMPARE [N/N] [N] [N] [N]RECOMMENDATIONS: (If different from NASA) /] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE **REMARKS:** (RESTRICTED FLOW). NO CRITICALITY HAS BEEN ASSIGNED BECAUSE THIS FAILURE IS NOT CREDIBLE. THE LINE IS 2 INCHES IN DIAMETER AND WOULD REQUIRE LARGE SIZE DEBRIS FOR EFFECTIVE PLUGGING. ON THE OTHER HAND, HYDROGEN IS A VERY LIGHT MOLECULE AND CAN PERMEATE THROUGH ANY SIZE CRACK. IF IOA HAD TO ASSIGN A CRITICALITY, IT WOULD BE A 2/2 (LOSS OF MISSION) SINCE THE AIRLOCK WOULD BE UNABLE TO DEPRESSURIZE. ISSUE RESOLUTION: WITHDRAW ISSUE AND LIST NASA CRITICALITY. FROM FURTHER REVIEW THE IOA CONCLUDES THAT IF FLOW THROUGH THE TWO - INCH DEPRESSURIZATION LINES AND FITTINGS WAS RESTRICTED. THE OUTER HATCH EQUALIZATION VALVES COULD BE USED TO DEPRESSURIZE AIRLOCK. SINCE THIS CAPABILITY EXISTS, THE IOA WOULD ASSIGN A 3/1R CRITICALITY TO THIS FAILURE MODE FOR THE WORST CASE SCENARIO OF LOSS OF ALL FUNCTIONAL REDUNDANY WHICH PREVENTS BEING ABLE TO PERFORM A CONTINGENCY EVA, BUT THE MORE CONSERVATIVE NASA APPROACH IS ACCEPTED.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	3/08/88 LS-5098 06-1-11	X 28 - 1		NASA DATA BASELINE NEW	: [] []					
SUBSYSTEM: MDAC ID: ITEM:	LIFE SU									
LEAD ANALYST: K. BARICKMAN										
ASSESSMENT:	ASSESSMENT:									
CRITICAL FLIGH		REDUNDANG	CY SCREENS	3	CIL ITEM					
HDW/FU	NC	A	В	С						
NASA [3 /1R IOA [2 /2] [P] [P] [P]	[x] *					
COMPARE [N /N] [N] [n] [N]	[N]					
RECOMMENDATIONS:	(If d	ifferent :	from NASA))						
[/] [] [] [[] DD/DELETE)					
* CIL RETENTION	RATIONAL	E: (If app	•	ADEQUATE NADEQUATE	[]					
REMARKS:										
IOA/NASA FM: INA IOA COMMENT: FUN			OSS OF MIS	SSTON AND	THERE IS NO					
REDUNDANCY AVAIL	ABLE.									
ISSUE RESOLUTION FROM FURTHER REV										
REVIEW IS INABIL	ITY TO M	ATE RATHE	R THAN INA	ABILITY TO	REMOVE. IN					
ADDITION TO THE PROVIDE REDUNDAN										
NASA/RI 3/1R EVA										
THIS FAILURE MOD				-						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-10			NASA DATA BASELINE NEW	-					
SUBSYSTEM: MDAC ID: ITEM:	ATCS 1004 INLET F									
LEAD ANALYST:	s.K. SI	S.K. SINCLAIR								
ASSESSMENT:										
	LITY	REDUNDA	ANCY SCRE	ENS	CIL ITEM					
FLIG HDW/F	INC	A	В	С	IIEM					
NASA [3 /1] IOA [2 /1]	?] [?] [F] P]	[F] [P]	[P] [P]	[X] * [X]					
COMPARE [N /] [N]	[N]	[]	[]					
RECOMMENDATIONS	: (If d	ifferent	from NA	SA)						
[/] []	[]	[] (A	[] DD/DELETE)					
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[]					
REMARKS: THE ISSUE WAS D										

THE ISSUE WAS DISCUSSED WITH THE SUBSYSTEM MANAGER, HANK ROTTER, ON 5/5/88. HANK'S DATA INDICATES THAT A RUPTURE OF THIS FILTER WILL RESULT IN THE FILTER ELEMENTS ACCUMULATING ON THE FILTER OF THE WORKING PUMP ONLY - LEAVING THE SECOND PUMP CLEAR AND OPERATIONAL. THIS WILL MAKE THE CRITICALITY 3/1R. IOA AGREES WITH THIS ANALYSIS AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/06/88 ATCS-100 06-3-011			NASA DATA: BASELINE NEW						
SUBSYSTEM: MDAC ID: ITEM:	ATCS 1006 SELF-SEA	ALING DI	SCONNECT							
LEAD ANALYST:	s.K. SI	NCLAIR								
ASSESSMENT:	ASSESSMENT:									
CRITICAL		REDUNDA	NCY SCRE	ens	CIL ITEM					
FLIGH HDW/FU		A	В	С						
NASA [2 /1F IOA [3 /2F	t] [P] F]	[P] [F]	[P] [P]	[X] * [X]					
COMPARE [N /N] [N]	[N]	[]	[]					
RECOMMENDATIONS	(If d	ifferent	from NA	SA)						
(/] [. 1	[]	[] (A	[.DD/DELETE)					
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []										
REMARKS: NASA COMBINES ALL DISCONNECTS ASSOCIATED WITH THE PUMP PACKAGE INTO ONE FMEA EVALUATED AT THE WORST CASE CRITICALITY. FOR										

BETTER CLARITY, EACH DISCONNECT SHOULD BE EVALUATED SEPARATELY. HOWEVER, SINCE THE NASA FMEA DOES CARRY THE WORST CASE CRITICALITY, IOA WILL AGREE WITH THE FMEA AND WITHDRAW THE ISSUE.

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	1/05/88 ATCS-10 06-3-03	25		NASA DATA BASELINE NEV	
SUBSYSTEM: MDAC ID: ITEM:		ATCS 1025 HYDRAUL	IC HEAT	EXCHANGE	R	
LEAD ANALYS	T:	s.K. si	NCLAIR			
ASSESSMENT:						
	TICALI FLIGHT		REDUND.	ANCY SCRE	ENS C	CIL ITEM
	ŕ			_	Č	
NASA [IOA [1 /1 2 /1R] [P]	[] [P]	[] [P]	[X] * [X]
COMPARE [N /N] [N]	[N]	[N]	[]
RECOMMENDAT	IONS:	(If d	ifferen	t from NAS	SA)	
ι	2 /1R] [Pj	[P]		[] DD/DELETE)
* CIL RETEN	TION R	ATIONALI	E: (If a	applicable	ADEQUATE	[]
	VALUAT ITH IO	ION OF T	THE FMEA JE IS CI	A CRITICAI LOSED.	LITY HAS RES	ULTED IN

ASSESSME ASSESSME NASA FME	ΝТ	ID		1/0 ATC	6/88 S-10	27							SA D ASEL		[]		
SUBSYSTE MDAC ID: ITEM:	M:			ATC 102 HYI		ıc	HEA	AT EX	CH	IANC	GERS								
LEAD ANA	LYS	T:		s.E	k. si	NC	LAIF	₹											
ASSESSME	NT:																		
	CRI		CAL			R	EDU	DANC	Y:	SCI	REENS	5				L LEM	1		
	H		V/FUI			A			В			С					-		
NASA IOA	[2	/ /1R]	[P]	[P]	[P]		[x]	*	
COMPARE	[N	/N]	[N]	[N]	[N]		[N]		
RECOMMEN	IDA'	rio	ons:		(If d	lif	fer	ent 1	fro	om 1	NASA))							
	E		/]	(•]	(]	[]	(Al] OD,	/DI] ELI	ETE)
* CIL RE		T.	ION	RAT:	IONAI	LE:	(I:	f app	,1	ica			DEQU <i>I</i> DEQU <i>I</i>]		
UPON RE-	-EV	ALI	UATI 01-3	ON,	IOA V AOI	FE VII	ELS HDR	THAT AWS !	r :	THI E I	S FA	IL	JRE I	S A	P.	AR'	r (ϽF	NASA

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/06/88 ATCS-1035 06-3-0304	[x]								
SUBSYSTEM: MDAC ID: ITEM:	ATCS 1035 GSE HEAT I	exchanger	!							
LEAD ANALYST:	s.k. sinci	S.K. SINCLAIR								
ASSESSMENT:										
CRITICAL: FLIGHT		EDUNDANCY	SCRE	ENS		CIL				
HDW/FUI		E	3	С	•	ITEM				
NASA [2 /2 IOA [3 /3] [] []	[]		[X] *				
COMPARE [N /N] [] []	[]		[N]				
RECOMMENDATIONS:	(If diff	ferent fr	om NAS	SA)						
[/] [] []	[]	(ADI	[] D/DELETI	歪)			
* CIL RETENTION I	RATIONALE:	(If appl	icable	ADEQUA INADEQUA		[]				
REMARKS: NASA UTILIZED A I REDUNDANCY DURING THIS CONSERVATIVE	THEIR ANA	ALYSIS OF	THIS	TION OF F	TUNCT:	•	√IT H			

ASSESSME ASSESSME NASA FME	ΝТ	II			06/8 CS-1		37									SA DAT BASELIN NE		•]	
SUBSYSTE MDAC ID:	M:			10	ATCS 1037 02 RESTRICTOR																
LEAD ANA	LYS	ST	•	s.	к. 9	SI	ICI	LAIR	2												
ASSESSME	NT:	:																			
CRITICALITY REDUNDANCY SCREENS FLIGHT								CIL ITEM													
	1		W/FU				A				В				С						
NASA IOA	[2	/ /1R]		[P]		[[P]		[P]	ı	[X]	*
COMPARE	[N	/N]		[N]		[N]		[N]		[N]	
RECOMMEN	DA'	TI	ons:		(If	d	if:	fere	ent	1	fro	om	NAS	Α)						
	[/	3		[]		[]		[] ((AD	[D/	'DI] ELI	ETE)
* CIL RE	TE	ΝТ	ION	RAI	CION	AL	E:	(II	f a	pj	21:	ica	able	2)	7 . 1	DEQUATE	יק	r		1	
														I	IAN	DEQUATE	Ē	[]	
REMARKS: NASA DEE SEPARATE AVAILABI	ME F	AΙ	LURE	S ((06-	3 –	02	50-1	1).		U.	109	N RE] —]	EX	LTANIMA	[ON	С	F		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		8		NASA DATA: BASELINE NEW	•
MDAC ID:	ATCS 1038 02 RESTR	ICTOR			
LEAD ANALYST:	s.k. sin	CLAIR			
ASSESSMENT:					
CRITICAL: FLIGHT	ITY :	REDUNDANC	CY SCREEN	1S	CIL ITEM
	NC .	A	В	С	IIEM
NASA [/ IOA [2 /1R] [P] [P]] P]	[] * [x]
COMPARE [N /N] [и] [и] [[N]	[N]
RECOMMENDATIONS:	(If di	fferent f	from NASA	7)	
[/] [] [] [[DD/DELETE)
* CIL RETENTION I	RATIONALE	: (If app	•		
			I	ADEQUATE NADEQUATE	
REMARKS: NASA DEEMED THIS SEPARATE FAILURES AVAILABLE DATA,	S (06-3-0)	250-1).	BLE FAII UPON RE-	LURE MODE RE	EQUIRING TWO

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/06/88 ATCS-104	3		NASA DATA: BASELINE NEW	[]
MDAC ID:	ATCS 1043 ARS INTE	RCHANGE	R HEAT EX	CHANGER	
LEAD ANALYST:	s.K. SIN	CLAIR			
ASSESSMENT:					
		REDUNDA	NCY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [/ IOA [2 /1R] [P]	[] [P]	[] [P]	[
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)	
[/] [1	[]	[] (A	[] DD/DELETE
* CIL RETENTION	RATIONAL	E: (If	applicable	e) ADEQUATE INADEQUATE	
REMARKS: THIS FMEA WAS CO NASA FMEA 06-1-0 MDAC WITHDRAWS T	505-1 WI	TH CRIT	N THEIR A 2/1R IS	SSESSMENT OF THE EQUIVALE	THE ARS,

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/06/88 ATCS-1049	5	1	NASA DATA BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	ATCS 1045 ARS INTER	RCHANGER :	HEAT EXCHA	MGER	
LEAD ANALYST:	s.k. sind	CLAIR			
ASSESSMENT:					
CRITICAL: FLIGHT		REDUNDANC	Y SCREENS		CIL ITEM
HDW/FU	NC A	A 1	В	:	IIEM
NASA [/ IOA [2 /1R] [] [F	·] [1	P] [P]	[] * [X]
COMPARE [N /N] [N	·] [1	и] [и]	[N]
RECOMMENDATIONS:	(If dif	ferent fi	com NASA)		
[/] [] [] [[] D/DELETE)
* CIL RETENTION F	RATIONALE:	(If app]	A	DEQUATE DEQUATE	[]
THIS FAILURE WAS ARS, NASA FMEA 06 WITHDRAWS THE ISS	5-1-0505-2	Y NASA DU IS THE E	RING THEI QUIVALENT	R ASSESSM FAILURE.	ENT OF THE MDAC

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/06/88 ATCS-105 06-3-022	53 23-2		NASA DATA: BASELINE NEW	
MDAC ID:	ATCS 1053 PAYLOAD	HEAT EX	CHANGER		
LEAD ANALYST:	s.K. SI	NCLAIR			
ASSESSMENT:					
CRITICAL: FLIGH		REDUNDA	NCY SCREE	NS	CIL ITEM
HDW/FU		A	В	С	
NASA [2 /2 IOA [2 /1R] [P]	[] [P]	[] [P]	[X] * [X]
COMPARE [/N] [N]	[N]	[N]	[]
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)	
[/] [1	[]	[]	[] .DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicable	e) ADEQUATE INADEQUATE	
REMARKS: THIS FAILURE WAS ROTTER, ON 5/5/8 CAPACITY EXISTS FOR A COMPLETELY	8. ANAL	YSIS HAS THER POP PAYLOAI	SHOWN THE RTION OF TO LOOP. T	HE LOOP TO	COMPENSATE WER THE

CRITICALITY TO 2/2. IOA AGREES WITH THIS ANALYSIS AND WITHDRAWS

THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/12/88 ATCS-200 06-3-050	03 02 - 3		NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID:	ATCS 2003 FLOW COI								
LEAD ANALYST:	s.k. sii	NCLAIR							
ASSESSMENT:									
CRITICALI FLIGHT		REDUNDA	ANCY SCR	EENS	CIL ITEM				
HDW/FUN		A	В	С	11211				
NASA [3 /2R IOA [3 /2R] [P]	[P] [P]	[P] [P]	[] *				
COMPARE [/	1 [1	[]	[]	[]				
RECOMMENDATIONS:	(If di	ifferent	from N	ASA)					
[2 /2] [1	[]		[A] ADD/DELETE)				
* CIL RETENTION R	RATIONALE	E: (If a	applicabl	le) ADEQUATE INADEQUATE					
REMARKS: DURING THE INITIA CRITICALITY OF TH ADDITIONAL DATA A THE LOWER CRITICA ISSUE.	IIS ITEM ND CLOSE	TO A HI ER EXAMI	GHER THAN	VEOUSLY CHAN AN REQUIRED HAVE CONVINC	GED THE VALUE.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-200	/13/88 NASA DATA: TCS-2007A BASELINE [] 6-3-0504-4 NEW [X						
SODE TO THE	ATCS 2007 BYPASS V	ALVE						
LEAD ANALYST:	s.K. SIN	CLAIR						
ASSESSMENT:								
CRITICAL	15	CIL						
FLIGH HDW/FU		A	В	С				
NASA [3 /2R IOA [3 /2R] [P] [P] [NA] P]	[P] [P]	[] *			
COMPARE [/] [] [N]	[]	[]			
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)				
[2 /2] [) []	[] (A	[A] DD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If a	pplicable) ADEQUATE INADEQUATE				
REMARKS: DURING THE INITE CRITICALITY OF TADDITIONAL DATA THE LOWER CRITIC	THIS ITEM	TO A HI	GUEK IUWN	VE CONVINCE	D IOA THAT			

ISSUE.

ASSESSM NASA FM	ENT	. 1	D	:	A	/13/88 TCS-2008A 6-3-0504-2											ASA BAS	SEL	INI				
SUBSYST MDAC ID ITEM:					2	TCS 008 YPAS	ss	VA	LV	E													
LEAD AN	ALY	SI	1:		s	.к.	sī	NC	LA:	IR													
ASSESSMI	ENT	:																					
	CR	ΙΤ	'I(CAL IGH	IT	Y		R	ED	JNDA	/No	CY	s	CREE	:N	s				C:	IL		
								A				В				С				ľ	ΓEI	M	
NASA IOA	[3	/	/1R /2R]		[P P]		[F P]		[P P]]	Х]	*
COMPARE	[/	'N]		[]		[N]		[]				N		
RECOMMEN	IDA'	ri.	ON	is:		(If	d :	ifi	fer	ent	: 1	rc	m	NAS	A))							
	[2	/	'1R]		[P]		[F]		[P]		(A	[DD/	A 'DF] ELF	ETE
* CIL RE	TEI	NT:	IC	N I	RAT	ION.	ALI	€:	(I	fa	pp	li	.Ca			ΑC	EQI	IAU	E	[]	
REMARKS: DURING T CRITICAL ADDITION THE LOWE ISSUE.	HE ITY AL	D?	JF YT	A A	IND	CL	EM OSF	TC R	A (EX	HI) AMT	GH Na	ER TT	I	RONE CHAN	OU R	SL	Y (CHA RED	NGI V	ED ALU	TH	_	HAT THI

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-2010	[x]		
000000	ATCS 2010 MOTOR (BYPASS V	VALVE)		
LEAD ANALYST:	S.K. SINCLAIR			
ASSESSMENT:				
CRITICAL: FLIGH	CIL ITEM			
:	NC A	В	С	
NASA [3 /1R IOA [2 /1R] [P]] [P]	[F] [[P] [P] P]	[X] * [X]
COMPARE [N /] []	[N] []	[]
RECOMMENDATIONS:	(If differen	t from NASA))	
[/] []	[] [] (AI	[] DD/DELETE)
* CIL RETENTION	RATIONALE: (If		ADEQUATE NADEQUATE	[]
REMARKS: DISCUSSION WITH REVEALED SUFFICE TO 3/1R. IOA AG WITHDRAWS THE IS	ENT LEVELS OF R REES WITH THE S	EDUNDANCY TO	D LOWER THI	E CRITICALITY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		1-1	NASA DATA: BASELINE NEW						
SUBSYSTEM: MDAC ID: ITEM:	ATCS 2017	ATCS							
LEAD ANALYST:	s.k. sinci	LAIR							
ASSESSMENT:									
CRITICAL: FLIGHT		EDUNDANCY SCREENS		CIL ITEM					
HDW/FUI		В	С	TIEM					
NASA [2 /1R IOA [3 /2R] [P] [P] [P] [] [NA] [P] P]	[X] *					
COMPARE [N /N] [] [N][1	[N]					
RECOMMENDATIONS:	(If diff	erent from NASA)							
[/] [] [] [[] D/DELETE)					
* CIL RETENTION B	RATIONALE:		1 D D O 11 1 M M						
DEW DYG			ADEQUATE ADEQUATE	[]					
REMARKS: NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THIS CONSERVATIVE APPROACH AND AGREES WITH THE ASSIGNED CRITICALITIES. MDAC									

WITHDRAWS THE ISSUE. (NEW FMEA NO. 05-6WC-1002-1 WITH CRIT.

2/2).

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-2028	[x]					
SUBSYSTEM: MDAC ID: ITEM:	ATCS 2028 SWITCH 2	9 (RADIATO	OR MANUAI	L SELECT)			
LEAD ANALYST:	s.K. SIN	CLAIR					
ASSESSMENT:							
CRITICAL: FLIGHT		REDUNDANC	Y SCREENS	S	CIL ITEM		
HDW/FU		A	В	С			
NASA [2 /1R IOA [3 /2R] [P] [P] [P] [NA] [P] P]	[X] * []		
COMPARE [N /N] [] [и][]	[N]		
RECOMMENDATIONS:	(If di	ifferent f	rom NASA)			
[/] [] [] [] (AI	[] DD/DELETE)		
* CIL RETENTION	RATIONALE	E: (If app		ADEQUATE NADEQUATE	[]		
REMARKS: NASA'S RE-EVALUATION OF THE CRITICALITY ASSIGNED TO THIS ITEM HAS REMOVED IT FROM THE CIL BY GIVING IT A NON-CIL RANKING. THEREFORE, THE ISSUE NO LONGER EXISTS. (NEW FMEA NO. 05-6WC- 1005-1 WITH CRIT 3/1R).							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/16/87 ATCS-3018 06-3-0311-1		NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	ATCS 3018 HI LOAD ANTI		DEVICE	
LEAD ANALYST:	S.K. SINCLAI	R		
ASSESSMENT:				
CRITICAL: FLIGHT		NDANCY SCRE	CENS	CIL
HDW/FUI		В	С	ITEM
NASA [2 /1R IOA [3 /3] [P]] []	[P] []	[P] []	[X] *
COMPARE [N /N] [N]	[N]	[N]	[N]
RECOMMENDATIONS:	(If differ	ent from NA	.SA)	
[/] []	[]	[] (A	[] ADD/DELETE)
* CIL RETENTION F	RATIONALE: (I	f applicabl	e) ADEQUATE INADEQUATE	
THE NASA FMEAS DO	NOT DISTING	JISH BETWEE	N RESTRICTED	FREON FLOW
IN THE BODY OF THE SUCH AS THE ACOD. NO SIGNIFICANT ER BE A 3/3 CRITICAL	HE EVAPORATOR A RESTRICT: FFECT ON EVAPORATE	AND RESTRI ED FLOW THR DRATOR OPER	CTED FREON F OUGH THE ACO ATIONS AND S	LOW IN PLACES D WILL HAVE HOULD
CORRECTLY CARRY T	HE CRITICALI	TY OF A WOR	ST CASE REST	RICTED FLOW,

MDAC WILL WITHDRAW THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/16/87 ATCS-301	, .9		NASA DATA: BASELINE NEW	[]			
3000101222	ATCS 3019 HI LOAD							
LEAD ANALYST:	s.K. SI	NCLAIR						
ASSESSMENT:								
CRITICAL FLIGH		REDUNDA	NCY SCREE	NS	CIL ITEM			
HDW/FU		A	В	С				
NASA [/ IOA [2 /1R] [P]	[NA]	[] [P]	[
COMPARE [N /N] [N]	[N]	[N]	[N]			
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)				
[/] []	[]	[] (A	[] DD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If a	applicable	adequate	[]			
REMARKS: THIS FAILURE WAS DISCUSSED WITH THE SUBSYSTEM MANAGER, HANK ROTTER, ON 5/5/88. HANK INDICATES THAT EXTERNAL LEAKAGE OF STEAM/WATER FROM THE EXIT DUCT OCCURS DURING NORMAL OPERATIONS AND HAS NO EFFECT. MDAC WITHDRAWS THE ISSUE.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/16/87 ATCS-3030		NASA DATA: BASELINE NEW	[]			
	ATCS 3030 HI LOAD NOZZLI	⊙					
LEAD ANALYST:	s.k. SINCLAIR						
ASSESSMENT:							
CRITICAL) FLIGHT		ANCY SCREENS	3	CIL ITEM			
HDW/FUN	IC A	В	С	IICM			
NASA [/ IOA [2 /1R] []] [P]	[] [[NA]	P]	[] *			
COMPARE [N /N] [N]	[11] [n]	[N]			
RECOMMENDATIONS:	(If differen	t from NASA)					
[/] []	[] [[] D/DELETE)			
* CIL RETENTION R	ATIONALE: (If						
REMARKS:		IN	ADEQUATE	. ,			
THIS FAILURE WAS DISCUSSED WITH THE SUBSYSTEM MANAGER, HANK ROTTER, ON 5/5/88. HANK INDICATES THAT EXTERNAL LEAKAGE OF STEAM/WATER FROM THE NOZZLE OCCURS DURING NORMAL OPERATIONS AND HAS NO EFFECT. MDAC WITHDRAWS THE TORMS							

HAS NO EFFECT. MDAC WITHDRAWS THE ISSUE.

ASSESSME ASSESSME NASA FME	NT	II		AT	/18/ CS-3 -3-0	03	6	-4							SA DAT ASELIN NE	E	[x]		
SUBSYSTE MDAC ID:				AT 30 TO	36	īG	EV	'APOR	ΓA	'OF	ł	ISOLA	T.	ON	VALVE						
LEAD ANA	LYS	ST:	:	s.	к. s	IN	ICI	AIR													
ASSESSME	NT:	:																			
	CR		CAL				RE	DUND	ΑN	CY	?	SCREE	NS	3			CI TT	L	ſ		
	I		V/FUI				A			E	3			С					•		
NASA IOA	[3	/1R /3]		[P]	[F	?]	[P]		[X]	*	
COMPARE	[/N]		[N]	[1]	[N]		(N]		
RECOMMENDATIONS: (If different from NASA)																					
	[/]		[]	١	•]	[1	ΆĽ] (D)	/DI] ELE	TE:)
* CIL RI	ETE:	NT:	ION :	RAI	NOI	AL:	Е:	(If	ar	gp.	li	icable			DEQUATE DEQUATE		[]		

REMARKS:

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF REDUNDANCY DURING THEIR ANALYSIS. IOA AGREES WITH THIS CONSERVATIVE APPROACH AND CONCURS WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-3040 06-3-0327-1	NASA DATA BASELINE NEW	-
MDAC ID:	3040	OR INTEGRAL PULSER/S	SHUTOFF
LEAD ANALYST:	S.K. SINCLAIR		
ASSESSMENT:			
CRITICALI FLIGHT	TTY REDUNDAN	CY SCREENS	CIL
HDW/FUN		В С	ITEM
NASA [2 /1R IOA [3 /2R] [P] [] [P]	P] [P] NA] [P]	[X] *
COMPARE [N /N] [] [n] []	[N]
RECOMMENDATIONS:	(If different :	from NASA)	
[/] [] [] [] (A I	[] DD/DELETE)
* CIL RETENTION F	RATIONALE: (If app	plicable) ADEQUATE INADEQUATE	[]
REMARKS: NASA UTILIZED A M THEIR ANALYSIS.	ORE CONSERVATIVE	DEFIFITION OF REDUN	NDANCY DURING

CONCURS WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/16/87 ATCS-3046 06-3-0311-5	5	NASA DATA: BASELINE (NEW (
SUBSYSTEM: MDAC ID: ITEM: PLATE	ATCS 3046 TOPPING EVA	APORATOR WATER	VALVE/NOZZLI	E MOUNTING
LEAD ANALYST:	S.K. SINCL	AIR		
ASSESSMENT:				
CRITICAL FLIGH HDW/FU	r	DUNDANCY SCREE		CIL ITEM
NASA [1 /1 IOA [2 /1R] [] [P] []] [NA]	[] [P]	[X] * [X]
COMPARE [N /N] [N] [N]	[N]	[]
RECOMMENDATIONS:	(If diff	erent from NAS	A)	
[/] [] []	[] (AD)	[] D/DELETE)
* CIL RETENTION	RATIONALE:	(If applicable	ADEQUATE	[]

NASA GROUPS ALL FAILURES WHICH RESULT IN A LEAKAGE OF FREON INTO

THE FES CORE INTO ONE FMEA. ALTHOUGH IOA WOULD ORDINARILY RECOMMEND A SEPARATION OF THE FAILURES, THE NASA FMEA DOES CORRECTLY CARRY THE WORST CASE CRITICALITY. IOA ACCEPTS THIS

APPROACH AND WITHDRAWS THE ISSUE.

ASSESSME ASSESSME NASA FME	NT :	ID:	ATCS-	304	8	·5						ASA D BASEL		[x]	
SUBSYSTE MDAC ID: ITEM:	M:		ATCS 3048 TOPPI	NG	EV	'APO	RATO	OR	co	RE							
LEAD ANA	LYST	г:	s.K.	SIN	CL	AIR											
ASSESSME	NT:																
		FICAL:	ITY r		RE	מטם	DANG	CY	sc	REENS	5			CI	L	•	
			NC		A			В			С					•	
NASA IOA	[]	l /1 2 /1R]	[P]]	NA]	[P]		[X X]	*
COMPARE	[1	N / N	1	[И]	(N	J	[N]		[]	
RECOMMEN	DAT	cons:	(If	di	ff	ere	nt 1	fro	m	nasa))						
	[/]	[]	[]	[]	(AI	[DD/	'DE] LE'	TE)
* CIL RE	TENT	rion 1	RATION	ALE	:	(If	app	oli	.ca	·		DEQUA:		[]	
REMARKS: NASA GROTHE FES												EAKAGI JLD OI					INTO

NASA GROUPS ALL FAILURES WHICH RESULT IN A LEAKAGE OF FREON INTO THE FES CORE INTO ONE FMEA. ALTHOUGH IOA WOULD ORDINARILY RECOMMEND A SEPARATION OF THE FAILURES, THE ONE NASA FMEA DOES CORRECTLY CARRY THE WORST CASE CRITICALITY. IOA ACCEPTS THIS APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMI ASSESSMI NASA FMI	ENT	II		12/2 ATCS 06-3	-304	19	·5					SA DATA ASELINE NEV	3]	
SUBSYSTI MDAC ID: ITEM:				ATCS 3049 TOPF	•	EV	'APOR	ATOR	CORE							
LEAD AN	ALYS	T:	:	s.K.	SI	NCI	AIR									
ASSESSM	ENT	:														
	CR		CAL			RE	EDUNE	ANCY	SCRE	ENS	3			CIL		
	1		LIGH' V/FU			A		В			С				· -	
NASA IOA	[3 2	/1R /2]	[P]	[N.	A]	[P]		[x] ;	*
COMPARE	[N	/N]	[N]	[N]	[N	1		N]	
RECOMME	NDA'	rI(SNC:	(3	[f d	if:	ferer	nt fr	om NA	SA)					
	[/]	[]	[]	[] (.	AD	[D/D] ELE'	TE)
* CIL R	ETE	NT	ION	RATIO	ONAL	E:	(If	appl	icabl			DEQUATE		[]	

REMARKS:

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE HIGHER CRITICALITY AND WITHDRAWS THE ISSUE BASED ON THIS CONSERVATISM.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		: [x]			
SUBSYSTEM: MDAC ID: ITEM:	ATCS 3050 TOPPING	EVAPOR	ATOR ANTI	CARRYOVER DI	EVICE
LEAD ANALYST:	s.k. sin	CLAIR			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	ANCY SCREE	ens	CIL ITEM
HDW/FU	NC	A	В	С	
NASA [2 /1R IOA [3 /3] [P]	[P] []	[P] []	[X] *
COMPARE [N /N] [N]	[N]	[N]	[и]
RECOMMENDATIONS:	(If di	fferent	t from NAS	SA)	
[/] [1	[]	[] (AI	[] DD/DELETE)
* CIL RETENTION 1	RATIONALE	: (If a	applicable	e) ADEQUATE INADEQUATE	[]
REMARKS:					-

NASA GROUPS ALL FMEAS INVOLVING A RESTRICTED FLOW OF FREON INTO ONE FAILURE. WHEN THE RESTRICTION IS IN THE ACOD, THERE IS NO AFFECT ON THE EVAPORATOR OR FREON LOOP OPERATION. ALTHOUGH IOA WOULD ORDINARILY RECOMMEND A SEPARATION OF THE FAILURES, THE NASA FMEA DOES CORRECTLY CARRY THE WORST CASE CRITICALITY. IOA ACCEPTS THIS APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	ATCS-305	2/16/87 NASA DATA: TCS-3051 BASELINE [] 6-3-0311-5 NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:		ATCS 3051 TOPPING	EV	APORA:	ror	ANTI	CAI	RRYO ⁷	/ER DE	VICE	
LEAD ANALYS	T:	s.K. SIN	1CL	AIR							
ASSESSMENT:											
CRI	TICAL		RE	DUNDA	NCY	SCRE	ens			CIL ITEM	Ī
Н	FLIGHT		A		В		(С			•
NASA [IOA [1 /1 2 /1R] [P]	[[N	A]	[P]		[X [X] *]
COMPARE [N /N] [N]	[N]	[]	и]		[]
RECOMMENDAT	cions:	(If d	iff	erent	fr	om NA	SA)				
ι	/] []	[]	[]	(AI	[DD/DE] LETE)
* CIL RETEN	NTION :	RATIONAL	E:	(If a	ppl	icabl			UATE UATE	[]
REMARKS: NASA GROUPS	S ALL	FAILURES	CA	USED	BY	A MIX	ING	OF	FREON	AND	WATER

NASA GROUPS ALL FAILURES CAUSED BY A MIXING OF FREON AND WATER INTO ONE FMEA. WHEN THE MIXING OCCURS IN THE TOPPING EVAPORATOR, THE RESULT IS A LOSS OF ONE FREON LOOP AND THE TOPPING EVAPORATOR. THIS IS A SURVIVABLE ENTRY CONDITION. MIXING OF WATER AND FREON IN THE HIGH LOAD EVAPORATOR WOULD BE A 1/1 CONDITION. ALTHOUGH IOA WOULD ORDINARILY RECOMMEND A SEPARATION OF THE FAILURES, THE NASA FMEA DOES CORRECTLY CARRY THE WORST CASE CRITICALITY. IOA WILL, THEREFORE, WITHDRAW THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/22/87 ATCS-3052 06-3-0311	? L−5	N	ASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	3052		R ANTI CAR	RYOVER DE	EVICE
LEAD ANALYST:	s.k. sinc	LAIR			
ASSESSMENT:					
CRITICALI FLIGHT		REDUNDANC	SCREENS		CIL
HDW/FUN		. I	з с		ITEM
NASA [1 /1 IOA [2 /1R] [P] [1] [NA] [P]	[X] *
COMPARE [N /N] [N	[]	1] [и]	[]
RECOMMENDATIONS:	(If dif	ferent fr	com NASA)		
[/] [] [] [[] D/DELETE)
* CIL RETENTION R	RATIONALE:	(If appl	•	DEOULEME	
REMARKS:				DEQUATE DEQUATE	[]
NASA GROUPS ALL F	HEN THE M	IXING OCC	CURS IN TH	E TOPPING	EVAPORATOR.

NASA GROUPS ALL FAILURES CAUSED BY A MIXING OF FREON AND WATER INTO ONE FMEA. WHEN THE MIXING OCCURS IN THE TOPPING EVAPORATOR, THE RESULT IS A LOSS OF ONE FREON LOOP AND THE TOPPING EVAPORATOR. THIS IS A SURVIVABLE ENTRY CONDITION. ALTHOUGH IOA WOULD ORDINARILY RECOMMEND A SEPARATION OF THE FAILURES, THE NASA FMEA DOES CORRECTLY CARRY THE WORST CASE CRITICALITY. IOA WILL, THEREFORE, WITHDRAW THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-3053	ATCS-3053 BASELINE						
SUBSYSTEM: MDAC ID: ITEM:	ATCS 3053 TOPPING EV	/APORATOR EXIT [DUCT					
LEAD ANALYST:	S.K. SINCL	LAIR						
ASSESSMENT:								
CRITICAL FLIGH		EDUNDANCY SCREEN	IS	CIL ITEM				
HDW/FU		В	С	TIEM				
NASA [2 /1R IOA [2 /2] [P] [P] [P]	[X] * [X]				
COMPARE [/N] [N] [N][[N]	[]				
RECOMMENDATIONS:	(If diff	ferent from NASA	A)					
[/] [] [] [[] (AI	[DD/DELETE)				
* CIL RETENTION	RATIONALE:		ADEQUATE					
REMARKS: NASA UTILIZED A THEIR ANALYSIS. AGREES WITH THE	IOA ACCEPT	S THE MORE CONS	SERVATIVE A	PPROACH AND				

ASSESSMEI ASSESSMEI NASA FME	TN	II):	ATC	.2/18/87 NASA DATA: .TCS-3055 BASELINE .6-3-0327-1 NEW								[
SUBSYSTEMDAC ID: ITEM: AND H HEA		ERS		305 TOI		G	EV	'APO	RAI	'O :	R	-	EXIT	ר	DÜ	CT	-	ZO	NE	D	, F	E, F
LEAD ANA	LYS	ST	:	s.I	к. s	IN	ICI	AIR														
ASSESSME	NT:	:																				
•	CR]		CAL:				RE	DUN	DAN	C	Y	sc	REE	NS						IL TEI		
	F		/FUI				A				В				С				_		-	
NASA IOA	[2	/1R /2R]		[P P]]		P NA]		[[P P]			[х]	*
COMPARE	[N	/N]		[]	[N]		[]			[N]	
RECOMMEN	DA:	ric	ons:		(If	di	Ĺfſ	ere	nt	f	rc	m	NAS	A)								
	[/]		[]	(•]		[]		(A	-	/ D I	-	ETE)
* CIL RE	TEI	NT:	ION :	RAT:	IONA	LI	Ξ:	(If	aŗ	qc	1 j	ica						re re	[]	
REMARKS: NASA UTI REDUNDAN CONSERVA	CY	DI	URIN	G T	HEIR	2	AN?	LYS	IS.		1	[OA	AC	CE	P	CS	THI	E M	TI OR	ON E	Aì	

MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/18/8° ATCS-30° 06-3-03°	7 57 27 - 1		NASA DATA BASELINE NEW	
MDAC ID:		EVAPORA	ATOR - EX	IT DUCT - ZC	NE D, E, F,
LEAD ANALYST:	S.K. SI	NCLAIR			
ASSESSMENT:					
CRITICAL FLIGH		REDUND	ANCY SCRE	ens	CIL ITEM
HDW/FU	-	A	В	С	11111
NASA [2 /1R IOA [3 /2R] [P] P]	[P] [NA]	[P] [P]	[X] * []
COMPARE [N /N] []	[N]	[]	[N]
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
[/] []	[]	[]	[] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	[]
REMARKS: NASA UTILIZED A REDUNDANCY DURIN	G THEIR	ANALYSI	s. IOA C	ONCURS WITH	THE MORE

MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	12/16/87 ATCS-3060 06-3-0313-1	S-3060 BASELINE []									
SUBSYSTEM: MDAC ID: ITEM:	ATCS 3060 TOPPING EVAR										
LEAD ANALYST:	s.k. sinclai	IR									
ASSESSMENT:											
CRITICAL: FLIGHT		INDANCY SCREENS	CIL ITEM								
HDW/FUI	NC A	В С									
NASA [2 /1R IOA [3 /2R] [P]] [P]	[P] [P] [NA]	[X] * []								
COMPARE [N /N] []	[N] [N]	[N]								
RECOMMENDATIONS:	(If differ	cent from NASA)									
[/] []	[] []	[A] (ADD/DELETE)								
* CIL RETENTION I	RATIONALE: (I	f applicable) ADEQUA INADEQUA									
REMARKS:											

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF REDUNDANCY DURING THEIR ANALYSIS. IOA CONCURS WITH THE CONSERVATIVE APPROACH AND ACCEPTS THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSME ASSESSME NASA FME	ENT	ID):	ATCS-3	067	-1						SA DATA ASELIN NE]	
SUBSYSTEMDAC ID: ITEM: WATER/VA	:			ATCS 3067 FES FE LE ASSE	EDL]	INE A	/B	FF	ROM WA	ΥE	R S	SUPPLY	TO			
LEAD AND	/TXS	ST:	•	s.K. s	INC	AIR										
ASSESSMI	ENT:	;														
		FI	CALI LIGHT		RI A		AN	CY B	SCRE	ens	c		CI	L	[
			•				_			-	_	,	r		1	
NASA IOA]	3 2	/1R /1R]	[P]	[NA P	A]	[P]	[x]	-
COMPARE	[N	/]	[1	[N]	[]	[N]	
RECOMME	NDA'	ri(ons:	(If	dif	feren	it	fro	om NA	SA))					
	[/]	ſ]	[]	[] (ADD,	/DI		ETE)
* CIL R	ETE	NT:	ION :	RATION	ALE:	(If	ap	pl:	icabl			EQUATE EQUATE	_]	

REMARKS:

THIS FAILURE WAS DISCUSSED WITH THE SUBSYSTEM MANAGER, HANK ROTTER, ON 5/5/88. THE ISSUES RAISED BY MDAC WILL BE USED BY THE SSM TO PUSH FOR A DESIGN CHANGE IN THE SYSTEM. HOWEVER, LEVEL II DIRECTION HAS DICTATED THAT THE CRITICALITY REMAIN A 3/1R. BASED ON THIS DATA, MDAC WILL WITHDRAW THE ISSUE.

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	ATCS-3	12/30/87 NASA DATA: ATCS-3076A BASELINE [] 06-3-0330-3 NEW [X]									
SUBSYSTEM: MDAC ID: ITEM:		ATCS 3076 FES FE										
LEAD ANALYS	T:	S.K. S	INCL	AIR								
ASSESSMENT:												
	TICALI FLIGHT	TY	RE	DUNDA	NCY	SCREE	ins	CIL				
	DW/FUN		A		В		С	ITEM				
NASA [IOA [3 /2R 3 /3]	[P]	[F]	[P] []	[X] *				
COMPARE [/N	1	[N]	[N]	[N]	[N]				
RECOMMENDAT	ions:	(If	diff	erent	fro	m NAS	A)					
ĵ	/]	[]	[]	[]	[] (ADD/DELETE)				
* CIL RETENT	rion f	RATIONA	LE:	(If a	ppli	.cable) ADEQUAT INADEQUAT					
NASA UTILIZI	ED A M	ORE CO	NSER	VATIV	E DE	FINIT	ION OF FI	NCTION AND				

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS IOA CONCURS WITH THE CONSERVATIVE APPROACH AND ACCEPTS THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: 12/22/87 NASA DATA: ASSESSMENT ID: ATCS-3079 BASELINE [NEW [X] NASA FMEA #: 05-6W-2028-3 SUBSYSTEM: ATCS MDAC ID: 3079 ITEM: FES CONTROLLER - SWITCH LEAD ANALYST: S.K. SINCLAIR ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL ITEM FLIGHT HDW/FUNC В С NASA [3 /1R] [P] [NA] IOA [2 /2] [] [] [P] COMPARE [N /N] [N] [N] [N] RECOMMENDATIONS: (If different from NASA)] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE [**REMARKS:**

THIS FAILURE WAS DISCUSSED WITH THE SSM, HANK ROTTER, ON 5/5/88 WHO AGREED, IN THEORY WITH THE MDAC CRITICALITIES OF 2/1R. HOWEVER, LEVEL II DIRECTION HAS DICTATED THAT THE FAILURE REMAIN AT THE CURRENT CRITICALITY. THEREFORE, MDAC WILL WITHDRAW THE ISSUE. (NEW FMEA NO. 05-6WE-1002-3).

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	D/ II #:	ATE):	E :	12, AT 05	/22/ CS-3 -6W-	87 07 20	9 A 30-	•3	NASA DATA: BASELINE [] NEW [X]									
SUBSYSTIMDAC ID	EM:				30	79	ľN	ROI	LER -	SV	ITCH	I							
LEAD AN	ALY	ST	:		s.	к. s	IN	CLA	IR										
ASSESSM	ENT	:																	
	CR		IC!					REI	UNDAN	CY	SCRE	ENS			CI				
	1	r. HD	M/I	FUN	iC			A		В			С				•		
NASA IOA	[3 2	/:	3]		[:	[]	[[]		[x] ;	*	
COMPARE	[N	/1	N]		[1 []	[1		[N]		
RECOMME	NDA	TI	ON:	s:		(If	di	ffe	erent	fro	om NA	ASA)							
	[2	/:	1R]		[P) [N2	A]	[Р]	(Al	[OD/	'DE] :LE'	TE)	
* CIL R	ETE	NT	IO	N I	RAT	NOI	ALE	E:	(If ap	pl:	[cab]	le) IN	ADEQU ADEQU	JATE JATE	[]		
REMARKS THIS FA WHO AGR HOWEVER AT THE ISSUE.	ILU EED , L	EV RE	IN EL NT	TI II	HEC I E RII	RY V DIRECTION	VII CTI LII	TH TON	THE MI HAS I THEF	AC IC' REF	CRIT TATEI ORE,	, HA TICA TH MDA	NK ROLLITI	OTTER ES OF HE FA	, (2/ ILU	ON '1F JRE	5/ ?. E R	EMA:	IN
TOOUE.	(1)	r W	L,	CLE	-z 1,		- ر ر	0.14			,		7	-					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-311	.8	NASA DATA: BASELINE NEW				
MDAC ID:	ATCS 3118 TOPPING	EVAPORA	TOR HEATE	R SELECT SWI	гтсн		
LEAD ANALYST:	s.K. SI	CLAIR					
ASSESSMENT:							
CRITICAL: FLIGHT		REDUNDA	NCY SCREE	ns	CIL ITEM		
HDW/FUI		A	В	С			
NASA [2 /1R IOA [2 /2] [P]	[NA] []	[P] []	[X] * [X]		
COMPARE [/N] [и]	[N]	[N]	[]		
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)			
[/] []	[]	[] (A)	[] DD/DELETE)		
* CIL RETENTION	RATIONAL	E: (If a	pplicable	ADEQUATE			
REMARKS: RE-EVALUATION OF THIS FMEA BY NASA RESULTED IN A MODIFIED CRITICALITY. ISSUE HAS BEEN RESOLVED. (NEW FMEA NO. 05-6WE- 2001-1, WITH CRIT 2/2).							

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:				NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ATCS 4006	CONTROLL			
LEAD ANALYST:	S.K. SI	NCLAIR			
ASSESSMENT:					
	CALITY IGHT	REDUNDAN	CY SCREENS		CIL ITEM
	/FUNC	A	В	С	4.44.
NASA [3 IOA [3	/1R] [/3] [P] [P] [NA] [NA] [P] P]	[] * [X]
COMPARE [/N] [] [] []	[N]
RECOMMENDATIO	NS: (If d	ifferent :	from NASA)		
[1	/1] [] [] [[DD/DELETE)
* CIL RETENTI	ON RATIONAL	E: (If app	•		
			IN	ADEQUATE ADEQUATE	[]
REMARKS: IN ORDER FOR A SECOND FAIL BASED ON DISC	URE MUST HA	PPEN. IO	ION OF THE A WITHDRAW	CONTROLLE S THE ISSU	ER TO OCCUR,

ASSESSMENT ASSESSMENT NASA FMEA	ID:	1/04/88 ATCS-400 06-3-041			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:		ATCS 4007 FLOW COM	NTROL V	ALVE (N.O.)	
LEAD ANALY	ST:	s.K. si	NCLAIR			
ASSESSMENT	:					
	ITICALI FLIGHT HDW/FUN	נ	REDUND.	ANCY SCREE B	C C	CIL ITEM
NASA [IOA [3 /1R 3 /3] [P] P]	[NA] [NA]	[P] [P]	[x] *
COMPARE [/N] []	[]	[]	[N]
RECOMMENDA	TIONS:	(If d	ifferen	t from NAS	SA)	
[/] []	[]	[] (A	[DD/DELETE)
* CIL RETE	NTION I	RATIONAL	E: (If	applicable	ADEQUATE	[]

REMARKS:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-4008	ATCS-4008 BASELINE							
SUBSYSTEM: MDAC ID: ITEM:	ATCS 4008 FLOW CONTROL								
LEAD ANALYST:	ANALYST: S.K. SINCLAIR								
ASSESSMENT:									
CRITICAL FLIGH		NDANCY SCREENS	CIL ITEM						
HDW/FU	NC A	ВС							
NASA [2 /1F IOA [3 /3	[P]	[NA] [P] [] []	[X] * []						
COMPARE [N /N] [N]	[N] [N]	[N]						
RECOMMENDATIONS:	(If differe	ent from NASA)							
[/] []	[] []	[] (ADD/DELETE)						
* CIL RETENTION	RATIONALE: (I	f applicable) ADEQUAT INADEQUAT	E []						

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND AGREES WITH THE HIGHER CRITICALITY. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT D ASSESSMENT I NASA FMEA #:	D: ATCS-4	012		BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ATCS 4012 TANK I	SOLATION	VALVE (N.	C.)	
LEAD ANALYST	: s.K. s	INCLAIR			
ASSESSMENT:					
	CICALITY CLIGHT	REDUNDA	ANCY SCREE	ens	CIL ITEM
	W/FUNC	A	В	С	11511
NASA [2 IOA [3	2 /1R] 3 /3]	[P] [P]	[NA] [NA]	[P] [P]	[X] * [X]
COMPARE [N	1 /N]	[]	[]	[]	[]
RECOMMENDATI	CONS: (If	different	t from NAS	SA)	
[/]	[]	[]	[] (A)	[] DD/DELETE)
* CIL RETENT	TION RATION	ALE: (If a	applicable	e) ADEQUATE INADEQUATE	[]

REMARKS:

THIS FAILURE WAS DISCUSSED WITH THE SSM, HANK ROTTER, ON 5/5/88. THE DESIGN OF THE VALVE IS SUCH THAT IT CANNOT FAIL OPEN WHEN IT IS CLOSED TO START, BUT IF OPEN IT CAN FAIL TO CLOSE. THIS OCCURS ONLY DURING POST LANDING OPERATIONS. THEREFORE, MDAC WITHDRAWS THE ORIGINAL ISSUE AND NASA WILL CHANGE THE FMEA TO A 2/2 CRITICALITY FOR POST LANDING COOLING CONCERNS.

ASSESSME ASSESSME NASA FME	NT	II):	ATCS-	402		L-4	NASA DATA: BASELINE [] NEW [X]												
SUBSYSTEMDAC ID:	M:			ATCS 4027 HYBRI	D I	DR]	(VER	? (1	POI	WE	R-P	RI/O	PC	:)						
LEAD ANA	LYS	T:	:	s.K.	SI	1C1	LAIR	Ł												
ASSESSME	NT:	:																		
	CRI		ICAL:	ITY r		RI	EDUN	[DA]	NC.	Y	SCR	EENS	3				II:		ī	
	H		/FUI			A]	В			С			_				
NASA IOA	[2	/1R /3]	[P]		[]	F]	[[P]		[2	K]	*
COMPARE	[N	/N]	[N]		[]	N]	[N]		(ì	1]	
RECOMMEN	DAI	CI(ONS:	(If	d:	ifi	fere	ent	f	ro	m N	IASA)								
	[/]	[]		[]	[]		ADE				ETE)
* CIL RE	TEN	IT:	ION 1	RATION	IALI	Ξ:	(If	a	pp	li	.cab		AI IAI	DEQU DEQU	JATE JATE	[]	
REMARKS:	AT I	[0]	N BY	TOA W	TL	<u>.</u> 1	PERM	ſΤΤ	A	GR	EEM								•	

CRITICALITIES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/06/88 ATCS-111 06-3-030			NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM: MDAC ID: ITEM:	ATCS 11115 GSE HEAT									
LEAD ANALYST:	s.K. SIN	.K. SINCLAIR								
ASSESSMENT:										
CRITICALITY REDUNDANCY SCREENS								[
FLIGH HDW/FU		A	ITEM							
NASA [2 /2 IOA [3 /3] []	[]	[]	[X] *		
COMPARE [N /N] []	[]	[1	[N	1		
RECOMMENDATIONS:	(If di	fferent	fro	m NAS	A)					
[/] []	[1	[] (AI	[[D/DC] ELETE)		
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []										
REMARKS: NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS OF THIS ITEM. IOA AGREES WITH THE CONSERVATIVE APPROACH AND WITHDRAWS THE ISSUE.										

ASSESSMENT ASSESSMENT NASA FMEA	r ID:	ATC	S-11116	A DATA: SELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:		ATC: 111 GSE		IECTOR					
LEAD ANALY	ST:	s.K	. SINCL						
ASSESSMENT	ASSESSMENT:								
CR		ALITY	RE	DUNDAN	CY SCR	EENS		CIL ITEM	
		FUNC	A		В	С		IIIM	
NASA [IOA [2 /	2] 3]	[] []	[]		[X] []	*
COMPARE [N /	и]	[] []	[]		[N]	
RECOMMENDA	TION	s: (:	If diff	erent	from N	ASA)			
[/]	(] []	[]	(AD	[] D/DELE	TE)
* CIL RETE	NTIO	N RATIO	ONALE:	(If ap	plicab	ADEQ	UATE UATE	[]	
REMARKS: NASA UTILI REDUNDANCY	NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS OF THIS ITEM. IOA AGREES WITH								

THE CONSERVATIVE APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		/06/88 NASA DATA: TCS-11118X BASELINE 6-3-0305-3 NEW								
SUBSYSTEM: MDAC ID: ITEM:	ATCS 11118 GSE HEAT E	- - ·-								
LEAD ANALYST:	s.K. SINCI	.K. SINCLAIR								
ASSESSMENT:										
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM										
HDW/FU		В		С						
NASA [2 /2 IOA [3 /3] [] []	[] []	[X] *					
COMPARE [N /N] [] [1	[]	[N]					
RECOMMENDATIONS:	(If dif	ferent fr	om NAS	A)						
[/] [] []	[] (A)	[] DD/DELETE)					
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []										
REMARKS: NASA UTILIZED A MORE CONSERVATIVE DEFINITION FOR FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS OF THIS ITEM. IOA AGREES WITH										

THIS CONSERVATIVE APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-111	: [[x								
SUBSYSTEM: MDAC ID: ITEM:	ATCS 11121 SW10, 11									
LEAD ANALYST:	s.K. sin	.K. SINCLAIR								
ASSESSMENT:										
CRITICALI FLIGHT		REDUNDA	NCY	SCREENS	5	CIL				
	ic	A	В		С	ITE	vi.			
NASA [2 /2 IOA [3 /3] []	[] []	[X] *]			
COMPARE [N /N] []	[] []	[и]			
RECOMMENDATIONS:	(If di	fferent	fro	m NASA)	1					
[/] []	[] [[[D/DI] ELETE)			
* CIL RETENTION F	RATIONALE	: (If a	ppli		ADEQUATE JADEQUATE]			
REMARKS: NASA UTILIZED A M REDUNDANCY DURING CONSERVATIVE APPR WITHDRAWS THE ISS	THEIR A	NALYSIS	. I	FINITIO	ON OF FUNCT	TION HIS	AND			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ATCS-1403			NASA DATA BASELINE NEW	• •
SUBSYSTEM: MDAC ID: ITEM:	ATCS 14032 TANK ISOL	ATION VA	LVE (NC)		
LEAD ANALYST:	s.k. sinci	LAIR			
ASSESSMENT:					
CRITICALI FLIGHT		EDUNDANC	Y SCREENS	3	CIL ITEM
HDW/FUN	IC A		В	С	
NASA [3 /1R IOA [2 /1R] [P] [P] [NA] [NA] [P] P]	[] * [X]
COMPARE [N /] [] [] []	[N]
RECOMMENDATIONS:	(If diff	erent f	rom NASA)		
[/] [) (] [[DD/DELETE)
* CIL RETENTION R	ATIONALE:	(If app	-		
REMARKS:				ADEQUATE ADEQUATE	[]
IOA ORIGINALLY AS: THIS FMEA. RE-EV.	SIGNED HIG ALUATION W	HER THAN	N REQUIRE	D CRITICAL GREEMENT W	ITIES OF

CRITICALITIES.

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SECTION C.5
CREW EQUIPMENT SUBSYSTEM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	CRWEQP-2	11/18/87 NASA DATA: CRWEQP-2201 BASELINE [] JSC17067B-1A NEW [X]									
SUBSYSTEM: MDAC ID: ITEM: HOOK	2201	EXTENDED RANGE CREWMEMBER SAFETY TET									
LEAD ANALYST:	s.K. SIN	.K. SINCLAIR									
ASSESSMENT:											
	JTY	REDUNDA	NCY	SCREE	NS		CI	L	[
FLIGH HDW/FU		A	В		С						
NASA [1 /1 IOA [3 /3] []	[]	[]	[Х] *	ŧ	
COMPARE [N /N] []	[1	[1	[N]		
RECOMMENDATIONS	(If d	ifferent	fro	m NAS	A)						
[/] []	[]	[] (2	[ADD,] ELE:	ΓE)	
* CIL RETENTION	RATIONAL	E: (If a	appli	icable	ΑI	DEQUATE DEQUATE]		
REMARKS: NASA FMEA HAS LUMPED THE FAILURE TO CLOSE INTO THE "HOOK BREAKS OR JAMS OPEN" FAILURE. NASA, THEREFORE, UTILIZES A MORE CONSERVATIVE DEFINITION OF FAILURE AND FUNCTION DURING THEIR ANALYSIS. IOA ACCEPTS THIS CONSERVATIVE APPROACH AND WITHDRAWS THE ISSUE.											

	ASSESSME ASSESSME NASA FME	ENT	I	D:	CRW				NASA DATA: BASELINE [] NEW [X]							
	SUBSYSTE MDAC ID:				230	AIST TETHER-HOOKS										
LEAD ANALYST: S.K. SINCLAIR																
	ASSESSME	TN	:													
CRITICALITY REDUNDANCY SCREENS FLIGHT									CIL ITEM							
		1	HDV	N/FU	JNC	A		В		C						
	NASA IOA]	1 3	/1 /3]	[]	[]	[]		X]]	:]]	*	
	COMPARE	[N	/N]	[]	[]	[]		[N	.]		
	RECOMMEN	DA:	rIC	ons:	(If dif	fere	ent fr	om N	IASA)						
		[/]	[]	[]	[]		[DD/D			
	* CIL RE	TE	n T	ION	RATI	ONALE:	(If	appl	icab	A	DEQU2 DEQU2		_]		
										THY	11 C C C C	7 T.	Ĺ	J		

REMARKS:

THIS FAILURE IS UNDER NASA FMEA FAILURE "EITHER HOOK LATCH JAMS OPEN". NASA, THEREFORE, UTILIZES A MORE CONSERVATIVE DEFINITION OF FAILURE AND FUNCTION DURING THEIR ANALYSIS. IOA ACCEPTS THIS CONSERVATIVE APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		01		NASA DATA: BASELINE NEW	[]					
SUBSYSTEM: MDAC ID: ITEM:	CREW EQUI 3301 3-POINT L		OL HOOK							
LEAD ANALYST:	L. GRAHAM	, s. sin	ICLAIR							
ASSESSMENT:										
CRITICA FLIG	LITY R	EDUNDANG	ıs	CIL ITEM						
	JNC A		В	С						
NASA [/ IOA [1 /1] [] [] []	[X] *					
COMPARE [N /N] [] [] []	[N]					
RECOMMENDATIONS	: (If dif	ferent	from NASA	A)						
[/] [] [] ([] (A	[A] DD/DELETE)					
* CIL RETENTION	RATIONALE:	(If ap		ADEQUATE INADEQUATE						
REMARKS: UPON RE-EXAMINA FAILURE IS COVE WITHDRAWS THE I	RED IMPLIC	AILABLE TLY IN	DATA, IOA THE NASA	A AGREES TH FMEA PACKA	AT THIS GE. IOA					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	11/22/87 CRWEQP-3413	NASA DA BASELI N	TA: NE [] EW []							
SUBSYSTEM: MDAC ID: ITEM: ASSEMBLY	TING PLATE									
LEAD ANALYST: L. GRAHAM, S. SINCLAIR										
ASSESSMENT:										
CRITICAL: FLIGH HDW/FU	_	DANCY SCREENS B C	CIL ITEM							
NASA [/ IOA [2 /1R] []]]	[] [] [P] [P]	[] * [X]							
COMPARE [N /N] [N]	[N] [N]	[N]							
RECOMMENDATIONS:	(If differer	nt from NASA)								
[/] []	[] []	[] (ADD/DELETE)							
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUAT INADEQUAT	re [] re []							
REMARKS: UPON RE-EXAMINATION OF AVAILABLE DATA, IOA AGREES THAT THIS FAILURE IS COVERED IMPLICITLY IN THE NASA FMEA PACKAGE. IOA WITHDRAWS THE ISSUE.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	CRWEQP-6408	SA DATA: ASELINE [] NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	6408		ATTACHMENT FITTINGS							
LEAD ANALYST:	L. GRAHAM, S	. GRAHAM, S. SINCLAIR								
ASSESSMENT:										
CRITICAL: FLIGH		NDANCY SCREENS	CIL ITEM							
HDW/FU	NC A	в с								
NASA [2 /1R IOA [3 /1R] [P]] [P]	[P] [P [P	[X] *] []							
COMPARE [N /] []	[] [] [N]							
RECOMMENDATIONS:	(If differ	ent from NASA)								
[/] []	[] [[] (ADD/DELETE)							
* CIL RETENTION	RATIONALE: (I	AD	EQUATE [] EQUATE []							
REMARKS: NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. MDAC CONCURS AND WITHDRAWS THE ISSUE.										

ASSESSME ASSESSME NASA FME	NT	II):	CRWEC	CRWEQP-13809X BASEI									BASEL	INE			
SUBSYSTE MDAC ID:	М:			CREW 13809 SNATO					SEI	мв	LY	ноо:	К 1	LATCH				
LEAD ANALYST: S.K. SINCLAIR																		
ASSESSME	NT	:																
CRITICALITY FLIGHT							EDUN	IDAI			SCR	EEN			CIL ITEM			
	1	HDI	W/FU	NC		Α]	В			С					
NASA IOA			/1R /3		[P]		[]	P]	[P]		[[]	*
COMPARE	[N	/N]	[N]		[]	N]	[N]		[]	
RECOMMEN	DA!	ri	ons:	(If	d.	if	fere	ent	f	ro	m N	ASA)					
	[/]	[]		(]	[]	(A	[DD/D		ETE)
* CIL RE	TE	NT:	ION	RATION	IAL:	Ε:	(If	f a	pp.	li	cab			DEQUA' DEQUA'		[]	
NASA UTI REDUNDAN	INADEQUATE [] REMARKS: NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND WITHDRAWS THE ISSUE.																	

REPORT DATE 20 JULY 1988 C.5-7

ASSESSME ASSESSME NASA FME	NT	I	D:	CF	2/10/87 NASA DATA: RWEQP-16409X BASELINE READMILL 1B NEW									[x]			
SUBSYSTE MDAC ID: ITEM:				16	REW EQUIPMENT 6409 READMILL QUICK DISCONNECT														
LEAD ANALYST: S.K. SINCLAIR																			
ASSESSMENT:																			
CRITICAL: FLIGHT										NCY SCREENS						CIL ITEM			
	I	IDI	W/FU	NC		A			В			С							
NASA IOA	[[2 3	/1R /1R]	[P P]	[[P P]	[P P]		[]	*	
COMPARE	[N	/]	C]	[1	[]		[]		
RECOMMEN	DA'	rI	ons:		(If d	if	ferer	it :	fro	om N	ASA)								
	[/]	[]	[]	[]	(AI	[DD/	DE] LE	TE)	
* CIL RE	TEI	T	ION	RAT	CIONAL	E:	(If	apı	91 :	icab			DEQUAT		[]		

REMARKS:

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA CONCURS AND WITHDRAWS THE ISSUE.

SECTION C.6 INSTRUMENTATION SUBSYSTEM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	INSTR-30 05-5-B03)5X 3-7-1	BASELINE NEW		
	INSTRUME 305				
LEAD ANALYST:	A.W. ADD	ois			
ASSESSMENT:					
CRITICALI FLIGHT	<u>r</u>				CIL ITEM
HDW/FU	NC .	A	В	С	
NASA [2 /2 IOA [3 /1R] [P] [P] [F] F]	[P] [P]	[X] * [X]
COMPARE [N /N] [] []	[]	[]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
1] [] [1	[] (A	[A] DD/DELETE)
* CIL RETENTION I	RATIONALE	E: (If ap	plicable	e) ADEQUATE INADEQUATE	
REMARKS: IOA 111 WAS INADO BEING RESTORED AS CRITICAL APU STAT HEATER STUCK ON O REQURING ABORT. NOT BE DETECTED. 2/2 CRIT AND ASSI CIL ISSUE RESOLUT	S IOA INS TUS DATA. COULD PRO FAILS SO NOTE: IGNS SCRI	STR-305X. ERRONE OMPT MANU CREEN B B NASA FME EENS FOR	THESE OUS OUTE AL SHUTE ECAUSE E A WRITEU THAT 2/2	MDM'S PROCE PUT FALSELY DOWN OF AN A FAILED MDM C JP IS INCONS C CRIT.	SS/ROUTE INDICATING A PU, HANNEL COULI ISTENT WITH
A. ACCEPT NASA'S WITHDRAWN.	CRITICAL	LITY PEK	TON GROU	INDKULES. I	SOUL

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				DATA: ELINE [] NEW []
SUBSYSTEM: MDAC ID: ITEM:	INSTRUMENTA 306 MDM OF3	NOITA		
LEAD ANALYST:	A.W. ADDIS			
ASSESSMENT:				
CRITICAL FLIGH	ITY REI	DUNDANCY S	CREENS	CIL ITEM
	NC A	В	С	IICM
NASA [/ IOA [2 /2] [] []	[]	[
COMPARE [N /N] [] []	[]	[N]
RECOMMENDATIONS:	(If diffe	erent from	n NASA)	
[/] [] []	[]	[A] (ADD/DELETE)
* CIL RETENTION	RATIONALE:	(If applic		
			ADEQI INADEQI	JATE [] JATE []
REDUNDANT PATH (WOULD REQUIRE MI CIL ISSUE RESOLU A. MDM'S ASSESSE NOT CARRIED BECA REDUNDANCY FOR A	S IOA INSTR- ICAL FUEL CI SE IOA 306X; SSION TERMIN TION: D BY DPS. I USE FUEL CEN LL MEASUREMIN L CELL TO DE	-306X. FOELL MEASURE. LOSS ON ATION. COLL ISSUED ENTS EXISTERENT METERENT M	R PRESENT FREMENTS FOR THESE MEASUES ON OF1, TEM ANALYSIS IDM. MCR PRESENT.	FUEL CELLS, MDM WHICH THERE IS NO ASUREMENTS OF2 OR OF3 MDM'S. S SHOWED THAT SENTED TO RE- DT APPROVED. DPS

ASSESSMEN ASSESSMEN NASA FME	TV VT A #	D# II	ATE:	1/29/8 INSTR NONE	38 -307	x			N.	ASA BASE	DATA: LINE NEW	[]	
SUBSYSTEM MDAC ID: ITEM:				INSTRU 307 MDM O		TATI	ON							
LEAD ANA	LYS	T:	:	A.W.	ADDI	s								
ASSESSME	T'	;												
(F	LIGH	ITY T NC					REENS			CIL		
									r	1		r	7	*
NASA IOA	[2	/2]	[]	[]	[]		[X]	•
COMPARE	[N	/N	1	[]	[]	[]		[N]	
RECOMMEN	DA'	ΓI	ons:	(If	dif	fere	nt fr	om 1	NASA)					
	[2	/2]	[]	[]	[]		[A		
* CIL RE	TE	ΝT	ION	RATION	ALE:	(If	appl	ical	ole)			_		
									INA	DEQU DEQU	ATE ATE	[]	
REMARKS: IOA 117 BEING RE OF3 HAND REDUNDAN COULD CA UNNECESS CIL ISSU A. MDM'S MDMS. N THAT RED CHANNEL	ST LE T US AR E OT UN EA	OR SPA EY RE SS CA CH	ED A CRIT TH (IMPR MISS SOLU ESSE ARRI NCY FUE	S IOA ICAL F SE IOA OPER M ION TE TION: D BY D ED BEC FOR AL	INST UEL 307 ANUA RMIN PPS. PAUSI L MI	CELIVX). AL SHUATION NO E FUI EASUR	OTX. MEAS ERRO HUTDOW ON. CIL I EL CEL REMENT FERENT	FOR UREI NEO! NO! SSU! LS! SE!	PRESE MENTS US MEA F A FU ES ON UBSYST XIST. MS. N	OF1, TEM A	WHICE WHICE MENT CELL, OF2 NALY R PRE	CELI H TH S REQ , OF SIS SENT PPRO	E O: RE' ED	MDM E IS NO RING F3 VEALED TO RE- D.
DPS HAS		Т	WRIT	TEN TH	E FI	MEA Y	ET.	AO1	CONC	JRS W	AT.I.H	NASA	٠.	ISSUE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	INSTR-308	зх			A DATA: SELINE [NEW []
SUBSYSTEM: MDAC ID: ITEM:	INSTRUMEN 308 MDM OF1,					
LEAD ANALYST:	A.W. ADDI	rs.				
ASSESSMENT:						
CRITICAL: FLIGH	ITY F	REDUNDANC	Y SCRE	EENS	CI	L EM
		A	В	С	11	EM
NASA [/ IOA [2 /2] [] []	[]	[x] *
COMPARE [N /N] [] []	[]	[N]
RECOMMENDATIONS:	(If dif	ferent f	rom NA	SA)		
[/] [] []	[]		A] DELETE)
* CIL RETENTION D	RATIONALE:	(If app	licabl	ADEQ	TAUS TAUS]
IOA 118 WAS INADOBEING RESTORED AS MDM'S OF1 AND OF MEASUREMENTS (SEINGUSE MISSION TERMINAL ASSESSED MDMS. NOT CARRIED THAT REDUNDANCY IN CHANNEL EACH FUELD DPS HAS NOT WRITT WITHDRAWN.	S INSTR-30 2 HANDLE 0 E IOA 308) RMINATION. FION: D BY DPS. ED BECAUSE FOR ALL ME L CELL TO	OSX. FOR CRITICAL LOSS NO CIL E FUEL CE CASUREMEN DIFFEREN	PRESE FUEL C OF THE ISSUES LL SUE IS EXI T MDMS	ENT FUEL EELL DEL ESE MEAS ON OF1 ESYSTEM EST. MC	CELLS S TA VOLTA UREMENTS OF2, O ANALYSIS R PRESENT	YSTEM GE WOULD R OF3 REVEALED TED TO RE- OVED.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/29/88 INSTR-30 NONE	9X	N	BASELINE NEW	[]
SUBSYSTEM: MDAC ID: ITEM:	INSTRUME 309 MDM OF1,					
LEAD ANALYST:	A.W. ADD	IS				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDANCY	SCREENS		CIL	
HDW/FU		A B	C	:	1156	1
NASA [/ IOA [2 /2] [] [] []	[[x] *]
COMPARE [N /N] [] [] []	[N]
RECOMMENDATIONS:	(If di	fferent fro	om NASA)			
[/] [] [] [] (AI	[A DD/DI] ELETE)
* CIL RETENTION	RATIONALE	: (If appl	P	ADEQUATE ADEQUATE	[]
REMARKS: IOA 119 WAS INAD BEING RESTORED A OF1 AND OF2 HAND (SEE IOA 309). INDICATION OF FU FUEL CELL SHUT D CIL ISSUE RESOLU	S INSTR-3 LE CRITIC ERRONEOUS EL CELL M OWN THAT	09X. FOR AL FUEL CE MDM OUTPU	PRESENT F LL DELTA I COULD (AND COUI	FUEL CELLS VOLTAGE I CAUSE A FI LD PROMPT	S SYS MEASU ALSE	STEM MDMs UREMENTS
A. MDM'S ASSESSE MDMS. NOT CARRI REDUNDANCY FOR A CHANNEL EACH FUE HAS NOT WRITTEN WITHDRAWN.	D BY DPS. ED BECAUS LL MEASUR L CELL TO	E FUEL CEL EMENTS EXI DIFFERENT	L SUBSYST ST. MCR MDMS. N	TEM FEELS PRESENTED ACR NOT A	THA: D TO PPRO	r RE-

SECTION C.7 DATA PROCESSING SUBSYSTEM

ASSESSMENT DATE: 10/06/86 NASA DATA: ASSESSMENT ID: DPS-100 BASELINE [X] NASA FMEA #: 05-5-B03-2-1 NEW [- 1 DPS SUBSYSTEM: MDAC ID: 100 ITEM: MDM FF1, FF2, FF3, FF4 LEAD ANALYST: W. A. Haufler ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A в с NASA [2 /1R] MASA [2/1R] [P] [P] [P] [P] IOA [3/1R] [P] [P] [X] * COMPARE [N /] [] [] [N] RECOMMENDATIONS: (If different from NASA) (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE [SIMULTANEOUS DISSIMILAR FAILURES WERE EXCLUDED FROM THE IOA, MULTIPLE FAILURES ARE INCONSISTENT WITH THE NSTS 22206. IOA RECOMMENDS REPLACING THIS PHRASE IN THIS NASA/RI FMEA'S EFFECTS FIELD "COUPLED WITH AND UNDETECTED FCS FAILURE (IN THE NULL POSITION)," WITH "COUPLED WITH A LIKE FAILURE IN ANOTHER MDM". IOA DID NOT CONSIDER DEGRADED STATE VECTORS. IOA DOES NOT BELIEVE THE LOSS OF TWO STATE VECTORS WILL CAUSE LOSS OF CREW OR VEHICLE. IN THE WORST CASE ON ENTRY, THE LOSS OF THE SECOND STATE VECTOR WILL PERMIT THE ORBITER TO FLY WITH ONE REMAINING STATE VECTOR. IOA DOES NOT CONCUR WITH NASA'S REEVALUATION AND RATIONALE. IOA RECOMMENDS DOWNGRADING HARDWARE CRITICALITY TO 3, THEREBY REMOVING THE FMEA FROM THE CIL. NASA/RI DOWNGRADED FMEA 05-5-B03-2-1 FROM 2/1R TO 3/1R. THIS REVISED CRITICALITY AGREES WITH

IOA CRITICALITY.

NASA DATA: ASSESSMENT DATE: 10/06/86 ASSESSMENT ID: DPS-101 BASELINE [X] NASA FMEA #: 05-5-B03-2-1 NEW [] DPS SUBSYSTEM: 101 MDAC ID: MDM FF1, FF2, FF3, FF4 ITEM: LEAD ANALYST: W. A. Haufler ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL ITEM FLIGHT Α В HDW/FUNC MASA [2 /1R] [P] [P]
IOA [3 /1R] [P] [P] [X] * NASA [2 /1R] [P] [P] COMPARE [N /] [] [] [N]RECOMMENDATIONS: (If different from NASA)] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE INADEQUATE **REMARKS:** THIS FAILURE MODE "LOSS OF OUTPUT TO LRU" IS CONSIDERED TO BE COVERED BY THIS ROCKWELL FMEA WITH FAILURE MODE "NO OUTPUT: FAILED MDM PORT - SCU, MIA, A/D, POWER SUPPLIES, OR I/O CARD/CHANNEL FAILURE". SIMULTANEOUS DISSIMILAR FAILURES WERE EXCLUDED FROM THE IOA. MULTIPLE FAILURES ARE INCONSISTENT WITH THE NSTS 22206. IOA RECOMMENDS REPLACING THIS PHRASE IN THIS NASA/RI FMEA'S EFFECTS FIELD, "COUPLED WITH AND UNDETECTED FCS FAILURE (IN THE NULL POSITION)", WITH "COUPLED WITH A LIKE FAILURE IN ANOTHER MDM". IOA DID NOT CONSIDER DEGRADED STATE VECTORS. IOA DOES NOT BELIEVE THE LOSS OF TWO STATE VECTORS WILL CAUSE LOSS OF CREW OR VEHICLE. IN THE WORST CASE ON ENTRY, THE LOSS OF THE SECOND STATE VECTOR WILL PERMIT THE ORBITER TO FLY WITH ONE REMAINING STATE VECTOR. IOA RECOMMENDS DOWNGRADING HARDWARE CRITICALITY TO 3, THEREBY REMOVING THE FMEA FROM THE CIL. NASA/RI DOWNGRADED FMEA 05-5-B03-2-1 FROM 2/1R TO 3/1R. THIS REVISED CRITICALITY AGREES WITH

IOA CRITICALITY.

ASSESSMI ASSESSMI NASA FMI	ENT I ENT I EA #:	DATE: ID:	10/06, DPS-10 05-5-1	/86 08 303 –	2-1				ASA DA BASELI		[
SUBSYSTI MDAC ID: ITEM:	EM:		DPS 108 MDM F											
LEAD AND	ALYST	r:	W. A.	Hau	fler									
ASSESSMI	ENT:													
		rical: Fligh	ITY F	R	EDUN	DANCY	SCRE	ENS				L CEM	Ī	
	HI	OW/FUI	NC	A	ı	В		С						
NASA IOA	[3	2 /1R 3 /1R]	[P]	[P [P]	[P]		[X] ;	t
COMPARE	[]	1 /]	[]	[]	[]		[N]	
RECOMME	NDAT	cons:	(If	dif	fere	nt fro	om NAS	5A)						
	[/]	[]	[]	[]	(Al	_	DE] LET	ſE)
* CIL RI		rion 1	RATION	ALE:	(If	appli	cable	AI	DEQUA:	re re	[]	
THIS FA	ILURI RED I	BY TH	IS ROC	KWEL	L FM	EA WIT	H FA	LURI	E MODI	E "1	ON	OU		
CARD/CHASIMULTAN	ANNEI NEOUS	L FAI: 5 DIS:	LURE". SIMILA	R FA	LUR	ES WEF	RE EXC	CLUDI	ED FRO	OM S	THE	E I	OA.	,
IOA RECO EFFECTS NULL POS	FIEI SITIC	LD, "(ON)",	COUPLE!	OU OU	TH A	N UNDE	TECTI A LII	ED FO	S FA: AILURI	LLUI E II	RE	(I	N T	
MDM". IOA DOES LOSS OF	S NOT	r beli	IEVE TI VEHICLI	HE L E.	oss In T	OF TWO	STAT	TE VI ASE (ECTORS	S WI	Γ,	HE	LC	OSS OF
THE SECO	OND S	TATE	VECTOI VECTOR	R WI	LL P	ERMIT	THE (ORBIT	TER TO) Fi	LY	WI	TH	ONE
IOA RECOREMOVINO B03-2-1	G THI	E FME	A FROM	THE	CIL	. NAS	A/RI	DOW	IGRADI	ED I	FME	EA	05-	-5-

IOA CRITICALITY.

ASSESSMEN ASSESSMEN NASA FMEA SUBSYSTEM	IT D IT I 4 #:	ATE:	10/ DPS 05-	06/8 -120 5-B	36 0 03	-1	-1						SA DATA ASELINE NEW	[x]	
SUBSYSTEM MDAC ID: ITEM:			120	1			2,FA3			•							
LEAD ANAI	rayı	r:	W.	A. 1	Ha	uf	ler										
ASSESSME	T:																
(rica:				RE	DUND	ANC	CY	SCR	EENS	5			IL TEN		
	_	OW/F				A			В			С					
NASA IOA	[2	2 /1: 3 /1:	R] R]		[P P]	[P P]]	P P]	[X]	*
COMPARE	[]	4 /]		[]	[]	[]	[N]	
RECOMMEN	DAT	IONS	:	(If	di	ff	eren	t :	fro	om N	ASA))					
	[/]		[]	[]	[]		/D]		ETE)
* CIL RE	TEN?	TION	RAT	IONA	.LF	E:	(If	ap)	pl:	icab		ΑI	DEQUATE DEQUATE				
REMARKS: SIMULTAN MULTIPLE IOA RECO EFFECTS NULL POS MDM". IOA DOES IOA RECO REMOVING THE IOA APPLICAT IN A MOR THAN THE	FA: MMEI FIE: ITIC NO' MMEI TH: WIT' ION	ILUR NDS LD, ON) " T CC NDS E FM HDRA S OF	ES A REPL "COU", WI" NCUR DOWN IEA F WS C NST CRVAT	RE I ACIN PLEC TH " WIT GRAC ROM RITI S 22 IVE	NG IG ICC IH ITI	TH VIII OUI NG HE	SIST HIS P TH AN PLED ASA'S THE CIL. TY D AS A	EN' HR WI R HA	T NASINDI TH EETRO	WITH E IN ETEC A I VALU WARE RENC SMEN	THE THE TED LIKE LATE CR	E 1 IS FO FI ON IT:	NSTS 22: NASA/R CS FAIL AILURE AND RAI ICALITY DIFFER UES SIN	206 I F URE IN TIO TO ENT	ME. (AN) NA 3	A'S IN OT: LE	S THE HER • THEREBY RESULT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	10/06/86 DPS-121 05-5-B03-1-1	NASA DATA: BASELINE [X] NEW []
SUBSYSTEM: MDAC ID: ITEM:	DPS 121 MDM FA1,FA2,FA3,FA4	
LEAD ANALYST:	W. A. Haufler	
ASSESSMENT:		
CRITICAL: FLIGH HDW/FU		SCREENS CIL ITEM
·		
NASA [2 /1R IOA [3 /1R] [P] [P]] [P] [X] *] [P] []
COMPARE [N /] [] [] [] [N]
RECOMMENDATIONS:	(If different fro	om NASA)
[/] [] [] [] [] (ADD/DELETE)
* CIL RETENTION I	RATIONALE: (If appli	.cable) ADEQUATE [X] INADEQUATE []
THIS FAILURE MODE BY THE ROCKWELL I PORT - SCU, MIA,	MEA WITH FAILURE MO	IS CONSIDERED TO BE COVERED DE "NO OUTPUT: FAILED MDM OF THE TOTAL PROPERTY OF THE PROPERTY O
MULTIPLE FAILURES IOA RECOMMENDS RE EFFECTS FIELD, "C	S ARE INCONSISTENT WE PLACING THIS PHRASE COUPLED WITH AN UNDE	RE EXCLUDED FROM THE IOA. WITH THE NSTS 22206. IN THIS NASA/RI FMEA'S STECTED FCS FAILURE (IN THE A LIKE FAILURE IN ANOTHER
IOA DOES NOT CONCUR WECOMMENDS DOWNGREMOVING THE FMEATHE IOA WITHDRAWS	VITH NASA'S REEVALUA RADING THE HARDWARE A FROM THE CIL. S CRITICALITY DIFFER	CRITICALITY TO 3, THEREBY ENCE AND DIFFERENT
APPLICATIONS OF N IN A MORE CONSERV	ATIVE NASA/RI EVALU	MENT ISSUES SINCE THEY RESULT ATION OF THE FAILURE MODE

ASSESSMENT DATE: 10/06/86 NASA DATA: ASSESSMENT ID: DPS-128 BASELINE [X] NASA FMEA #: 05-5-B03-1-1 NEW [SUBSYSTEM: DPS MDAC ID: 128 ITEM: MDM FA1, FA2, FA3, FA4 LEAD ANALYST: W. A. Haufler ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC В С NASA [2 /1R] [P] [P] [P] IOA [3 /1R] [P] [P] [X] * COMPARE [N /] [] [] [N]RECOMMENDATIONS: (If different from NASA) [/] [] [] (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEOUATE INADEQUATE REMARKS: THIS FAILURE MODE "FALSELY STUCK ON BUSY MODE" IS CONSIDERED TO BE COVERED BY THIS ROCKWELL FMEA WITH FAILURE MODE "NO OUTPUT: FAILED MDM PORT-SCU, MIA, A/D, POWER SUPPLIES, OR I/O CARD/CHANNEL FAILURE". SIMULTANEOUS DISSIMILAR FAILURES WERE EXCLUDED FROM THE IOA. MULTIPLE FAILURES ARE INCONSISTENT WITH THE NSTS 22206. IOA RECOMMENDS REPLACING THIS PHRASE IN THIS NASA/RI FMEA'S EFFECTS FIELD, "COUPLED WITH AN UNDETECTED FCS FAILURE (IN THE NULL POSITION)", WITH "COUPLED WITH A LIKE FAILURE IN ANOTHER MDM." IOA DOES NOT CONCUR WITH NASA'S REEVALUATION AND RATIONALE. THE IOA WITHDRAWS CRITICALITY DIFFERENCE AND DIFFERENT APPLICATIONS OF NSTS 22206 AS ASSESSMENT ISSUES SINCE THEY RESULT IN A MORE CONSERVATIVE NASA/RI EVALUATION OF THE FAILURE MODE THAN THE IOA ANALYSIS.

REPORT DATE 20 JULY 1988 C.7-7

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		as electric

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SECTION C.8

ATMOSPHERE REVITALIZATION PRESSURE CONTROL SUBSYSTEM

ASSESSMENT DAY ASSESSMENT ID NASA FMEA #:	E: 2/19/88 ARPCS-1 06-1-01	3 128 109-3		NASA DATA BASELINE NEW	-
SUBSYSTEM: MDAC ID: ITEM:	128	RE REGUL			
LEAD ANALYST:	M.J. SA	AIIDI			
ASSESSMENT:					
	ALITY	REDUNDA	ANCY SCRE	EENS	CIL ITEM
	FUNC	A	В	С	TILM
NASA [2 , IOA [1 ,	1R] [P]	[P] []	[P] []	[X] * [X]
COMPARE [N /	и] [[N]	[N]	[и]	[]
RECOMMENDATION	S: (If d	lifferent	from NA	SA)	
[/] []	[]	[]	[] DD/DELETE)
* CIL RETENTIO	N RATIONAI	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[]
REMARKS: THE FAILURE MO STAGES OF THE	DE MAY BE REGULATOR.	CLARIFIE AFTER		-	1ST OR 2ND

THE FAILURE MODE MAY BE CLARIFIED TO REFER TO EITHER 1ST OR 2ND STAGES OF THE REGULATOR. AFTER FURTHER REVIEW AND REMOVAL OF THE AUXILIARY O2 TANK, IOA WOULD HAVE RECOMMENDED 3/1R CRITICALITY. COMPARED TO THIS RECOMMENDATION NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THIS MORE CONSERVATIVE APPROACH AND AGREES WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-12 06-1-011			NASA DATA BASELINE NEV	
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 129 RELIEF V	/ALVE, 3	1250 PSI	G.	
LEAD ANALYST:	M.J. SAI	IIDI			
ASSESSMENT:					
CRITICAI FLIGH	IT		ANCY SCR	EENS C	CIL ITEM
HDW/F	INC	A	В	C	
NASA [2 /1H IOA [1 /1] [P]	[P] []	[P] []	[X] * [X]
COMPARE [N /N] [N]	[N]	[n]	[]
RECOMMENDATIONS	(If d	ifferen	t from N	ASA)	
[/] []	[]	[] ([ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicab	le) ADEQUATE INADEQUATE	
REMARKS:		DEMOSSA	T OF THE	NITUTT TARV O	о танк тне

REMARKS:
AFTER FURTHER REVIEW AND REMOVAL OF THE AUXILIARY O2 TANK, THE
IOA CRITICALITY WAS CHANGED TO 3/1R. NASA UTILIZED A MORE
CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR
ANALYSIS. IOA ACCEPTS THIS MORE CONSERVATIVE APPROACH AND AGREES
WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-131 06-1-0110-2	N.	ASA DATA: BASELINE [] NEW [X]
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 131 RELIEF VALVE	, 1250 PSIG.	
LEAD ANALYST:	M.J. SAIIDI		
ASSESSMENT:			
CRITICAL FLIGH	ITY REDU	NDANCY SCREENS	CIL ITEM
HDW/FU	NC A	В С	
NASA [2 /1R IOA [1 /1] [P]] []	[P] [P	[X] *
COMPARE [N /N] [N]	[N] [N] []
RECOMMENDATIONS:	(If differ	ent from NASA)	
[/] []	[] [] [] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (I:		
DEWA DVC -			DEQUATE [X] DEQUATE []
CHANGED TO 3/1R.	NASA UTILIZI JNDANCY DURINO	ED A MORE CONSER THEIR ANALYSIS	OA CRITICALITY WAS VATIVE DEFINITION O L IOA ACCEPTS THIS E HIGHER

CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

	2/19/88 ARPCS-13 06-1-011					ASA DATA BASELINE NEW]
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 132 ISOLATIO	ON VALVE	E (1)					
LEAD ANALYST:	M.J. SA	IDI						
ASSESSMENT:								
CRITICAL: FLIGH		REDUNDA	NCY	SCREE	NS		CIL	
HDW/FUI		A	В		С			
NASA [2 /1R IOA [3 /3] [P]	[P]	[P]	[X] *]
COMPARE [N /N] [N]	[N]	[И	1	[N]
RECOMMENDATIONS:	(If d	ifferent	fro	om NAS	A)			
[/] []	[]	[] (A	[DD/DI] ELETE)
* CIL RETENTION	RATIONAL	E: (If a	appli		Al	DEQUATE DEQUATE	[]
REMARKS: NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND AGREES WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-13			NASA DATA BASELINE NEW	[]			
	ARPCS 137 CROSSOVE							
LEAD ANALYST:	M.J. SAI	IDI						
ASSESSMENT:								
CRITICALI FLIGHT		REDUNDAN	CY SCREEN	s	CIL ITEM			
HDW/FU		A	В	С	TIEM			
NASA [2 /1R IOA [3 /3		P] [NA] [P]	[X] *			
COMPARE [N /N] [и][N] [N]	[N]			
RECOMMENDATIONS:	(If di	fferent	from NASA)				
[/] [] [] [[] DD/DELETE)			
* CIL RETENTION F	RATIONALE	: (If ap		ADEQUATE	[]			
REDUNDANCY DURING	INADEQUATE [] REMARKS: NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND AGREES WITH THE HIGHER CRITICALITIES.							

MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-139 06-1-0111			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 139 CROSSOVER	VALVE	LV4 (2)		
LEAD ANALYST:	M.J. SAII	DI			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	ANCY SCRE	ENS	CIL ITEM
HDW/FU		1	В	С	
NASA [1 /1 IOA [2 /1R] [.] [F) }	[] [P]	[] [P]	[X] * [X]
COMPARE [N /N] [1	1]	[N]	[N]	[]
RECOMMENDATIONS:	(If di	ferent	from NA	SA)	
[/] [1	[]	[] (A	[.DD/DELETE)
* CIL RETENTION	RATIONALE	: (If a	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: NASA UTILIZED A	MORE CONSI	ERVATI	VE DEFINI	TION OF FUNC	TION AND

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND AGREES WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-140	11-1		NASA DATA: BASELINE NEW	
MDAC ID:	ARPCS 140 SWITCH-S15				
LEAD ANALYST:	M.J. SAIII	DI			
ASSESSMENT:					
CRITICAL: FLIGHT	ITY RI	EDUNDANCY	SCREENS	;	CIL ITEM
	NC A	В		С	IIBM
NASA [2 /1R IOA [3 /3] [P] [P] [P]	[X] *
COMPARE [N /N] [N] [N] [и]	[N]
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)		
[/] [] [] [] (AE	[] DD/DELETE)
* CIL RETENTION I	RATIONALE:	(If appl	•	ADEQUATE ADEQUATE	[]
REMARKS: RE-EVALUATION OF FMEA NUMBER (05-6 NOW AGREES WITH N	5UC-201-02)	AND A R	A HAS RE EVISED C	SULTED IN	A DIFFERENT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-141		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 141 SWITCH-S15 AN			
LEAD ANALYST:	M.J. SAIIDI			
ASSESSMENT:				
CRITICAL FLIGH	ITY REDUN	DANCY SCREE	ns	CIL ITEM
	NC A	В	С	
NASA [3 /1R IOA [2 /1R] [P]] [P]	[P] [P]	[P] [P]	[X] * [X]
COMPARE [N /] []	[]	[]	[]
RECOMMENDATIONS:	(If differe	ent from NAS	A)	
[/] []	[]	[] (A	[] DD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable	ADEQUATE INADEQUATE	[]
REMARKS: THIS FMEA WAS RE (2/1R) WHICH AGR NASA FMEA NO. 05	EES WITH IOAs	NASA AND AS	SIGNED A CR	ITICALITY

ASSESSMENT ASSESSMENT NASA FMEA	ID:	ARPCS-14		NASA DATA: BASELINE [] NEW [X]				
SUBSYSTEM: MDAC ID: ITEM: IN LOOP2)		ARPCS 148 ORIFICE-	(ONE 20	D LBM/HR I	IN LOOP1, TWO	O 10 LBM/HR		
LEAD ANALY	ST:	M.J. SAI	IDI					
ASSESSMENT	•							
	ITICALI FLIGHT HDW/FUN	י	REDUNDA A	ANCY SCREI	ens C	CIL ITEM		
NASA [] AOI	2 /1R 3 /1R] [P] P]	[P] [P]	[P] [P]	[X] *		
COMPARE [N /] []	[]	[]	[N]		
RECOMMENDA	TIONS:	(If di	fferent	from NAS	SA)			
ί	/] []	[]		[] DD/DELETE)		
* CIL RETE	NTION F	RATIONALE	: (If a	applicable	e) ADEQUATE INADEQUATE	[]		

REMARKS:

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND CONCURS WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

REPORT DATE 20 JULY 1988 C.8-10

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-151		ATA: INE [] NEW [X]		
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 151 LEH O2 SUPP				
LEAD ANALYST:	M.J. SAIIDI				
ASSESSMENT:					
		TY REDUNDANCY SCREENS			
FLIGH HDW/FU		в с	ITEM		
NASA [2 /1R IOA [3 /3] [P]	[NA] [P] [] []	[X] * []		
COMPARE [N /N] [N]	[N] [N]	[N]		
RECOMMENDATIONS:	(If diffe	erent from NASA)			
[/] []	[] []	[] (ADD/DELETE)		
* CIL RETENTION	RATIONALE: (If applicable) ADEQUA INADEQUA	_		
REDUNDANCY DURIN	G THEIR ANAL	ATIVE DEFINITION OF E	FUNCTION AND HE MORE		

MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-158 06-1-0122-2	NASA DAT BASELIN NE					
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 158 RELIEF VALVE-						
LEAD ANALYST:	M.J. SAIIDI						
ASSESSMENT:							
CRITICALI FLIGHT	CIL ITEM						
HDW/FU	IC A	В С					
NASA [2 /1R IOA [3 /3] [P]] []	[NA] [P] [] []	[X] * []				
COMPARE [N /N] [N]	[N] [N]	[n]				
RECOMMENDATIONS:	(If differe	nt from NASA)					
[/] []	[] []	[] ADD/DELETE)				
* CIL RETENTION FREMARKS:	RATIONALE: (If	applicable) ADEQUATE INADEQUATE					

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND CONCURS WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-159			NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 159 FILTER-10				
LEAD ANALYST:	M.J. SAII	DI			
ASSESSMENT:					
	ITY R	REDUNDANCY	SCREEN	IS	CIL ITEM
FLIGH HDW/FU		A F	3	С	
NASA [/ IOA [2 /1R] [;] [F] [e] [I] [] [P]	[x] *
COMPARE [N /N] []	1 [I	1]	[N]	[N]
RECOMMENDATIONS:	(If di	fferent f	com NAS	A)	
[/] [] []	[] (A	[] .DD/DELETE)
* CIL RETENTION	RATIONALE	: (If app) ADEQUATE INADEQUATE	[]
REMARKS: DISCUSSIONS WITH REVEAL THAT THIS (FMEA NO. 06-10-	וא ממחדדם ו	NG COVERE	N WHELA	N, ON 23 MA	Y 1988, CHECK VALVE.

ÌSSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-161	-161 BASELINE ()						
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 161 CHECK VAL							
LEAD ANALYST:	M.J. SAII	M.J. SAIIDI						
ASSESSMENT:								
CRITICAL: FLIGHT		REDUNDANCY	SCREENS	CIL				
HDW/FU	_	В	С	ITEM				
NASA [2 /1R IOA [3 /3] [P)] [P]] []	[X] *				
COMPARE [N /N] [N] [N] [N]	[N]				
RECOMMENDATIONS:	(If dif:	ferent fro	m NASA)					
[/] [] [_	[] ADD/DELETE)				
* CIL RETENTION F	ATIONALE:	(If appli						
REMARKS:			ADEQUATE INADEQUATE					
NASA UTILIZED A M REDUNDANCY DURING CONSERVATIVE APPR MDAC WITHDRAWS TH	THEIR AND C	ALYSIS. IC	OA ACCEPTS THE N	MORF.				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	, ,			BASELINE NEW	
	ARPCS 163 LEH O2 SI	HUTOFF VA	LVE/CREW	ER (8)	
LEAD ANALYST:	M.J. SAI	IDI			
ASSESSMENT:					
CRITICAL: FLIGH	r	REDUNDANC	CIL ITEM		
HDW/FU	NC I	A	В	С	
NASA [2 /1R IOA [3 /3] [P] [F] [:	P]	[X] * []
COMPARE [N /N] []	и][N] []	N]	[N]
RECOMMENDATIONS:	(If di	fferent f	rom NASA)		
[/] [] [] [] (AI	[DD/DELETE)
* CIL RETENTION	RATIONALE	: (If app		ADEQUATE	
REMARKS: NASA UTILIZED A I REDUNDANCY DURING CONSERVATIVE APPI MDAC WITHDRAWS TO	G THEIR AI ROACH AND	NALYSIS.	DEFINITION IOA ACCE	PTS THE MO	DRE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-164 06-1-1501-1	NASA DATA: BASELINE [] NEW [X]
SUBSYSTEM: MDAC ID:	ARPCS	EW + PASSENGER (8)
LEAD ANALYST:	M.J. SAIIDI	
ASSESSMENT:		
CRITICAL FLIGH	ITY REDUNDANCY SCREE	ENS CIL ITEM
HDW/FU	NC A B	С
NASA [2 /1R IOA [1 /1] [P] [NA]] [] []	[P] [X] * [X]
COMPARE [N /N] [N] [N]	[и] [ј
RECOMMENDATIONS:	(If different from NAS	SA)
[/] [] []	[] [] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (If applicable	e) ADEQUATE [] INADEQUATE []
REVEALED THE EXI CONNECTION FOR T WILL ALWAYS BE A	THE NASA SSM, JOHN WHELAN STENCE OF AN ADDITIONAL E HE LEH QUICK DISCONNECTS. T LEAST ONE MORE OUTLET T CAN BE REDUCED TO A 1R/2.	N, ON 23 MAY 1988, PIECE OF EQUIPMENT, A "Y . THIS MEANS THAT THERE THAN CREW MEMBERS AND

ISSUE.

ASSESSME ASSESSME NASA FME	ENT	II	D:	2/19/88 ARPCS-166 06-1-1502-2						-	ASA DA BASELI N		[]				
SUBSYSTE MDAC ID:				16	ARPCS 166 QUICK DISCONNECTS (8)														
LEAD ANA	ALY:	ST	:	М.	J. S	A)	III	DI											
ASSESSME	TUE	:																	
	CR		ICAL: LIGH'		?		RI	EDUNI	NAC	CY	SCRE	EEN	S			CI	L	f	
]		W/FU				A			В			С				gar.	1	
NASA IOA	[2 1	/1R /1]		[P]	[N	A]]	[P]		[X X]	*
COMPARE	[N	/N]		[N]	(N]	[N]		[]	
RECOMMEN	NDA'	TI	ons:		(If	d:	ifi	fere	nt	fr	om NA	ASA)						
	[/]		[]	[]	[]	(AI	[DD/	DE] ELE	ETE)
* CIL RI	ETE!	NT:	ION I	RAT	NOI	ΔLI	ε:	(If	ap	pl:	icab]			DEQUAT DEQUAT		[]	

DISCUSSION WITH THE NASA SSM, JOHN WHELAN, ON 23 MAY 1988, REVEALED THE EXISTENCE OF AN ADDITIONAL PIECE OF EQUIPMENT, A "Y" CONNECTION FOR THE LEH QUICK DISCONNECTS. THIS MEANS THAT THERE WILL ALWAYS BE AT LEAST ONE MORE OUTLET THAN CREW MEMBERS AND THE CRITICALITY CAN BE REDUCED TO A 1R/2. IOA WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-16	: [
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 167 QUICK DI							
LEAD ANALYST:	M.J. SAI	IDI						
ASSESSMENT:								
CRITICAL FLIGH		REDUNDANC	Y SCREENS		CIL ITEM			
HDW/FU		A 1	В	C	1111	•		
NASA [2 /1R IOA [3 /3] [P] []	NA] [:	P]	[X] *		
COMPARE [N /N] [N] []	и][N]	[N]		
RECOMMENDATIONS:	(If di	fferent f	rom NASA)					
[/] [] [] [] (AD	[DD/DE] CLETE)		
* CIL RETENTION	RATIONALE	: (If app	,	ADEQUATE ADEQUATE	[]		
REMARKS: NASA UTILIZED A MORE CONSERVATIVE DEFINITION FOR FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND CONCURS WITH THE HIGHER CRITICALITIES.								

MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-16	: [] [x]							
	168								
LEAD ANALYST:	M.J. SA	IIDI							
ASSESSMENT:									
CRITICAL FLIGH		REDUNDAN	CY SCREENS	S	CIL ITEM				
HDW/FU	NC	A	В	C					
NASA [2 /1R IOA [1 /1] [P] [NA] [] [P]	[X] * [X]				
COMPARE [N /N] [и] [и][и]	[]				
RECOMMENDATIONS: (If different from NASA)									
[/] [] [] [] (A	[] .DD/DELETE)				
* CIL RETENTION	RATIONAL	E: (If ap		ADEQUATE NADEQUATE	[]				
REMARKS: DISCUSSIONS WITH THE NASA SSM, JOHN WHELAN, ON 23 MAY 1988, REVEALED THE EXISTENCE OF AN ADDITIONAL PIECE OF EQUIPMENT, A "Y' CONNECTION FOR THE LEH QUICK DISCONNECTS. THIS MEANS THAT THERE WILL ALWAYS BE AT LEAST ONE MORE OUTLET THAN CREW MEMBERS AND THE CRITICALITY CAN BE REDUCED TO A 1R/2. IOA WITHDRAWS THE									

ISSUE.

	2/19/88 ARPCS-16 06-1-150			NASA DATA: BASELINE [] NEW [X]							
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 169 QUICK DI	-									
LEAD ANALYST:	M.J. SAI	IDI									
ASSESSMENT:											
CRITICAL: FLIGHT HDW/FUI	r	REDUNDAN	CY SCREI		CIL ITEM						
nbw/ roi			Б	С							
NASA [2 /1R IOA [3 /3] [P] [NA]	[P] []	[X] *						
COMPARE [N /N] [N] [иј	[N]	[N]						
RECOMMENDATIONS: (If different from NASA)											
[/] [] []	[] (A)	[] DD/DELETE)						
* CIL RETENTION F	RATIONALE	: (If app	plicable	ADEQUATE INADEQUATE	[]						
REMARKS:					- -						

NASA UTILIZED A MORE CONSERVATIVE DEFINITION FOR FUNCTION AND REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND CONCURS WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 ARPCS-174A 06-1-1512-3	NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 174 SHUTOFF VALVE/D									
LEAD ANALYST:	M.J. SAIIDI	M.J. SAIIDI								
ASSESSMENT: CRITICAL	LITY REDUNDA	NCY SCREENS	CIL ITEM							
FLIGH HDW/FU	HT	В С	•							
NASA [2 /1] IOA [1 /1	R] [P]	[P] [P] [] []	[X] *							
COMPARE [N /N] [N]	[N]	[]							
RECOMMENDATIONS: (If different from NASA)										
[/	_ •	[] []	[] (ADD/DELETE)							
* CIL RETENTION	N RATIONALE: (If	applicable) ADEQUI	JATE [] JATE []							
DEMARKS.		CON TOWN	N WHALAN, ON 23							

THIS ISSUE WAS DISCUSSED WITH THE NASA SSM, JOHN WHALAN, ON 23 MAY 1988. THIS FAILURE CAUSES THE LEAK TO GO THROUGH THE VALVE AND THRU THE DIRECT OXYGEN OUTLET INTO THE CABIN. THERE IS A FLOW RESTRICTER WHICH LIMITS THE LEAK TO 10LBS/HR. AT THIS LEVEL, THE LEHS WILL STILL PROVIDE OXYGEN TO THE CREW AND NO IMMEDIATE LOSS OF LIFE OCCURS. GIVEN THIS KNOWLEDGE, IOA WITHDRAWS THE ISSUE.

ASSESSM ASSESSM NASA FM	EN.	Т.	ID:	A	06-1-0161-1 BASEL						DATA ELINE NEW	. []					
SUBSYST MDAC ID ITEM:				2	RPCS 12 2 TAN	٧K	s	(4)								·	•	J
LEAD AND	AL	(SI	? :	M	.J. S	SA.	ΙI	DI										
ASSESSMI	INE	: :																
	CRITICALITY REDUNDANCY SCREENS FLIGHT							CIL										
			W/FU				A			В		С				ITEM		
NASA IOA	[3 2	/1R /1R]]	P P]	[P P]		[F	']		[] x]	*
COMPARE			/			[J	[]		[N				N]	
RECOMMEN	DA:	ric	ons:		(If o	li	ff	ere	nt f	rc	m l	NASA	١)					
	[/]	ĺ	-]	[]	[]	(AD	[D/I] DELE	ETE)
* CIL RET	ren	ΙΤΙ	ON R	AT:	IONAI	E	:	(If	app	li	cak	ole)						•
REMARKS:		_	.									I	NAI	DEQUA DEQUA	TE	[]	
DURING TH GROUNDRUI ACT AS BA	E I LE I	R WH UP	ANAL ICH TO	YS] LE] The	IS OF THE FAI	' I S LE	THI EC ID	E N2 COND SYS	SYS N2 TEM	STI SI	EM, YST	NA. EM.	SA ANI	UTIL THE	IZED CAB	A N	INT	EGRITY

ACT AS BACKUP TO THE FAILED SYSTEM. THE FLIGHT RULES WILL ALWAYS MAINTAIN A MINIMUM AMOUNT OF 110 LBS OF USABLE NITROGEN, BUT ABOVE THIS LEVEL, A FAILED N2 SYSTEM DOES NOT AUTOMATICALLY MEAN A MISSION TERMINATION. THIS PHILOSOPHY AGREES WITH A 3/1R CRITICALITY. AFTER THIS DISCUSSION WITH JOHN WHELAN 23 MAY 1988, IOA AGREES WITH THE APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-214 06-1-0191-1								A DATA	E	[x]	
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 214 LINES &							rp2	28				
LEAD ANALYST:	M.J. SA	IID	I										
ASSESSMENT:													
CRITICAL		RE	DUNDA	NC.	Y	SCREE	NS				CIL		
FLIGH HDW/FU		A			В			С					
NASA [2 /1R IOA [1 /1		P]	[P]	[P]		[X]	*
COMPARE [N /N] [N]	[N]	[N]		[]	
RECOMMENDATIONS:	(If d	liff	erent	: f	ro	om NAS	SA)	ı					
[/		[1	(]	[1	(Al	[D\D()EI	LETE)
* CIL RETENTION	RATIONA	LE:	(If a	app	1:	icable			EQUAT EQUAT		[]
REMARKS: RE-EVALUATION OF WITH NASA CRITIC	F SYSTEM CALITIES	AN!	D CON'	rro Is	DL:	s WIL WITHD	L RA	PEI WN	RMIT I	OA	то	A	GREE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-2	23A		BASELI	NASA DATA: BASELINE [] NEW [X]					
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 223 ISOLATI									
LEAD ANALYST:	M.J. SA	M.J. SAIIDI								
ASSESSMENT:										
CRITICAL: FLIGHT	r	REDUND	ANCY SCI	REENS	CIL ITEM					
HDW/FUI	NC	A	В	С	TIEM					
NASA [3 /1R IOA [3 /2R] [P] P]	[F] [P]	[P] [P]	[X] *					
COMPARE [/N] []	[N]	[]	[N]					
RECOMMENDATIONS:	(If di	fferent	from N	'ASA)						
[/	-	-			[] ADD/DELETE)					
* CIL RETENTION R	ATIONALE	: (If a	pplicab							
REMARKS:				ADEQUATE INADEQUATE	į j					
NASA UTILIZED A M REDUNDANCY DURING CONSERVATIVE APPR MDAC WITHDRAWS TH	OACH AND	MAI.VCIC	100	1000DDC						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-224 06-1-0230-	4	NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 224 ISOLATION	24 SOLATION VALVE (2)									
LEAD ANALYST:	M.J. SAIID	I									
ASSESSMENT:											
CRITICAL		DUNDANCY	SCREEN	S	CIL ITEM						
FLIGH HDW/FU		В		С							
NASA [3 /1R IOA [2 /1F	[P] [P] [P] P]	[] * [X]						
COMPARE [N /] [] [] []	[N]						
RECOMMENDATIONS:	(If dif	ferent fr	om NAS	A)							
[/] [] []	[] (A	[] .DD/DELETE)						
* CIL RETENTION	RATIONALE:	(If appl) ADEQUATE INADEQUATE	[]						
REMARKS:	አቲሂፍፒፍ ሰፑ ጥ	HE N2 SYS	STEM, N	ASA UTILIZE	ED A						

DURING THEIR ANALYSIS OF THE N2 SYSTEM, NASA UTILIZED A GROUNDRULE WHICH LET THE SECOND N2 SYSTEM AND THE CABIN INTEGRITY ACT AS BACKUP TO THE FAILED SYSTEM. THE FLIGHT RULES WILL ALWAYS MAINTAIN A MINIMUM AMOUNT OF 110 LBS OF USABLE NITROGEN, BUT ABOVE THIS LEVEL, A FAILED N2 SYSTEM DOES NOT AUTOMATICALLY MEAN A MISSION TERMINATION. THIS PHILOSOPHY AGREES WITH A 3/1R CRITICALITY. AFTER THIS DISCUSSION WITH JOHN WHELAN ON 23 MAY 1988, IOA AGREES WITH THE APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-232	-1	NASA DATA: BASELINE NEW	
MDAC ID:	ARPCS 232 LINES & FI	ITTINGS		
LEAD ANALYST:	M.J. SAIID	oi		
ASSESSMENT:				
CRITICALI FLIGHT	1	DUNDANCY SCREENS		CIL ITEM
HDW/FUN	C A	В	С	
NASA [3 /1R IOA [2 /1R] [P] [NA] []	P] P]	[] * [X]
COMPARE [N /] [[N] [[N]
RECOMMENDATIONS:	(If diffe	erent from NASA)		
[/	J (;] [] [=	[] D/DELETE)
* CIL RETENTION R	ATIONALE:	A	DEQUATE	[]
REMARKS: MMU CAN NOT BE CON	NSIDERED TO ASAs LOWER	A RE MISSION COIN		REFORE, IOA THE ISSUE.

ASSESSMEN ASSESSMEN NASA FMEA	T	ΙD		ARI	L9/88 PCS-1	234	5−∶	1		NASA DATA: BASELINE [] NEW [X]									
SUBSYSTEMDAC ID:	1:			2.2	2 SYSTEM SUPPLY ISOL. VLV-LV3									V3&L7	J4 (2)			
LEAD ANA	LYS	T:		М.,	J. S	AI:	ΙD	I											
ASSESSME	T:															O.T.	~		
ı	CR1		CAL			:	RE	DUND	ANO	CY	SCRE	ENS	5			CI			
	F		V/FU				A			В			С						
NASA IOA	[3	/1R /1R]		[P P]	[P P]	[P P]		[х] *	r
COMPARE	[N	/]		[]	[]	[]		[N]	
RECOMMEN	IDA'	TI	ons:		(If	di	.f1	ferer	ıt	fr	om N	ASA)						
	[/]		[]	[3	[]	(A] DD/	′DF	ELE'	TE)
* CIL RI	ETE	TN	ION	RA!	rion.	ALI	Ξ:	(If	ap	pl	icab		-	DEQU <i>I</i>		[]	

DURING THEIR ANALYSIS OF THE N2 SYSTEM, NASA UTILIZED A GROUNDRULE WHICH LET THE SECOND N2 SYSTEM AND THE CABIN INTEGRITY ACT AS BACKUP TO THE FAILED SYSTEM. THE FLIGHT RULES WILL ALWAYS MAINTAIN A MINIMUM AMOUNT OF 110 LBS OF USABLE NITROGEN, BUT ABOVE THIS LEVEL, A FAILED N2 SYSTEM DOES NOT AUTOMATICALLY MEAN A MISSION TERMINATION. THIS PHILOSOPHY AGREES WITH A 3/1R CRITICALITY. AFTER THIS DISCUSSION WITH JOHN WHELAN ON 23 MAY 1988, IOA AGREES WITH THE APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: 2/19/88 ASSESSMENT ID: ARPCS-235 NASA FMEA #: 06-1-0165-2								NASA DATA: BASELINE [] NEW [X]											
SUBSYSTI MDAC ID: ITEM:	EM:			2	RPCS 35 2 SY		EM	SU:	PPLY	. I	so	L. V	LV-	-LV3	&LV4	(2)			
LEAD ANA	ALY	ST	:	M	.J.	SA	ΙI	DI											
ASSESSME	ENT	:																	
		FI	LIGI	TF	Y		R	EDUI	NDAN	CY	s	CREE	NS			CI:			
										_			С			111	em.		
NASA IOA	[3 2	/1F /1F	?]		[P P]	[P P]	(P]		[] K]	*	
COMPARE	[N	/]		[]	[]	[]		[1	1]		
RECOMMEN	DA'	rio	NS:		(If	di	ff	ere	nt :	fro	m	NASA	(۱						
												[]		[DD/E			ı
* CIL RE	TEN	ITI	ON	RAT	'ION	ALE	:	(If	app	oli	.ca	ble)							
REMARKS:													NAI	DEQU	ATE ATE	į]		
DURING THE GROUNDRUST ACT AS BATT AND MAINTAIN ABOVE THE A MISSION CRITICALS	ACK A IS I T	UP MIN LEV	TO NIM VEL	TH UM , A	E FA AMOU FAI	IL INT LE	ED O D	SYS F 1: N2 S	D N2 STEM 10 I SYST	S BS EM	YS' T) O) D(TEM HE F HE US OES I	AND LIC ABI	HT E HT I E N	E CAB RULES ITROG	IN WI EN,	LL BU	ALW	AYS

CRITICALITY. AFTER THIS DISCUSSION WITH JOHN WHELAN ON 23 MAY 1988, IOA AGREES WITH THE APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		PA: HE [] EW [X]	
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 237 SINGLE PHASE MO	OTOR/N2-SYSTEM ISOL	. VLV (2)
LEAD ANALYST:	M.J. SAIIDI		
ASSESSMENT:			
CRITICAL	ITY REDUNDA	ANCY SCREENS	CIL ITEM
FLIGH HDW/FU	IT INC A	ВС	
NASA [3 /1F IOA [2 /1F	R] [P]	[P] [P] [P] [P]	[] * [X]
COMPARE [N /			[и]
RECOMMENDATIONS	: (If differen	t from NASA)	
[/] []	[] []	[] (ADD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUA' INADEQUA'	re [] re []
REMARKS: IOA STUDIED THE THIS COMPARISON	ELECTRICAL MOTO	OR SEPARATELY FROM ON THE FMEA ANALYS	THE VALVE, AND IS FOR THE
VALVE. DURING THEIR AN GROUNDRULE WHIC ACT AS BACKUP T MAINTAIN A MINI ABOVE THIS LEVE A MISSION TERMI	ALYSIS OF THE NOTE OF THE NOTE OF THE FAILED SYSTEMUM AMOUNT OF 1 DEL, A FAILED N2 INATION. THIS P	2 SYSTEM, NASA UTIL D N2 SYSTEM AND THE STEM. THE FLIGHT R 10 LBS OF USABLE NI SYSTEM DOES NOT AUT HILOSOPHY AGREES WI SSION WITH JOHN WHE OACH AND WITHDRAWS	IZED A CABIN INTEGRITY ULES WILL ALWAYS TROGEN, BUT OMATICALLY MEAN TH A 3/1R

ASSESSMENT DATE: 2/19/88 NASA DATA: ASSESSMENT ID: ARPCS-241 BASELINE [NASA FMEA #: 05-6VA-2013-2 NEW [X] SUBSYSTEM: ARPCS MDAC ID: 241 ITEM: SWITCH, S13&S21/N2-SYSTEM ISOL VLV (2) LEAD ANALYST: M.J. SAIIDI ASSESSMENT: CRITICALITY REDUNDANCY SCREENS CIL FLIGHTITEM HDW/FUNC A B C NASA [3 /1R] [P] [P] [P] IOA [2 /1R] [P] [P] COMPARE [N /] [] [] [N] RECOMMENDATIONS: (If different from NASA) (ADD/DELETE) * CIL RETENTION RATIONALE: (If applicable) ADEQUATE [INADEQUATE REMARKS: DURING THEIR ANALYSIS OF THE N2 SYSTEM, NASA UTILIZED A GROUNDRULE WHICH LET THE SECOND N2 SYSTEM AND THE CABIN INTEGRITY ACT AS BACKUP TO THE FAILED SYSTEM. THE FLIGHT RULES WILL ALWAYS MAINTAIN A MINIMUM AMOUNT OF 110 LBS OF USABLE NITROGEN, BUT ABOVE THIS LEVEL, A FAILED N2 SYSTEM DOES NOT AUTOMATICALLY MEAN A MISSION TERMINATION. THIS PHILOSOPHY AGREES WITH A 3/1R

CRITICALITY. AFTER THIS DISCUSSION WITH JOHN WHELAN ON 23 MAY 1988, IOA AGREES WITH THE APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-27 06-1-015		NASA DATA: BASELINE NEW	[x]						
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 271 SHUTOFF	71 HUTOFF VALVE (2)								
LEAD ANALYST:	M.J. SAI	IDI								
ASSESSMENT:										
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM					
FLIGH HDW/FU		A	В	С						
NASA [3 /1R IOA [2 /1R		P] P]	[P] [P]	[P] [P]	[] * [X]					
COMPARE [N /] [1	[]	[]	[N]					
RECOMMENDATIONS	(If d	ifferent	t from NAS	5 A)						
[/] []	[]	[] (A	[] DD/DELETE)					
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE						
REMARKS: DURING THEIR AN	ALYSIS OF	THE N2	SYSTEM, N2 SYSTE	NASA UTILIZE M AND THE CA	ED A ABIN INTEGR					

DURING THEIR ANALYSIS OF THE N2 SYSTEM, NASA UTILIZED A GROUNDRULE WHICH LET THE SECOND N2 SYSTEM AND THE CABIN INTEGRITY ACT AS BACKUP TO THE FAILED SYSTEM. THE FLIGHT RULES WILL ALWAYS MAINTAIN A MINIMUM AMOUNT OF 110 LBS OF USABLE NITROGEN, BUT ABOVE THIS LEVEL, A FAILED N2 SYSTEM DOES NOT AUTOMATICALLY MEAN A MISSION TERMINATION. THIS PHILOSOPHY AGREES WITH A 3/1R CRITICALITY. AFTER THIS DISCUSSION WITH JOHN WHELAN ON 23 MAY 1988, IOA AGREES WITH THE APPROACH AND WITHDRAWS THE ISSUE.

2/19/88 ARPCS-276 06-1-0178	5 3-3	NASA DATA: BASELINE [] NEW [X]							
ARPCS 276			•						
M.J. SAII	DI								
	EDUNDANCY SO	CREENS	CIL						
NC A	В	С	ITEM						
] [P]] []	[P] []	[] * [x]						
] [N] [N]	[N]	[N]						
(If diff	ferent from	NASA)							
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ATIONALE:	(If applica		·						
		ADEQUATE INADEQUATE	į j						
THE FAILED M AMOUNT O A FAILED FION. THIS ER THIS DIS	SYSTEM. TO SYSTEM. TO SYSTEM DO SYSTEM DO S PHILOSOPHY SCUSSION WITH	TEM AND THE CA HE FLIGHT RULE F USABLE NITRO DES NOT AUTOMA	BIN INTEGRITY S WILL ALWAYS GEN, BUT TICALLY MEAN						
	ARPCS-276 06-1-0178 ARPCS 276 CROSSOVER M.J. SAII ITY R INC A] [P] [N (If dif:] [N (If dif:] [N ATIONALE: YSIS OF TH LET THE SE THE FAILED M AMOUNT OF A FAILED FION. THI ER THIS DI	ARPCS-276 06-1-0178-3 ARPCS 276 CROSSOVER VALVE (1) M.J. SAIIDI ITY REDUNDANCY SOLUTION ITY REDUNDANCY SOLUTION [P] [P] [N] [N] (If different from	ARPCS-276 06-1-0178-3 ARPCS 276 CROSSOVER VALVE (1) M.J. SAIIDI ITY REDUNDANCY SCREENS INC A B C P P P P P P P P P P P P P P P P P P						

1988, IOA AGREES WITH THE APPROACH AND WITHDRAWS THE ISSUE. ADDITIONAL DISCUSSION REVEALED THAT THE DESIGN OF THIS VALVE IS SUCH THAT IT IS FLOWN NORMALLY CLOSED. SHOULD A LEAK OCCUR, THE OPERATING LEG CAN BE CHANGED AND THE LEAK ISOLATED. IT SHOULD ALSO BE NOTED THAT EVEN WITH A LEAK, N2 IS STILL AVAILABLE TO

THE CABIN ATMOSPHERE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-31 06-1-014		NASA DATA: BASELINE NEW								
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 312 PPO2 SEN	.2 PO2 SENSOR-C (1)									
LEAD ANALYST:	M.J. SAI	J. SAIIDI									
ASSESSMENT:											
CRITICAL		REDUNDANCY SCREENS CIL ITEM									
FLIGH HDW/FU		A	В	С							
NASA [3 /1F IOA [2 /2		P] ([P] [[] [P]	[x] *						
COMPARE [N /N] [и]	[и]	и]	[N]						
RECOMMENDATIONS	(If d	ifferent	from NASA	۷)							
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* CIL RETENTION	RATIONAL	E: (If a		ADEQUATE INADEQUATE	[]						
REMARKS: RE-EVALUATION A IS WITHDRAWN.	LLOWS IOA	TO AGRE	E WITH NA	SA CRITICAI	LITIES. ISSUE						

ASSESSM ASSESSM NASA FM	ENT	'I	D:		AF	2/19/88 ARPCS-322 06-1-0214-1								NASA DATA: BASELINE [] NEW [X]							
SUBSYST MDAC ID ITEM:					32	ABIN PRESSURE SENSOR (1)															
LEAD AN	ALY	ST	:		M.	J. :	SA	ΙI	DI												
ASSESSM	ENT	:																			
CRITICALITY REDUNDANCY SCREENS FLIGHT										CIL											
	1				1C										ITEM						
NASA IOA	[2	/1 /2	LR PR]	[P] [P] [P] [P] [P] [P]									[X] *	•			
COMPARE	[N	/N	ī]		[]		[]		[]		[N]	
RECOMMEN	[AGI	CIC	SMC	:		(If	di	f1	fere	ent	: 1	rc	m	NAS	A)						
]	(AI		DE] LET	E)
* CIL RE	TEN	ΙΤΙ	ON	R	AT]	CONA	LE	:	(Ii	f a	pp	li	ca	ble							
REMARKS:														נ	A NA	DEQU	JATE JATE	[]	
NASA UTI REDUNDAN CONSERVA MDAC WIT	TIV	Έ	AP:	NG PR	OAC	H A	A ND	NΑ	LVS	: rs		т	\sim $^{\lambda}$	700	עדיםי	mc	177T 360				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		/19/88 NASA DATA: RPCS-324 BASELINE [6-1-0211-1 NEW [
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 324 CABIN DE	24 ABIN DP/DT SENSOR (1)								
LEAD ANALYST:										
ASSESSMENT:										
CRITICAL	CIL ITEM									
FLIGH HDW/FU		A	В	С						
NASA [2 /1] IOA [3 /2]	R] [P] P]	[P] [P]	[P] [P]	[X] * []					
COMPARE [N /N] [1	[]	[]	[N]					
RECOMMENDATIONS	: (If d	ifferer	nt from NA	.SA)						
[/		1	[]	[] (2	[] ADD/DELETE)					
* CIL RETENTION	RATIONAL	E: (If	applicabl	.e) ADEQUATE INADEQUATE						
REMARKS: NASA UTILIZED A	MORE CON	ISERVAT	IVE DEFIN	TION FOR FU	NCTION AND					

REDUNDANCY DURING THEIR ANALYSIS. IOA ACCEPTS THE MORE CONSERVATIVE APPROACH AND CONCURS WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSM ASSESSM NASA FM	ENT	'I	D:	AR	PCS-3	27	,)22 - :	1	NASA DATA: BASELINE [] NEW [X]									
SUBSYSTIMDAC ID:				32	PCS 7 RCUIT	B	REAR	KER,	C	B16	/DP/	DT	(1)					
LEAD ANA	ALY	ST	:	М.,	J. SA	II	DI											
ASSESSME	ENT	:																
	CR		CAL LIGH			R	EDUN	IDAN	CY	SC	REEN	s				[L	_	
	I	HDW	/FUI	NC		A			В			С			1'1	rem	I	
NASA IOA]	2	/1R /2]	[P]]	P]	[P]		[X X]	*
COMPARE	[/N]	[N]	[N]	[N]		[]	
RECOMMEN	DAT	OI	NS:	(If d	ifi	fere	nt i	fro	om 1	VASA))						
	[/]]]	(Al	[DD/	DE.		ΓE)
* CIL RE	TEN	TI	ON R	ATI	ONALE	E:	(If	app	1i	cab			EQUA		[]	
REMARKS: NASA UTI THEIR AND CONCURS O			- •	TON	TO CE	FI	5 11	TL M	UK	F: C	ידיידר	N	ሰ ም ፤	ATE REDUN VE AI	יא	MOI] Y [CH	OURING AND

CONCURS WITH THE HIGHER CRITICALITIES. MDAC WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-34	4	NASA DATA: BASELINE [] NEW [X]								
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 344 FILTER ((2)									
LEAD ANALYST:											
ASSESSMENT:											
CRITICAL		REDUNDAN	CY SCREE	ens	CIL ITEM						
FLIGH HDW/FU		A	В	С							
NASA [/ IOA [2 /1R] [] [P] [] P]	[] [P]	[x] *						
COMPARE [N /N			[N]	[N]	[N]						
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)							
[/] []	[]	[]	[] ADD/DELETE)						
* CIL RETENTION	RATIONAL	E: (If a	pplicabl	e) ADEQUATE INADEQUATE							
REMARKS: DISCUSSION WITH EXAMINATION OF PRECLUDES THE CISSUE.	אוו יויסגס	IINGS KEV	DWTTD III	MIT T****	988, PLUS TERS DESIGN WITHDRAWS THE						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-350		NASA DATA BASELINE NEW	: [] [x]
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 350 SINGLE PHASE N	MOTOR (2)		
LEAD ANALYST:	M.J. SAIIDI			
ASSESSMENT:				
CRITICALI FLIGHT		DANCY SCREENS		CIL ITEM
HDW/FUN	IC A	В	С	IIEM
NASA [2 /1R IOA [3 /3] [P]] []	[P] [P]	[X] *
COMPARE [N /N] [N]	[N]	N]	[N]
RECOMMENDATIONS:	(If differen	t from NASA)		
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* CIL RETENTION R	ATIONALE: (If			
REMARKS:		IN	ADEQUATE ADEQUATE	[]
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SUBSYSTEMDAC ID:	M:			358	PCS 3 RCUI	т	BR	EAKEI	а,	CB	22	& (св	34	(2)			
LEAD ANA	LYS	T:		М.	J. S	ΑI	ID	I										
ASSESSME	NT:	1																
	CRI		[CAL]				RE	DUND	AN(CY	SCI	REE	NS	,		CIL		
	H		LIGHT N/FU				A			В				С				
NASA IOA	[2	/1R /3]		[P]	[P]		[P]	[X] *]	
COMPARE	[N	/N]		[N]	[N]		[N	1	[N]	
RECOMMEN	IDA'	ΓI	ons:		(If	d:	ifi	feren	t	fro	om :	NAS	A)					
	[/]		[]	[]		[] (A	.DD/[] ELETE	Ξ)
* CIL RI	ETE	ΝT	ION	RAI	NOI	AL:	E:	(If	ap	pl.	ica	bl∈			DEQUATE DEQUATE	[]	

REMARKS:

RE-EVALUATION BY NASA HAS RESULTED IN A DIFFERENT FMEA NUMBER (05-6UC-90X) AND A MODIFIED CRITICALITY (3/3) WHICH MATCHES IOA'S RECOMMENDATION. ISSUE CLOSED.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-35	59 200100-:	1	NASA DATA BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 359 CIRCUIT	BREAKEI	R, CB22 &	CB34 (2)				
LEAD ANALYST:	LEAD ANALYST: M.J. SAIIDI							
ASSESSMENT:								
CRITICAL FLIGH	r		ANCY SCRE	ENS	CIL ITEM			
HDW/FU	NC	A	В	С				
NASA [2 /1R IOA [3 /3] [P]	[P]	[P] []	[X] *			
COMPARE [N /N] [и]	[N]	[N]	[N]			
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)				
[/] []	[]	[] (A)	[] DD/DELETE)			
* CIL RETENTION I	RATIONALE	: (If a	pplicable	≘)				
REMARKS:				ADEQUATE INADEQUATE				
RE-EVALUATION BY (05-6UC-100X) AND	NASA HAS	RESULT	ED IN A D	OIFFERENT FMI (3/3) WHICH	EA NUMBER MATCHES			

IOA'S RECOMMENDATION. ISSUE CLOSED.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-36 06-1-020			NASA DATA BASELINE NEW	_				
MDAC ID:	ARPCS 362 CAP (2)								
LEAD ANALYST:	M.J. SA	.J. SAIIDI							
ASSESSMENT:									
CRITICAL FLIGH		REDUNDAN	ICY SCREE	ens	CIL ITEM				
HDW/FU		A	В	С					
NASA [2 /1R IOA [2 /1R] [P] P]	[NA] [F]	[P] [P]	[X] * [X]				
COMPARE [/] []	[и]	[]	[]				
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)					
[/] []	[]	[]	[] ADD/DELETE				
* CIL RETENTION	RATIONAL	E: (If a	pplicabl	e) ADEQUATE INADEQUATE					
REMARKS: AFTER RE-EVALUAT SCREEN B IS NO I	TION, IOA LONGER AN	HAS DET	ERMINED	THAT THE FA	ILURE OF				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-364		NASA DATA BASELINE NEW	-
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 364 DEBRIS SCR	EEN (2)		
LEAD ANALYST:	M.J. SAIID	I		
ASSESSMENT:				
FLIGHT	<u>'</u>	DUNDANCY SCRE	ENS	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [/ IOA [2 / 1R] [P] []] [F]	[] [P]	[] * [X]
COMPARE [N /N] [N]] [N]	[N]	[N]
RECOMMENDATIONS:	(If diffe	erent from NAS	SA)	
[/] []] []		[] DD/DELETE)
* CIL RETENTION R	ATIONALE: ((If applicable	ADEQUATE INADEQUATE	[]
REMARKS: THIS DEBRIS SCREE 0206-1 WHICH IS W MATCHES IOAS, THE	RITTEN AGAI	NST THE VALVE	F THE MACA E	MER 06 10

	2/19/88 ARPCS-36 06-1-022			NASA DATA: BASELINE NEW	[x]				
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 367 QUICK DI	SCONNEC	r						
LEAD ANALYST:	M.J. SAI	.J. SAIIDI							
ASSESSMENT:									
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM				
FLIGH HDW/FU		A	В	С					
NASA [3 /1R IOA [3 /2R] [F] F]	[F] [F]	[P] [P]	[X] *				
COMPARE [/N] []	[]	[]	[]				
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)					
[/] [)	[]	[] (A	[] DD/DELETE)				
* CIL RETENTION	RATIONAL	E: (If a	applicable	adequate					
REMARKS: NASA UTILIZED A DURING THEIR AND APPROACH AND AGE WITHDRAWS THE IS	ALYSIS. REES WITH	TOA ACC	EPTS THE I	MOKE CONSERV	OUNDANCY CATIVE MDAC				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-3	68X		NASA DATA: BASELINE [] NEW [X]						
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 368 QUICK D	ISCONNE	CT							
LEAD ANALYST:	M.J. SA	.J. SAIIDI								
ASSESSMENT:										
CRITICAL: FLIGHT		REDUND	ANCY S	CREENS	}	CIL ITEM				
HDW/FU	4C	A	В		С	11111				
NASA [3 /1R IOA [3 /2R] [F] F]	[F]	[P] P]	[X] *				
COMPARE [/N] []	[]	ſ]	[]				
RECOMMENDATIONS:	(If di	fferen	t from	NASA)						
[/] [1	[]	[] (A)	[] DD/DELETE)			
* CIL RETENTION F	RATIONALE	: (If a	applic							
REMARKS:					ADEQUATE ADEQUATE	[]				
NASA UTILIZED A M DURING THEIR ANAI APPROACH AND AGRE WITHDRAWS THE ISS	YSIS. I ES WITH	OA ACCI	EPTS T	HE MOR	F CONSEDU	JNDANCY ATIVE IDAC				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-11 05-6VA-2	31X 017-2		NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 1131 SWITCH-S	312			
LEAD ANALYST:	M.J. SA	IDI			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1R IOA [3 /3] [P]	[F] []	[P] []	[X] *
COMPARE [/N] [и]	[N]	[N]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NAS	;A)	
[/] []	[]	[] (A	[] DD/DELETE
* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	[]
REMARKS: NASA UTILIZED A DURING THEIR AND APPROACH AND AGE WITHDRAWS THE IS	ALYSIS. REES WITH	T/3A A/11	PPIS IDE	MOKE COMOSSIV	OUNDANCY ATIVE MDAC

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	ARPCS-146	1X	NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 1461 FILTER, 1	0 MICRON (2)		
LEAD ANALYST:	M.J. SAII	DI		
ASSESSMENT:				
CRITICA: FLIG		EDUNDANCY SCREE	ens	CIL
HDW/F	INC A	В	С	ITEM
NASA [2 / 11 IOA [/ NA	R] [P] [P]] []	[P] []	[X] *
COMPARE [N /N] [N] [N]	[N]	[N]
RECOMMENDATIONS:	(If diff	erent from NAS	A)	
[/] [] []		[] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If applicable)	
REMARKS:			INADEQUATE	
IOA CONSIDERED E FITTINGS ANALYSI NOT CONSIDERED C FAILURE MODE, NA	REDIBLE. H SA UTILIZED	EKNAL LEAKAGE]	FOR THE FILT	

APPROACH AND WITHDRAWS THE ISSUE.

DEFINITION OF FAILURE MODES. IOA ACCEPTS THIS MORE CONSERVATIVE

ASSESSME ASSESSME NASA FME	TN	ID			/88 S-1501 -1510-					ASA D BASEL]	 	
SUBSYSTE MDAC ID:				ARPO 1501 LINE		FIT	rings								
LEAD ANA	LYS	T:		M.J.	SAII	DI									
ASSESSME	ENT:	;													
	CRI		CAL		R	EDUN	DANCY	SCR	EENS			CIL	_		
	F		IGH /FU	_	A		В		С						
NASA IOA			/1 /NA]	[[]	[]	[[]		K]	ζ.] *	k
COMPARE	[N	/N]	[]	[]	[]		[]	1]	
RECOMME	NDA'	ric	ons:	(:	If dif	fere	nt fr	om N	IASA)						
	[/]	C]	[]	[]	(AI	[DD/I	ΣE] LE	ΓE)
* CIL R	ETE	NT:	ION	RATI	ONALE:	(If	appl	icak	P	ADEQUA		[]	X]	

REMARKS:

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF CREDIBLE FAILURE MODES DURING THEIR ANALYSIS. IOA ACCEPTS THIS MORE CONSERVATIVE APPROACH AND WITHDRAWS THE ISSUE.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-176 06-1-1511			NASA DATA BASELINE NEW	: [] [x]			
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 1761 ORIFICE,	DIRECT E	BLEED (1)					
LEAD ANALYST:	M.J. SAII	M.J. SAIIDI						
ASSESSMENT:								
CRITICALI FLIGHT HDW/FUN			Y SCREENS		CIL ITEM			
now/ror	IC A	,	В	С				
NASA [2 /1R IOA [/NA] [P	,] [P] [P]	[X] *			
COMPARE [N /N] [N] [N] [N]	[N]			
RECOMMENDATIONS:	(If dif	ferent f	rom NASA)					
[/] [] [] [] (AD	[] D/DELETE)			
* CIL RETENTION R	ATIONALE:	(If app	-	ADEQUATE	<i>5</i> 3			
DEMA DUC.				ADEQUATE	[]			
REMARKS: NASA UTILIZED A M MODES DURING THEI APPROACH AND WITH	R ANALYSI:	S. IOA	DEFINITION ACCEPTS T	N OF CREDI HIS MORE C	BLE FAILURE ONSERVATIVE			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 ARPCS-26 06-1-019	32X 3-2			NAS BA			
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 2632 LINES AN	D FITTI	NGS					
LEAD ANALYST:	M.J. SAI	IDI						
ASSESSMENT:								
CRITICAL		REDUNDA	MCY	SCREEN	1S		CIL ITEM	ī
FLIGH HDW/FU		A	В		С			
NASA [2 /1R IOA [/NA		P]	[P]	P []	[X] *
COMPARE [N /N] [N]	[1	1	N	1	[N	1
RECOMMENDATIONS:	(If d	ifferen	t fro	om NAS	A)			
[/] [3	[]	[] (A] .D/D] ELETE)
* CIL RETENTION	RATIONAL	E: (If	appl.	icable	n.	EQUATE EQUATE	[]
REMARKS: NASA UTILIZED A MODES DURING THE APPROACH AND WI	EIR ANALY	515.	OA A	EFINIT CCEPTS	TON THI	OF CREE	OIBLE	FAILURE ERVATIVE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	ARPCS-3291X		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	ARPCS 3291 LINES & FITTINGS			
LEAD ANALYST:	M.J. SAIIDI			
ASSESSMENT:				
CRITICALI FLIGHT		CY SCREENS		CIL ITEM
HDW/FUN	IC A	В	С	11111
NASA [2 /1R IOA [/NA] [P] [P] [P]	[X] *
COMPARE [N /N] [N] [n] [:	N]	[N]
RECOMMENDATIONS:	(If different f	from NASA)		
[/] (AD	[D/DELETE)
* CIL RETENTION R	ATIONALE: (If app	licable)		
REMARKS:		INA	ADEQUATE ADEQUATE	[]
NASA UTILIZED A MO MODES DURING THEI APPROACH AND WITHI	N ANALISIS. IDA	DEFINITION ACCEPTS TH	OF CREDI	BLE FAILURE ONSERVATIVE

ASSESSMEN ASSESSMEN NASA FME	T	ID	:	ARI	.9/88 PCS-3 -1-02	343.					ASA DAT BASELIN NE		
SUBSYSTEM MDAC ID:	1:			ARI 343 REI	31	VA	LVE,	16 PS	SIA				
LEAD ANA	LYS	T:		M.J. SAIIDI									
ASSESSME		TI	[CAL]			R	EDUNE	ANCY	SCI	REENS		CIL ITEM	
	H		LIGHT V/FUI			A		В		C	:		
NASA IOA	[1	/1 /NA]		[]	[]	[]	[X]	*
COMPARE	[N	/N]		[]	[]	[3	[N]	
RECOMMENDATIONS: (If different from NASA)													
	ι		/NA]		[]	[]	[]	[D] (ADD/DEI	l Lete)
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE []													

NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF CREDIBLE FAILURE MODES DURING THEIR ANALYSIS. IOA ACCEPTS THIS MORE CONSERVATIVE APPROACH AND WITHDRAWS THE ISSUE.

NASA FMEA #: 06-1 0206 2 BASEL	DATA: LINE [] NEW [X]		
SUBSYSTEM: ARPCS MDAC ID: 3611 ITEM: RELIEF VALVE (2)			
LEAD ANALYST: M.J. SAIIDI			
ASSESSMENT:			
CRITICALITY REDUNDANCY SCREENS FLIGHT	CIL		
HDW/FUNC A B C	ITEM		
NASA [1 /1] [] [] [] IOA [/NA] [] []	[X] *		
COMPARE [N /N] [] []	[N]		
RECOMMENDATIONS: (If different from NASA)			
[/NA] [] []	[D] (ADD/DELETE)		
* CIL RETENTION RATIONALE: (If applicable)			
REMARKS: ADEQUAT	Eįj		
NASA UTILIZED A MORE CONSERVATIVE DEFINITION OF CRIMODES DURING THEIR ANALYSIS. IOA ACCEPTS THIS MORE APPROACH AND WITHDRAWS THE ISSUE.	EDIBLE FAILURE E CONSERVATIVE		

SECTION C.9

HYDRAULICS AND WATER SPRAY BOILER SUBSYSTEM

ASSESSMENT DA ASSESSMENT II NASA FMEA #:	ATE: 1/08/ D: HYDWS	/87 3B-110	NASA DAT. BASELIN NE		
SUBSYSTEM: MDAC ID: ITEM:	HYD/W 110 SPRAY	SB VALVE (W	ATER SUPI	PLY)	
LEAD ANALYST:	ANALYST: J. DUVAL				
ASSESSMENT:					
CRITI FL	REDUND	REDUNDANCY SCREENS CIL			
	/FUNC	A	ITEM		
NASA [2 IOA [3	/1R] /1R]	[P] [P]	[P] [NA]	[P] [P]	[X] *
COMPARE [N	/]	[]	[N]	[]	[N]
RECOMMENDATIO	NS: (If	different	from NA	SA)	
[,	/]	[]	[]	[] (A	[] DD/DELETE)
* CIL RETENTIO	ON RATION	ALE: (If a	applicable		
REMARKS:				ADEQUATE INADEQUATE	[X] []
THIS FAILURE IS INCORPORATED AS A "CAUSE" IN FMEA 06-3A-0605-2. ELECTRICAL OPEN OR SHORT CIRCUIT MUST INVOLVE BOTH REDUNDANT SOLENOID COILS. INDIVIDUAL ELECTRICAL FAILURES ARE COVERED IN WSB EPDC FMEA.					

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/87 HYDWSB-117 06-3A-0604	-1			[X]	
SUBSYSTEM: MDAC ID: ITEM:	HYD/WSB 117 STEAM DUMP	NOZZLE				
LEAD ANALYST:	J. DUVAL					
ASSESSMENT:						
CRITICAL		DUNDANCY	SCREENS	5	CIL ITEM	
FLIGH HDW/FU		В	3	С		
NASA [2 /1F IOA [3 /1F	R] [P [P] [P	P] [IA] [P] P]	[X] *	
COMPARE [N /] [] [N	1][]	[N]	
RECOMMENDATIONS: (If different from NASA)						
[/] [] [] [] (A	[] .DD/DELETE)	
* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [X] INADEQUATE []					

NASA FMEA CONSIDERS BLOCKAGE OF NOZZLE FOR ANY REASON. FREEZING IMPLIES BOTH HEATERS LOST. SINGLE HEATER FAILURE IS COVERED BY FMEA 06-3A-0622-1. IOA ACCEPTS NASA APPROACH TO CRITICALITY.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/87 HYDWSB-1	L18		NASA DATA BASELINE NEW			
SUBSYSTEM: MDAC ID: ITEM:	HYD/WSB 118 HYDRAULI						
LEAD ANALYST:	J. DUVAL						
ASSESSMENT:							
CRITICAL FLIGH		REDUNDANC	Y SCREEN	S	CIL		
HDW/FUI	1C .	A	В	С	ITEM		
NASA [/ IOA [2 /1R] [P] [P] [P]	[] * [X]		
COMPARE [N /N] [1	и] [и	4] [N]	[N]		
RECOMMENDATIONS:	(If di	fferent fi	com NASA)			
[/	•] [•] (AD	[] DD/DELETE)		
* CIL RETENTION R	ATIONALE:	(If appl	icable)				
REMARKS:				ADEQUATE IADEQUATE	[]		
IOA RECOMMENDED ADDING "OR RESTRICTED FLOW" TO FAILURE MODE DESCRIPTION OF FMEA 06-3A-0605-2 TO COVER BLOCKAGE OF WATER VALVE FILTER. SUBSYSTEM MANAGER WALLACE TUTHILL ACCEPTED THIS RECOMMENDATION DURING IOA/NASA CIL ISSUES REVIEW MEETING ON 4/26/88.							

4/26/88.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	HVDWSB-1	31		NASA DATA: BASELINE NEW			
MDAC ID:	HYD/WSB 131 LUBE OII	·					
LEAD ANALYST:	J. DUVAI	. DUVAL					
ASSESSMENT:							
		REDUNDA	NCY SCREE	NS	CIL ITEM		
FLIGH HDW/FU		A	В	С			
NASA [3 /1R IOA [3 /1R] [F] P]	[P] [NA]	[P] [P]	[X] * []		
COMPARE [/] [N]	[N]	[]	[N]		
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)			
[/] []	[]	[] (A	[] DD/DELETE)		
* CIL RETENTION RATIONALE: (If applicable) ADEQUATE [] INADEQUATE []							
REMARKS: NASA FMEA SHOWS SCREEN A=P IN NSTS LEVEL I/II REVIEW BOARD PRESENTATION, 3/30/88. IOA ACCEPTS SCREEN PASSED, RATHER THAN NA, AS THIS DOES NOT AFFECT CIL STATUS OR WAIVER STATUS. THIS FMEA IS NO LONGER ON THE CIL.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/87 HYDWSB-		NASA DA' BASELII N				
SUBSYSTEM: MDAC ID: ITEM:	HYD/WSB 143 GN2 TAN						
LEAD ANALYST:	J. DUVAL						
ASSESSMENT:							
CRITICALITY REDUNDANCY FLIGHT				CREENS	CIL		
HDW/FU	-	A	В	С	ITEM		
NASA [/ IOA [2 /1R] [P]	[P]	[] [P]	[] * [X]		
COMPARE [N /N] [N]	[N]	[N]	[N]		
RECOMMENDATIONS:	(If d	ifferent	t from	NASA)			
[/] []	[]	[]	[] ADD/DELETE)		
* CIL RETENTION F	RATIONALI	E: (If a	applica				
REMARKS:				ADEQUATE INADEQUATE			
REMARKS: FMEA 06-3-0609-2 DELETED BY NASA. COMBINED WITH 06-3-0609-1. NASA APPROACH TAKES RUPTURE OF GN2 TANK AS WORST CASE FAILURE MODE. IOA ACCEPTS THIS APPROACH. NO SEPARATE FMEA FOR LEAKAGE IS NECESSARY.							

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	HYDWSB-	1/08/87 NASA DATA: HYDWSB-149 BASELINE 06-3A-0606-2 NEW					
SUBSYSTEM: MDAC ID: ITEM:	HYD/WSB 149 GN2 SHU						
LEAD ANALYST: J. DUVAL							
ASSESSMENT:							
CRITICA		REDUNDA	NCY SCREE	ens	CIL ITEM		
FLIC HDW/F		A	В	С			
NASA [3 /1 IOA [3 /3	R] [P] NA]	[F] [NA]	[P] [NA]	[X] *		
COMPARE [/] [N]	[N]	[N]	[N]		
RECOMMENDATIONS: (If different from NASA)							
[/] [1	[]	[] (A	[] .DD/DELETE)		
* CIL RETENTION	I RATIONAI	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[X]		
REMARKS:	ALVE TH	SERTES W	OULD REGU	LATE PRESSUR	E TO H2O TA		

GN2 REGULATOR VALVE IN SERIES WOULD REGULATE PRESSURE TO H20 TANK - REQUIRES SECOND FAILURE TO CAUSE POSSIBLE LOSS OF ONE HYDRAULIC SYSTEM. IOA ACCEPTS NASA APPROACH TO CRITICALITY: THIRD FAILURE IN REDUNDANCY CHAIN IS LOSS OF A SECOND HYDRAULIC SYSTEM, FOR ANY REASON.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/87 HYDWSB-164		SA DATA: ASELINE [] NEW [X]				
MDAC ID:	HYD/WSB 164 GN2 FILTER	64					
LEAD ANALYST:	J. DUVAL						
ASSESSMENT:							
CRITICAL: FLIGHT	DANCY SCREENS	CIL					
HDW/FU		В С	ITEM				
NASA [/ IOA [2 /1R] [p]	[] [P]	[] * [x]				
COMPARE [N /N] [N]	[N] [N]	[N]				
RECOMMENDATIONS:	(If differer	nt from NASA)					
\]] []	[] []	[] (ADD/DELETE)				
* CIL RETENTION F	RATIONALE: (If		louamp r				
REMARKS:			QUATE [X] CQUATE []				
REMARKS: NASA FMEA 06-3A-0606-1 COVERS FILTER BLOCKAGE AS PART OF GN2 SHUTOFF VALVE FAILURE MODE-FILTER IN QUESTION IS PART OF GN2 SHUTOFF VALVE. IOA ACCEPTS THIS APPROACH.							

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	1/08/8 HYDWSB	7 - 197		NASA DATA: BASELINE NEW	[X]
SUBSYSTEM: MDAC ID: ITEM:	HYD/WS 197 HYBRID		IRCUIT (C	CONTROLLER)	
LEAD ANALYST:	J. DUV	'AL			
ASSESSMENT:					
CRITICA FLIG	LITY	REDUNDA	NCY SCREI	ENS	CIL ITEM
	UNC	A	В	С	
NASA [/ IOA [3 /3] .R]	[] [P]	[] [NA]	[] [P]	[] *
COMPARE [N /	1]	[N]	[N]	[N]	[]
RECOMMENDATION	3: (If	differen	t from NA	SA)	
[/]	[]	[]	[]	[] ADD/DELETE)
* CIL RETENTIO	N RATION	ALE: (If	applicabl	.e) ADEQUATE INADEQUATE	[]
REMARKS: THIS FAILURE M BASELINE PRESE IOA CONCURS WI REGAIN GN2 SHU RATHER THAN NA	NTED TO TH THIS	CRITICAL	TY-SWITCH	HING CONTROL	LERS WILL PTABLE AS P,

STATUS.

ASSESSMI ASSESSMI NASA FMI	ENT	' I	D:	1/08/ HYDWS	′87 B-	· -43	1						ASA DAT BASELIN NE]	
SUBSYSTE MDAC ID:	EM:			HYD/W 431 PRESS			IVAT	ED	RE	LIEF	' VA	LV		-		j	
LEAD ANA	LY	ST	:	W. DA	VI	DS	ON										
ASSESSME	NT	:															
	CR:	IT:	ICAL LIGH	ITY F		R	EDUNI	IA C	ICY	SCR	EEN:	s			IL		
	1	HDI	W/FUI	NC		A			В			С		11	ren	1	•
NASA IOA	[3	/ /1R]	[F]	[P]	[P]	[х]	*
COMPARE	[N	/N]	[N]	[N]	[N]	[N]	
RECOMMEN	LAC	CIC	ons:	(If	di	Ĺff	eren	it	fro	om NA	ASA)						
]]							[DD/	DE] LET	ΓE)
* CIL RET	ren	ΤI	ON R	ATIONA	LE	::	(If	ap	pli	cabl							
REMARKS:											IN	AD	EQUATE EQUATE	Ĩ]	
THIS VALVIN THAT OF THE CIRC OMIT THIS INCLUDED.	PU	MΡ	TS	IRRELE	T/A	MT.	13	O Y T UI I	ב כ	AUSE	OF	<u>н</u>	YDRAULI	C L	os:	S,	AND

INCLUDED.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	HYD/WSB 439 FILTER				
LEAD ANALYST:	w. DAVI	OSON			
ASSESSMENT:					
CRITICAI FLIGH		REDUNDANC	Y SCREENS	5	CIL ITEM
HDW/FU		A	В	С	
NASA [/ IOA [3 /11] [P] [F] [P]	[] * [x]
COMPARE [N /N] [и] [и] [N]	[N]
RECOMMENDATIONS	: (If d	ifferent f	from NASA)	
[/] [] [] [] (A	[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If app		ADEQUATE NADEQUATE	[]
REMARKS: NASA DOES NOT C HYDRAULIC SUBSY REVIEW MEETING,	STEM MANA	GER WALLA	CE LOIHTT	LURE MODE, L (IOA/NAS	ACCORDING TO A CIL ISSUES

ASSESSMENT ASSESSMENT NASA FMEA	ID:	HYDWSB	-45	1				ASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:		HYD/WS 451 QUICK		CONNE	СТ-Н	YD/SS	ME (SUPPLY)		
LEAD ANALY	ST:	W. DAV	IDS	ИС						
ASSESSMENT	:									
	FLIGHT	_		EDUND?	Y NCY	SCRE	ENS		CIL ITEN	1
1	HDW/FUN	1C	A		В		С			
NASA [IOA [3 /1R 2 /1R] [P P]	[P]	[P]	[X]] *
COMPARE [N /] []	[]	[]	[1
RECOMMENDA	rions:	(If d	liff	erent	fr	om NA	SA)			
[/] []	[]	[[DD/DE] LETE)
* CIL RETER	NTION R	LANOITA	Æ:	(If a	ppl:	icable	≘)			
REMARKS:							INAL	DEQUATE DEQUATE	į]
IOA CONCURS HYDRAULIC S 02-6-A02-1 CASE-UNCONT	IS 1/1	STILL BECAUS	ALL E E	OWS R	TLS VAI	ABORT	I, IN	WORST C	CASE.	EMEX

CATASTROPHIC FAILURE. THIS ISSUE WAS WITHDRAWN AS A RESULT OF MEETING WITH NASA SUBSYSTEM MANAGER WALLACE TUTHILL ON 4/26/88.

NASA DATA:

ASSESSMENT ASSESSMENT NASA FMEA #	ID:	1/08/87 HYDWSB- 02-6-A	455			NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:		HYD/WSI 455 CHECK V		-RETURN	LINE F	FROM ENG'S/F	ACT'S
LEAD ANALYS	T:	W. DAV	DSON				
ASSESSMENT:	;						
CR1	TICAL		RED	UNDANC	SCREE	NS	CIL ITEM
I	FLIGH HDW/FU		A	I	В	С	
NASA [IOA [3 /1R 3 /3]	[F] [NA]	[]	NA] NA]	[P] [NA]	[X] *
COMPARE [/N]	[N]	[}	[N]	[N]
RECOMMENDA	TIONS:	(If	diffe	erent f	rom NAS	A)	
ι	/]	[]	. []	[]	[] ADD/DELETE)
* CIL RETE	NTION	RATION	ALE:	(If app	olicable	ADEQUATE	[X]

IOA ACCEPTS NASA APPROACH TO CRITICALITY. SECOND FAILURE IS HYD LINE LEAK UPSTREAM OF VALVE. THIRD FAILURE IS LOSS OF A SECOND HYDRAULIC SYSTEM, FOR ANY REASON.

ASSESS ASSESS NASA F	MENT MENT MEA	1 1 1 1 #:	DAT	re:	1, H: 02	/08/ YDWS 2-6-	87 B- SY	7 -46 (ST	5 EM	- 3						N		SEL	ATA INE NEW	. []		
SUBSYST MDAC ITEM:	LEM:	•			HY 46	ZD/W	SE	3							s	YS	TEN			-		•		
LEAD A	VALY	ST	!:		W.	DA	VI	DS	ON															
ASSESSI	IENT	!:																						
		F	LI	GH'	r	•		R	EDI	JND	AN	CY	s	CRE	EN.	s					IL TEN			
					NC			A				В				С				-	Ligh	1		
NASA IOA	. [2	/	1R 1R]		[P P]]	P F]		[P P]			[X X]	*	
COMPARE	. [/]		[]		[N]		[]			[]		
RECOMME	NDA!	ric	3NC	5:		(If	d:	iff	er	ent	: f	rc	m	NA:	SA)									
	[]		[]		(AD		DE		TE)
* CIL R		1T]	101	I R	AT:	ANO	LE	E:	(I	fa	pp	li	.ca	able		ΑD	EQU	JAT	E	Ĺ		-		
REMARKS	: מוזיים	ar	TC	יח י	rm T	Omt	D.	_			_							JAT		[]		
LINE RUI FLIGHT (JUSTIFIC MANAGER 4/26/88) IOA CONC	CATI WAI	ON	F CE	OR T	PA UTH	SSI)	NG (S IO	CR: A/1	EEN NAS	AN.	AG	E 30	LEA	K.		TH]	IS .	IS					
							1	50	14 T I	. v.														

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/87 HYDWSB-466 02-6-SYSTE	4- 3	NASA DATA: BASELINE NEW	[x]
SUBSYSTEM: MDAC ID: ITEM:	HYD/WSB 466 HYDRAULIC	LINE (RETURN)	SYSTEM 1	
LEAD ANALYST:	W. DAVIDSO	N		
ASSESSMENT:				
CRITICAL		DUNDANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		В	С	•
NASA [2 /1F IOA [3 /1F	R] [P] [P]] [F]	[P] [P]	[X] * [X]
COMPARE [N /] [] [N]	[]	[]
RECOMMENDATIONS	: (If dif	ferent from NA	SA)	
(/] [] []	[] (A	[] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If applicab)	Le) ADEQUATE INADEQUATE	[X]
REMARKS:	. TO DACED	ON WORST CASE	CONSEQUENCES	OF A

NASA CRITICALITY IS BASED ON WORST CASE CONSEQUENCES OF A HYDRAULIC LINE RUPTURE. IOA ACCEPTS THIS APPROACH. THERE IS NO NEED TO CONSIDER SEPARATE FMEA'S FOR LINE SEGMENTS WITH LESS SERIOUS CONSEQUENCES.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	HYDWSB-469) L		ATA: INE [] IEW [X]
SUBSYSTEM: MDAC ID: ITEM:	HYD/WSB 469 REDUNDANT	SHUTOFF V		
LEAD ANALYST:	W. DAVIDSO	N		
ASSESSMENT:				
FLIGHT		DUNDANCY S	CREENS	CIL
HDW/FUN	C A	В	С	ITEM
NASA [3 /1R IOA [2 /1R] [P]] [F]	[P] [P]	[X] * [X]
COMPARE [N /] []] []	[]	[]
RECOMMENDATIONS:	(If diffe	erent from	NASA)	
[/] []	([] (ADD/DELETE)
* CIL RETENTION RA	ATIONALE: ((If applica	able) ADEQUATE	² []
REMARKS:			INADEQUATE	įį
THE IOA ORIGINAL O	LITY, THERE NASA CRITIC BASELINE D	INNOT OVER IS NO HYI CALITY. SO OCCUMENTED	RIDE HYDRAULIC DRAULIC PRESSU CREEN B IS PAS	PRESSURE RE LOCKUP.

BOARD PRESENTATION, 3/30/88. IOA CONCURS-REDUNDANCY (PRYO SYSTEM) IS ACTIVATED BY AUTOMATIC DETECTION AND SWITCHOVER, PER

REPORT DATE 22 JULY 1988 C.9-16

NSTS-22206, SECTION 2.3.5.a.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA BASELINE NEW	
	HYD/WSB 471 REDUNDAI	NT SHUTC	FF VALVE	(N.O.)	
LEAD ANALYST:	W. DAVI	DSON			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCRE	ENS	CIL ITEM
		Α	В	С	
NASA [2 /1R IOA [2 /1R] [P] P]	[P] [F]	[P] [P]	[X] * [X]
COMPARE [/] [1	[N]	[]	[]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)	
[/] []	[]	[] (A	[LDD/DELETE
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[X] []
REMARKS: VALVE LEAK IS DE FLIGHT CREW CAN JUSTIFICATION FO MANAGER WALLACE 4/26/88). IOA C	TAKE ACT R PASSIN TUTHILL	ION TO N G SCREEN (IOA/NAS	MANAGE LE N B, ACCO SA CIL IS	VALVE 1 IS AK. THIS IS RDING TO SUE SUES REVIEW	OPENED. SSYSTEM

	-	NASA DATA BASELINE NEW	
	EAR CONTROL UP	/CIRC. SOLENG	OID VALVE
W. DAVIDS	ON		
	EDUNDANCY SCRE	ENS	CIL ITEM
NC A	В	С	
[P	[F] [F]	[P] [P]	[X] * [X]
] [] []	[]	[]
(If dif	ferent from NA	SA)	
] [] []		[] DD/DELETE)
RATIONALE:	(If applicable	e) ADEQUATE INADEQUATE	[]
	HYDWSB-48 02-6-G13- HYD/WSB 486 LANDING G W. DAVIDS ATT NC A [P] [P] [If dif]	HYDWSB-486 02-6-G13-2 HYD/WSB 486 LANDING GEAR CONTROL UP W. DAVIDSON A B [P] [F] CNC A B [P] [F] [P] [F] [If different from NA] [] [] []	HYDWSB-486 02-6-G13-2 HYD/WSB 486 LANDING GEAR CONTROL UP/CIRC. SOLENG W. DAVIDSON A B C [P] [F] [P] [P] [F] [P] (If different from NASA) [If different from NASA) ADEQUATE ADEQUATE

THE ORIGINAL IOA CRITICALITY WAS BASED ON THE UNDERSTANDING THAT THE PYRO UNLOCK MECHANISM CANNOT OVERRIDE HYDRAULIC PRESSURE LOCKUP. IN ACTUALITY, THERE IS NO HYDRAULIC PRESSURE LOCKUP. IOA CONCURS WITH NASA 3/1R CRITICALITY. SCREEN B IS PASSED, ACCORDING TO NASA BASELINE DOCUMENTED IN NSTS LEVEL I/II REVIEW BOARD PRESENTATION, 3/30/88. IOA CONCURS; VALVE FAILURE IS DETECTIBLE AT L. G. ISOL VALVE OPEN, DUE TO CLOSURE OF SHUTTLE VALVES (ON TELEMETRY). DETECTION AT L. G. ISOL VALVE OPEN IS SUFFICIENT TO PASS SCREEN B, ACCORDING TO SSM WALLACE TUTHILL (IOA/NASA CIL ISSUES REVIEW MEETING, 4/26/88).

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/87 HYDWSB-	487		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	HYD/WSF 487 LANDING		NTROL UP/	CIRC. SOLEN	OID VALVE
LEAD ANALYST:	W. DAV	IDSON			
ASSESSMENT:					277
CRITICAL		REDUNDA	ANCY SCREI	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [/ IOA [2 /1F]	[] [P]	[] [F]	[] [P]	[x] *
COMPARE [N /N	1	[N]	[N]	[N]	[N]
RECOMMENDATIONS	(If	differen	t from NA	.SA)	
ι /]	[]	[]	[]	[] ADD/DELETE)
* CIL RETENTION	RATION	ALE: (If	applicabl	.e) ADEQUATE INADEQUATE	[]
REMARKS: NASA DELETED FM THIS VALVE REMA CANNOT FAIL TO	INS CTO	-G13-3. SED THRO	IOA CONCU JGHOUT THI	JRS WITH THI E ENTIRE FLI	S DECISION GHT, SO IT

VE
*
TE)
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ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	1/08/87 HYDWSB- 02-6-SY	494		NASA DATA BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM: SOLENOID	HYD/WSB 494 LANDING	GEAR CO	ONTROL VA	LVE - 2 POS	, 3 WAY,
LEAD ANALYST:	W. DAVI	DSON			
ASSESSMENT:					
	LITY	REDUNDA	ANCY SCRE	EENS	CIL ITEM
FLIG HDW/F		A	В	С	
NASA [2 /1 IOA [2 /1	R] [R] [P] P]	[P] [F]	[P] [P]	[X] * [X]
COMPARE [/] []	[N]	[]	[]
RECOMMENDATIONS	: (If c	lifferen	t from N	ASA)	
[/] (]	[]	[]	[] (ADD/DELETE)
* CIL RETENTION	RATIONAL	LE: (If	applicab	le) ADEQUATI INADEQUATI	
REMARKS: VALVE LEAK IS FLIGHT CREW CA JUSTIFICATION MANAGER WALLAC 4/26/88). IOA	N TAKE ACT FOR PASSII TUTHILL	TION TO NG SCREE (IOA/NA	MANAGE L IN B, (AC ISA CIL I	CORDING TO SSUES REVIE	SUBSYSTEM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	HYDWSB-671		DATA: ELINE [] NEW [X]
	HYD/WSB 671 CHECK VALVE		
LEAD ANALYST:	W. E. PARKMAN	1	
ASSESSMENT:			
CRITICALI FLIGHT	TY REDUI	NDANCY SCREENS	CIL
HDW/FUN		В С	ITEM
NASA [2 /1R IOA [3 /1R] [P]] [P]	[F] [P] [F]	[X] * [X]
COMPARE [N /] []	[] []	[]
RECOMMENDATIONS:	(If differe	ent from NASA)	
[/] []	[] []	[] (ADD/DELETE)
* CIL RETENTION R	ATIONALE: (If	•	
REMARKS:			JATE [X] JATE []
NASA CRITICALITY COULD CAUSE E. T.	UMBILICAL PL	OSSIBLITY THAT LOS ATE TO BECOME MISA IN LOSS OF VEHICI	ALIGNED AND FATE.

ASSESSMEN ASSESSMEN NASA FMEA	I TI	D:	HYI	08/8 0WSB -6-0	-6								ASA I BASEI		[x]	
SUBSYSTEM MDAC ID: ITEM:	1:		672	O/WS 2 ECK		LV	Έ											
LEAD ANA	LYSI	1 •	W.	Ε.	PA	RK	NAM											
ASSESSME	T:																	
•		CICAL				RE	EDUNE	AN	CY	SCF	REEN	S			CI IT	L EM	ſ	
	_	FLIGHT W/FU				A			В			С	!					
NASA IOA		3 /1R 3 /1R			[F P]	[N. F	A]	((F]		[[X X]	*
COMPARE	[/]		[N]	[N]	[]		[]	
RECOMMEN	DAT:	ions:		(If	d:	if	fere	nt	fr	om 1	NASA	A)						
	ĺ	/]		[]	[]	İ	[]	(A	DD,	/ Di] ELE	TE)
* CIL RE		TION	RAT	ION	ΑL	E:	(If	aŗ	pl	ica		ž	ADEQU ADEQU		[х]	

IOA ACCEPTS NASA APPROACH TO CRITICALITY. SECOND FAILURE IS HYDRAULIC LEAK UPSTREAM OF CHECK VALVE. THIRD FAILURE IS LOSS OF ANOTHER HYDRAULIC SYSTEM FOR ANY REASON. IOA CONCURS WITH SCREEN B INAPPLICABILITY, PER NSTS-22206, SECTION 2.3.4.b.2(b).

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/87 HYDWSB-724	NASA DATA BASELINI NEV	
SUBSYSTEM: MDAC ID: ITEM:	HYD/WSB 724 FREON/OIL HEAT EX	CHANGER	
LEAD ANALYST:	W. E. PARKMAN		
ASSESSMENT:			
CRITICALI FLIGHT		Y SCREENS	CIL ITEM
HDW/FUN	IC A 1	з с	11011
NASA [/ IOA [2 /1R] [] [I	[P]	[] * [X]
COMPARE [N /N] [N] [N	и] [и]	[N]
RECOMMENDATIONS:	(If different fr	com NASA)	
[/] [][] [] (A	[] DD/DELETE)
* CIL RETENTION R	ATIONALE: (If appl	icable) ADEQUATE INADEQUATE	
	OVERED IN ATCS SUE	SYSTEM, FMEA 06-3	-0301-3.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/87 HYDWSB-8 05-6G-21		:	NASA DATA: BASELINE NEW	[x]
MDAC ID:	HYD/WSB 817 POWER CO	NTACTOR	(K3, K4)		
LEAD ANALYST:	W. E. PA	RKMAN			
ASSESSMENT:					
CRITICAL		REDUNDAN	ICY SCREENS		CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [3 /1R IOA [3 /3] [F] {	F] [NA] [P] NA]	[X] * []
COMPARE [/N] [и]	[N]	и]	[N]
RECOMMENDATIONS:	(If d	ifferent	from NASA)		
[/] []	[]		[] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a		ADEQUATE NADEQUATE	-
REMARKS: THE FUNCTION OF LOSS OF ALL REDU	THIS ITE	M IS TO	SIBLE LOSS	WER TO ONE OF ONE CI	RC PUMP AT

APU START OR DURING APU OPERATION. THIRD FAILURE IS LOSS OF ANOTHER CIRC PUMP FOR ANY REASON, WHICH CAN LEAD TO LOSS OF

VEHICLE. IOA ACCEPTS NASA APPROACH TO CRITICALITY.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA BASELINE NEW	
	HYD/WSB 818	(K3), AR TYPE III	
LEAD ANALYST:	W. E. PARKMAN		
ASSESSMENT:			
CRITICAL: FLIGHT		ANCY SCREENS	CIL
HDW/FU		В С	ITEM
NASA [3 /1R IOA [3 /3] [P]] [NA]	[F] [P] [NA] [NA]	[X] *
COMPARE [/N] [N]	[N] [N]	[N]
RECOMMENDATIONS:	(If different	t from NASA)	
[/] []		[] DD/DELETE)
* CIL RETENTION F	RATIONALE: (If a		
REMARKS:		ADEQUATE INADEQUATE	
THE FUNCTION OF T	HIS ITEM IS TO	PROVIDE POWER TO ONE	CIRC PUMP.

THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC PUMP.

LOSS OF REDUNDANT DRIVERS MEANS LOSS OF ONE CIRC PUMP AT APU

START OR DURING APU OPERATION. NEXT FAILURE IS LOSS OF A SECOND

CIRC PUMP FOR ANY REASON, WITH POSSIBLE LOSS OF VEHICLE AS A

CONSEQUENCE. IOA ACCEPTS NASA APPROACH TO CRITICALITY.

ASSESSMEN ASSESSMEN NASA FMEA	T ID:	HY	08/87 DWSB-8	321 10 - 2			NASA DATA: BASELINE NEW	
SUBSYSTEM MDAC ID: ITEM:	1:	82	D/WSB 1 BRID I	ORIVER	(K4),	AR TYE	PE III	
LEAD ANA	LYST:	W	E. P.	ARKMAN				
ASSESSME	NT:							
ı	CRITIC		¥	REDUND	ANCY	SCREENS	5	CIL ITEM
		IGHT / FUNC		A	В		С	
NASA IOA	[3 ,	/1R] /3]	[P] NA]	[F [NA		P] NA]	[X] *
COMPARE	[.	/N]	[и]	[N] [N]	[N]
RECOMMEN	DATIO	NS:	(If d	liffere	nt fro	om NASA)	
	ί	/]	(]	(] []	[] ADD/DELETE)
* CIL RE	ETENTI	ON RA	TIONAI	LE: (If	appl		ADEQUATE	[X]

THE FUNCTION OF THIS ITEM IS TO PROVIDE POWER TO ONE CIRC PUMP. LOSS OF REDUNDANT DRIVERS MEANS LOSS OF ONE CIRC PUMP AT APU START OR DURING APU OPERATION. NEXT FAILURE IS LOSS OF A SECOND CIRC PUMP FOR ANY REASON, WITH POSSIBLE LOSS OF VEHICLE AS A CONSEQUENCE. IOA ACCEPTS NASA APPROACH TO CRITICALITY.

ASSESSMENT ID:	1/08/87 HYDWSB-850 05-6G-200100-1E	NASA DATA BASELINE NEW	
	HYD/WSB 850 RPC		
LEAD ANALYST:	J. DUVAL		
ASSESSMENT:			
CRITICALI FLIGHT		SCREENS	CIL
HDW/FUN		C	ITEM
NASA [3 /1R IOA [3 /3	[P] [P] [P] [NA]] [P] A] [NA]	[X] *
COMPARE [/N] [N] [N] [N]	[N]
RECOMMENDATIONS:	(If different fro	om NASA)	
[/] [] [[] D/DELETE)
* CIL RETENTION R	ATIONALE: (If appli		
REMARKS:		ADEQUATE INADEQUATE	[]
IOA CONCURS WITH I ITEM IN THE NASA I	NASA ASSESSMENT. T BASELINE AS DOCUMEN ENTATION OF 3/30/88	PINT THE WITH MOTOR TO	IS NOT A CIL EVEL I/II

ASSESSMEN' ASSESSMEN' NASA FMEA	ודר ידי	n•	HVI	WSB-	-	1.	ΤX				1		SA DATA ASELIN NE	E				
SUBSYSTEM MDAC ID: ITEM:			177	O/WSI 71 ILER		N	TROL	PC	WER,	/HEA	re:	R	SWITCH					
LEAD ANAL	YST	:	W.	DAV	IDS	50	N											
ASSESSMEN																		
c	RIT	ICAL	YTI		1	RE	DUND	ANC	Y S	CREE	NS				CI IT]	
		LIGH W/FU				A			В			С						
NASA IOA	[3	/1R	e] e]		[P P]	[NA]		[P P]		[X]	*
COMPARE	[/]		[]	[1		[]		[N]	
RECOMMENI	DAT:	ONS:	:	(If	di	fi	feren	it	from	n NAS	SA))						
	[/]		[1	[-		[]	(AI	[DD/	/DI] ELI	ETE)
* CIL RE	TEN'	TION	RAT	rion?	ALE	::	(If	ap	plio	cable			DEQUAT DEQUAT]	
REMARKS: NASA CRI THE NSTS	TIC LE												3 AS D N OF 3 TH NAS					

IS NOT LISTED AS A CIL ITEM. IOA CONCURS WITH NASA ASSESSMENT.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	HYDWSB-5001X	1	VASA DATA: BASELINE [] NEW [X]	
SUBSYSTEM: MDAC ID: ITEM: LINE	HYD/WSB 5001 VALVE, CHECK,	L.G. HYD. CKT	. FUSELAGE RETURN	
LEAD ANALYST:	W. DAVIDSON			
ASSESSMENT:				
CRITICALI FLIGHT		DANCY SCREENS	CIL	
HDW/FUN		ВС	ITEM	
NASA [3 /1R IOA [3 /2R	[F]] [F]	[NA] [P] [X] * [X]	
COMPARE [/N] []	[]] []	
RECOMMENDATIONS:	(If differen	nt from NASA)		
[/] []	[] [] [] (ADD/DELETE)	
* CIL RETENTION R	ATIONALE: (If			
REMARKS:			PEQUATE [X] PEQUATE []	
	APPROACH TO RE SYSTEM, FOR A	DUNDANCY: THIF NY REASON.	D FAILURE IS LOSS	OF

NASA DATA:

ASSESSMEN ASSESSMEN NASA FME	TN	ID		HYI	LO/8 DWSB -6G-	-8			3				•			LINI NE	E [2	〈]	
SUBSYSTEMDAC ID:	M:			901	O/WS O5 ODE,		IYD	MN	ΡŪ	J M P	DI	EPRE	ss	V	LV	SOL	CH	⟨Τ	•		
LEAD ANA	LYS	т:		P.	BYN	UM	1														
ASSESSME	NT:																				
	CRI		CAL				RE	DUN	DAI	NCY	S	CREE	NS	;				CI IT		ſ	
	Н	-	LIGH' 1/FU				Α			В	3			С							
NASA IOA	[2 2	/1R /1R]		[F F]		[F	;] ;]		[P P]			[X X]	*
COMPARE	[/]		[]		[1		[]			[1	
RECOMMEN	IDAT	ri	ons:		(If	d	ifi	fere	nt	fı	com	NAS	A))							
	[/]		[]		[]		[]	((AD	[D/	'DI	ELE	ETE)
* CIL RI	ETEI	NT	ION	RAT	CION	AL	E:	(If	a	.qq	lic	able				UATI UATI		[X]	
DEMADES	•																				

THIS FAILURE MODE IS INCLUDED IN THE NASA FMEA/CIL BASELINE AS DOCUMENTED IN THE NSTS LEVEL I/II REVIEW BOARD PRESENTATION OF 3/30/88, WITH CRITICALITY 3/1R P F P. IOA CONCURS WITH THE NASA

ASSESSMENT.

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# SECTION C.10 MECHANICAL ACTUATION SUBSYSTEM

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DATA: BASELINE [ ] NEW [ X ]							
MDAC ID:	MECH/ADF 1102 GEARBOX	•									
LEAD ANALYST:	A.D. MON	TGOMERY									
ASSESSMENT:											
CRITICALI FLIGHT		REDUNDA	NCY SCREE	INS	CIL ITEM						
HDW/FUN	1C	A	В	С							
NASA [ 2 /1R IOA [ 3 /1R	] [	P ] P ]	[ P ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]						
COMPARE [ N /	] [	]	[ N ]	[ ]	[ ]						
RECOMMENDATIONS:	(If di	fferent	from NAS	(A)							
[ 2 /1R	] [	P ]	[ F ]		[ X ] DD/DELETE)						
* CIL RETENTION F	RATIONALE	: (If a	pplicable	ADEQUATE							
REMARKS: IOA/MDAC AGREES WIOA/MDAC.	VITH THE	FMEA.	THE ISSUE	INADEQUATE IS WITHDRAW	,						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP			ATA: INE [ ] NEW [ X ]					
	MECH/ADP 1102 GEARBOX	1102							
LEAD ANALYST:	A.D. MON	TGOMERY							
ASSESSMENT:									
CRITICAL: FLIGH	REENS	CIL ITEM							
HDW/FU	_	A	В	С	1164				
NASA [ 2 /1R IOA [ 3 /1R	] [	P ] P ]	[ P ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]				
COMPARE [ N /	] [	]	[ N ]	[ ]	[ ]				
RECOMMENDATIONS:	(If di	fferent	from	NASA)					
[ 2 /1R	] [	P ]	[ F ]	[ P ]	[ X ] (ADD/DELETE				
* CIL RETENTION 1	RATIONALE	: (If a	pplica	•	TIE				
DEMADUC.				ADEQUA' INADEQUA'					
REMARKS: IOA/MDAC AGREES VIOA/MDAC.	WITH THE	FMEA.	THE IS	SUE IS WITH	DRAWN BY				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-		BASELINE [ ] NEW [ X ]						
MDAC ID:	MECH/ADP 1102 GEARBOX								
LEAD ANALYST:	A.D. MONT	GOMERY							
ASSESSMENT:									
CRITICAL: FLIGH' HDW/FU	r	EDUNDANCY	SCREENS C	CIL ITEM					
NASA [ 2 /1R IOA [ 3 /1R		P [ P	] [ P ] ] [ P ]	[ X ] *					
COMPARE [ N /	] [	] [ N	1 [ ]	[ ]					
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)						
[ 2 /1R	] [ P	) [ F	] [ P ]	[ X ] (ADD/DELETE)					
* CIL RETENTION	RATIONALE:	(If appli	ADEQ	UATE [ ] UATE [ ]					
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE F	MEA. THE	ISSUE IS WI	THDRAWN BY					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/05/88 MECH/ADF 02-4-052	7-1103 000-2		NASA DATA: BASELINE NEW	[ x ]				
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADE 1103 GEARBOX	1103							
LEAD ANALYST:	A.D. MON	ITGOMERY							
ASSESSMENT:									
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM				
FLIGH HDW/FU		A	В	С					
NASA [ 2 /1R IOA [ 3 /1R	] [	P ] P ]	[ P ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]				
COMPARE [ N /	] [	]	[ N ]	[ ]	[ ]				
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)					
[ 2 /1F	R ] [	P ]	[ F ]	[ P ]	[ X ] .DD/DELETE)				
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE					
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1103A	IASA DATA: BASELINE [ ] NEW [ X ]
	MECH/ADP 1103 GEARBOX	
LEAD ANALYST:		
ASSESSMENT:		
CRITICALI FLIGHT	OFFICE OCKERNS	CIL
HDW/FUN	•	ITEM
NASA [ 2 /1R IOA [ 3 /1R	] [P] [P] [P]	] [ X ] * ] [ X ]
COMPARE [ N /	] [ ] [ N ] [	] [ ]
RECOMMENDATIONS:	(If different from NASA)	
[ 2 /1R	] [P] [F] [P	] [X] (ADD/DELETE)
* CIL RETENTION R	ATIONALE: (If applicable)	
REMARKS:	INAI	DEQUATE [ ] DEQUATE [ ]
	ITH THE FMEA. THE ISSUE IS	WITHDRAWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/05/88 MECH/ADF 02-4-052	9-110 000-	03B <b>-</b> 6		]		SA DATA: ASELINE NEW		X	]		
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADF 1103 GEARBOX	.103										
LEAD ANALYST:	A.D. MON	1TGO	MERY									
ASSESSMENT:												
CRITICAL		RED	UNDANC	ĽΥ	SCREE	NS			CI IT	_	[	
FLIGH HDW/FU		A		В			С					
NASA [ 2 /1R IOA [ 3 /1R	] [	P ] P ]	[	P F	]	[ [	P P	]	[ [	X X	]	*
COMPARE [ N /	] [	]	[	N	]	[		]	[		]	
RECOMMENDATIONS:	(If d	iffe	erent :	fro	om NAS	A)						
[ 2 /1R	. ] [	P ]	[	F	]	[	P	] (A)				ETE)
* CIL RETENTION	RATIONAL	E: (	(If ap	pl:	icable			EQUATE EQUATE	_		]	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FME	EA. T	HE	ISSUE	2 :	[S	WITHDRA	WN	B!	Y	

SUBSYSTEM: MECH/ADP	
MDAC ID: 1104 ITEM: PRESSURE LINE	
LEAD ANALYST: A.D. MONTGOMERY	
ASSESSMENT:	
CRITICALITY REDUNDANCY SCREENS FLIGHT	CIL ITEM
HDW/FUNC A B C	
NASA [ / ] [ ] [ ] [ ] IOA [ 3 /1R ] [ P ] [ F ] [ P ]	[ ] * [ X ]
COMPARE [ N /N ] [ N ] [ N ]	[ N ]
RECOMMENDATIONS: (If different from NASA)	
[3/1R] [P] [F] [P] (AD	[ A ] D/DELETE)
* CIL RETENTION RATIONALE: (If applicable)	
ADEQUATE INADEQUATE	[ ]
IOA/MDAC AGREES WITH THE FMEA. THE ISSUE IS WITHDRAW IOA/MDAC.	N BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/05/88 MECH/ADP-1105	NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1105 PROBE		
LEAD ANALYST:	A.D. MONTGOMERY	Ĭ.	
ASSESSMENT:			
CRITICAL		ANCY SCREENS	CIL ITEM
FLIGH HDW/FU	NC A	В С	
NASA [ / IOA [ 3 /1R	[ ] [ P ]	[ ] [ ] [ F ] [ P ]	[ x ] *
COMPARE [ N /N	] [ N ]	[ N ] [ N ]	[ N ]
RECOMMENDATIONS:	(If different	t from NASA)	
[ /	] [ ]	[ ] [ ] (A)	[ A ] .DD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUATE INADEQUATE	[ ]
TOPMETE	IED BY NASA, THE IFFERENCES IN GR	DISCREPANCIES FOUND REMAINING ISSUES MAY	THAT WERE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	NASA DATA BASELINE NEW							
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1106 PROBE							
LEAD ANALYST:	A.D. MONTGOMERY	ď						
ASSESSMENT:								
CRITICAL FLIGH	ITY REDUNDA	ANCY SCREENS		CIL				
HDW/FU		В	С	ITEM				
NASA [ / IOA [ 3 /1R	] [ ] ] ]	[ ] [ [ <b>F</b> ]	] P ]	[ X ] *				
COMPARE [ N /N	] [ N ]	[ N ]	N ]	[ N ]				
RECOMMENDATIONS:	(If different	from NASA)						
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* CIL RETENTION F	RATIONALE: (If a	•						
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ATTRIBUTED TO DIE	REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/06/88 MECH/ADP	-1107		BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADF 1107 SHAFT	,			
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDANC	Y SCREENS	}	CIL ITEM
FLIGH HDW/FU		A	В	С	
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COMPARE [ N /N	] [	N ] [	и ] [	N ]	[ N ]
RECOMMENDATIONS	(If d	ifferent f	rom NASA	)	
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* CIL RETENTION	RATIONAL	E: (If ap)	olicable) I	ADEQUATE NADEQUATE	[ ]
REMARKS: AFTER COMPARISO ALREADY IDENTIF ATTRIBUTED TO D WITHDRAWN BY IO	IED BY NA IFFERENCE				

ASSESSMENT DATE: 1/06/88 ASSESSMENT ID: MECH/ADP-1108 NASA FMEA #:							NASA DATA: BASELINE [ X ] NEW [ ]														
SUBSYST MDAC ID ITEM:				1	IECH, 108 HAF		P														
LEAD AN	ALY	ST	:	A	.D.	МО	NT	GOM	ERY												
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	CR		ICAI LIGH		Y		R	EDU	NDA	N	CY	sc	REE	:NS	3			С	IL		
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SUBSYSTEM MDAC ID: ITEM:	[:			MECH, 1109 DEPL	/ADP	ROSW1	ITCH					
LEAD ANAI	LYS	T:		A.D.	MONTG	OMER	Y					
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	CI				ITY	RE	DUND	ANCY	SC	REENS			CIL		
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NASA IOA	<b>.</b>	[	3	/	]	[	]	[	]	[ [	]		[	]	*
COMPARE				/N		[	]		]	[	]		[	]	
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* CIL I	RET	ΈÌ	T	ION	RATI	ONALE:	(If	appl	ica		ADEQU NADEQU	ATE ATE	[	]	
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ASSESSMENT ASSESSMENT NASA FMEA	r I	ATE: D:	1/06, MECH,		1112				NASA D BASEL		[	]
SUBSYSTEM: MDAC ID: ITEM:			MECH, 1112 STOW		oswii	СН						
LEAD ANALY	YST	:	A.D.	MONT	GOMER	RY						
ASSESSMENT	r:											
CF		ICAL:	ITY r	R	EDUND	ANCY	SCRE	ENS			CIL	
			VC	A		В		(	2		ITEN	1
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	1/08/88 MECH/ADP 05-6EE-2			BASELINE NEW	_
MDAC ID:	MECH/ADF 1500 +28V CON				
LEAD ANALYST:	A.D. MON	ITGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
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RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
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* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1500		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/EPD&0 1500 +28V CONTACT			
LEAD ANALYST:	A.D. MONTGOME	RY		
ASSESSMENT:				
CRITICAL: FLIGHT		DANCY SCREI	ens	CIL
HDW/FUI	NC A	В	С	ITEM
NASA [ 1 /1 IOA [ 3 /1R	] [ ] ] ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADE 05-6EE-2	P-1501A 2002-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1501 +28V COI	P/EPD&C NTACT #1			
LEAD ANALYST:	A.D. MOI	ntgomery			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
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* CIL RETENTION	RATIONAL	LE: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH TH	E FMEA.	THE ISSU	E IS WITHDR	AWN BY

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LEAD AN	ALY	SI	<b>:</b>	A	.D.	МО	NT	GOM	ERY	ľ										
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		F	ICAI LIGH	IT			R	EDU	NDA	M	CY	sc	REEN	IS			CI	L EM	Æ	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADI 05-6EE-2	P-1502A 2002-1		NASA DATA BASELINE NEW	_
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1502 +28V COI		2		
LEAD ANALYST:	A.D. MO	NTGOMERY	t .		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	11111
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REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSME ASSESSME NASA FME	ASSESSMENT DATE: 1/08/88 ASSESSMENT ID: MECH/ADP-1502 NASA FMEA #: 05-6EE-2002-2 SUBSYSTEM: MECH/ADP/EPD&C															DAT LIN NE			]	
SUBSYSTE MDAC ID: ITEM:				MECH, 1502 +28V		-														
LEAD ANA	LY:	ST	:	A.D.	MOI	T	GOMI	ERY												
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	CR:		ICAL:	ΙΤΥ		RI	EDUI	ADN	NO	CY	SCI	REEN	IS				CI			
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REMARKS: IOA/MDAC	A	SRI	EES V	ITH T	THE	FM	ſΕΑ.	, '	TH	ΙE	ISS				_		1	BY		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADE 05-6EE-2	P-1503A 2002-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1503 +28V CON		:		
LEAD ANALYST:	A.D. MOI	NTGOMERY	?		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCREE	ens	CIL ITEM
FLIGH HDW/FU	•	A	В	С	11111
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COMPARE [ N /N	] [	<b>N</b> ]	[ N ]	[ N ]	[ ]
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REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	.WN BY

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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP 05-6EE-2	-1504A 002-1		BASELINE NEW				
	MECH/ADF 1504 +28V CON							
LEAD ANALYST:	A.D. MONTGOMERY							
ASSESSMENT:								
CRITICAL FLIGH		REDUNDA	NCY SCREE	ins	CIL ITEM			
HDW/FU		A	В	С				
NASA [ 1 /1 IOA [ 3 /1R	] [	P ]	[	[ ] [ P ]	[ X ] * [ X ]			
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]			
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)				
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* CIL RETENTION	RATIONAL	E: (If	applicable	e) ADEQUATE INADEQUATE	[ ]			
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1504	BASELIN	NASA DATA: BASELINE [ ] NEW [ X ]							
	MECH/ADP/EPD&C 1504									
	+28V CONTACT #3									
LEAD ANALYST:	A.D. MONTGOMERY									
ASSESSMENT:										
CRITICALITY REDUNDANCY SCREENS CIL ITEM										
HDW/FUN	VC A	В С								
NASA [ 1 /1 IOA [ 3 /1R	] [ ] [ ] [ P ] [	F ] [ P ]	[ X ] * [ X ]							
COMPARE [ N /N	] [ N ] [	N ] [ N ]	[ ]							
RECOMMENDATIONS:	(If different f	rom NASA)								
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* CIL RETENTION R	ATIONALE: (If app	licable)								
REMARKS:		ADEQUATE	[ ]							
	ITH THE FMEA. TH	E ISSUE IS WITHDRA	WN BY							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADE 05-6EE-2	P-1505A 2002-1		NASA DATA: BASELINE NEW	_
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1505 +28V COI				
LEAD ANALYST:	A.D. MOI	NTGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 1 /1 IOA [ 3 /1F	] [	] P ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
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REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH TH	E FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-	1505 02 <b>-</b> 2	NASA DATA: BASELINE [ NEW [ X				
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/1 1505 +28V CONTA						
LEAD ANALYST:							
ASSESSMENT:							
CRITICALI FLIGHT		EDUNDANCY S	SCREENS	CIL			
HDW/FUN	•	В	С	ITEM			
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COMPARE [ N /N	] [ N	] [ N ]	[ N ]	[ ]			
RECOMMENDATIONS:	(If diff	erent from	n NASA)				
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP 05-6EE-2	-1506A 002-1	NASA DATA: BASELINE [ ] NEW [ X ]					
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1506 +28V CON							
LEAD ANALYST:	A.D. MON	TGOMERY						
ASSESSMENT:								
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM			
FLIGH' HDW/FU		A	В	С				
NASA [ 1 /1 IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]			
COMPARE [ N /N		N ]	[ N ]	[ N ]	[ ]			
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)				
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* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE				
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	AWN BY			

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LEAD AN	ALY	ST	:	A.D	. мо	NT	GOM	IERY											
ASSESSM	ENT	:																	
		F	LIGH					NDA	NC	Y:	SCR	EEN:	S				IL PEN	чí	
		HD	W/FU	INC		A				В			C					•	
NASA IOA	[	1	/1 /1R	]	[	P	]		[ [	F	]	[	P	]		[	X X	]	*
COMPARE	[	N	/N	]	[	N	]		[	N	]	[	N	]		[		]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP-1 05-6EE-200	507A 2-1		BASELINE NEW	
MDAC ID:	MECH/ADP/E 1507 +28V CONTA				
LEAD ANALYST:	A.D. MONTG	OMERY			
ASSESSMENT:					
CRITICAL		DUNDANCY	SCREEN	S	CIL ITEM
FLIGH HDW/FU		E	3	С	
NASA [ 1 /1 IOA [ 3 /1R	] [ ] [ P	] [ ] [ F	] [	P ]	[ X ] * [ X ]
COMPARE [ N /N	] [ N	] [ 1	1] [	N ]	[ ]
RECOMMENDATIONS:	(If dif	ferent fi	om NASA	)	
[ 2 /1R	] [P	] [ ]	?][		[ A ] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If app	licable) I	ADEQUATE NADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FI	MEA. TH	E ISSUE	IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP-1507 05-6EE-2002-2	•	NASA DATA BASELINE NEW	=
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/EPDS 1507 +28V CONTACT			
LEAD ANALYST:				
ASSESSMENT:				
CRITICAL: FLIGHT		DANCY SCREE	NS	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [ ] ] ]	[ ] [ F ]	[ ] [ P ]	[ X ] *
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If differe	nt from NASA	A)	
[ 2 /1R	] [ P ]	[F] [	[ P ] (AI	[ A ] DD/DELETE)
* CIL RETENTION F	ATIONALE: (If	•	ADEQUATE NADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA.			•

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/AD	P-1508A		NASA DATA: BASELINE [ ] NEW [ X ]					
MDAC ID:	MECH/AD 1508 +28V CO	OP/EPD&C	1						
LEAD ANALYST:	A.D. MC	NTGOMERY	¥						
ASSESSMENT:									
CRITICAL		REDUNDA	ANCY	SCREE	NS		CI	L EM	
FLIGH HDW/FU		A	В		С				
NASA [ 1 /1 IOA [ 3 /3	]		[	]	[	]	[	X X	) <b>*</b> ]
COMPARE [ N /N	1	[ ]	[	]	[	]	[		]
RECOMMENDATIONS:	(If	differen	t fro	om NAS	A)				
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* CIL RETENTION	RATIONA	LE: (If	appli	cable	) AD INAD	EQUATE	[		]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH TH	E FMEA.	THE	ISSUE	IS	WITHDRA	WN	вч	

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	MECH/ADP	-1508 002-2		NASA DATA: BASELINE [ ] NEW [ X ]							
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1508 +28V CON	,	l								
LEAD ANALYST:	LEAD ANALYST: A.D. MONTGOMERY										
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM											
		A	В	С		11011					
NASA [ 1 /1 IOA [ 3 /3	] [	]	[ ]	[	]	[ X ] *					
COMPARE [ N /N	] [	]	[ ]	[	]	[ ]					
RECOMMENDATIONS	: (If di	fferent	from	NASA)							
[ 2 /1	R ] [ ]	P ]	[ F ]	[ P		[ A ] DD/DELETE)					
* CIL RETENTION	RATIONALE	: (If a	pplica	Al	DEQUATE DEQUATE						
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE IS		-						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADE 05-6EE-2	9-1509A 2002-1		NASA DATA: BASELINE NEW	
MDAC ID:	MECH/ADI 1509 +28V CON				
LEAD ANALYST:	A.D. MOI	NTGOMERY	•		
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREI	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	t from NA	SA)	
	. ] [	P ]	[ F ]	[ P ]	[ A ] .DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSM ASSESSM NASA FM	ENT	Ι	D:	MECH	/ADP	-150 002-	9 2		NASA DATA: BASELINE [ ] NEW [ X ]					
SUBSYST MDAC ID ITEM:				MECH 1509										
LEAD AN	ALY:	ST	:	+28V										
ASSESSM					11010	I GOM	LKI							
	CR		ICAL LIGH	ITY	1	REDUI	NDAN	CY	SCR	EEN	s		CIL	
	1	_	W/FU	_	1	A		В			С		ITEM	
NASA IOA	[	1 3	/1 /1R	]	[ [ ]	)	[	F	]	[	P	]	[ X ] * [ X ]	
COMPARE	[	N	/N	]	[ ]	1]	[	N	]	[	N	]	[ ]	
RECOMMEN	IDAT	PIC	ONS:	(I:	f dif	fere	ent f	fro	om N	ASA)	)			
	[	2	/1R	]	[ <b>F</b>	<b>'</b> ]	[	F	]	[	P		[ A ] ADD/DELETE)	
* CIL RE	TEN	T	ON F	RATION	VALE:	(If	app	li	.cab	le)				
REMARKS:										IN	AI IAI	EQUATE EQUATE		
IOA/MDAC	: AG	RI	ees W	T HTIV	HE F	MEA.	TH	E	ISS	UE I	S	WITHDR	AWN BY	

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	MECH/	38 ADP-1510 E-2002-1	A		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	1510	ADP/EPD&				
LEAD ANALYST:	A.D. 1	MONTGOME	RY			
ASSESSMENT:						
CRITIC		REDUN	DANCY :	SCREENS	3	CIL ITEM
FLIC HDW/1	FUNC	Α	В		С	112.
NASA [ 1 /1 IOA [ 3 /1	L ] 3 ]	[ ]	[	] [	]	[ X ] * [ X ]
COMPARE [ N /	4 ]	[ ]	[	] [	]	[ ]
RECOMMENDATION	S: (If	differe	nt fro	m NASA)	)	
[ 2 /	ır ]	[ P ]	[ F	] [	P ] (A	[ A ] DD/DELETE)
* CIL RETENTIO	N RATION	ALE: (If	appli		ADEQUATE NADEQUATE	[ ]
REMARKS: IOA/MDAC AGREE IOA/MDAC.	s WITH T	HE FMEA.	THE	ISSUE	IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP- 05-6EE-20	1510 02-2		NASA DATA BASELINE NEW	-
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/ 1510 +28V CONT				
LEAD ANALYST:	A.D. MONT	GOMERY			
ASSESSMENT:					
CRITICAL FLIGH		EDUNDANCY	SCREENS	3	CIL
HDW/FU		В		С	ITEM
NASA [ 1 /1 IOA [ 3 /3	] [	] [	] [	]	[ X ] * [ X ]
COMPARE [ N /N	] [	] [	] [	]	[ ]
RECOMMENDATIONS:	(If dif:	ferent fro	om NASA)		
[ 2 /1R	] [ P	] [ F	] [	P ] (AI	[ A ] DD/DELETE)
* CIL RETENTION 1	RATIONALE:	(If appli	-	ADEQUATE ADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES ( IOA/MDAC.	VITH THE FI	MEA. THE		_	• •

	1/08/88 MECH/ADI 05-6EE-2			NASA DATA BASELINE NEW	
MDAC ID:	MECH/ADI 1511 +28V COI		2		
LEAD ANALYST:	A.D. MOI	NTGOMER'	Y		
ASSESSMENT:					
CRITICAL		REDUND	ANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
[ 2 /1F	. ] [	P ]	[ F ]	[ P ]	[ A ] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	.e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHDRA	AWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/AD 05-6EE-	P-1511 2002-2		NASA DATA: BASELINE [ ] NEW [ X ]			
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1511 +28V COI	•					
LEAD ANALYST:	A.D. MOI	NTGOMERY					
ASSESSMENT:							
CRITICALI FLIGHT		REDUNDAN	CY SCRE	ENS	CIL ITEM		
HDW/FUN	IC	A	В	С			
NASA [ 1 /1 IOA [ 3 /1R	] [	P ] [	F ]	[ ] [ P ]	[ X ] * [ X ]		
COMPARE [ N /N	] [	и][	N ]	[ N ]	[ ]		
RECOMMENDATIONS:	(If di	fferent	from NA	SA)			
[ 2 /1R	] [	P ] [	F ]		[ A ] DD/DELETE)		
* CIL RETENTION R	RATIONALE	: (If ap	plicabl	ADEQUATE	[ ]		
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE	FMEA. T	HE ISSU				

ASSESSMEN ASSESSMEN NASA FME	NT ID:	MECH/A	DP-1					ASA DATA BASELINE NEW	[	x	]	
SUBSYSTEM MDAC ID: ITEM:		MECH/A 1512 +28V C	·		3							
LEAD ANA	LYST:	A.D. M	ONTG	OMERY	Z.							
ASSESSME	NT:											
•	CRITICAL FLIGH		RE	DUND	ANCY	SCREE	ENS		C]	IL CEN	,	
	HDW/FU		A		В		С		1	LEP	1	
NASA IOA	- '	]	[	]	[	]	[	]	[	X X	]	*
COMPARE	[ N /N	]	[	]	[	]	[	]	[		]	
RECOMMEN	DATIONS:	(If	diff	erent	fro	om NAS	SA)					
	[ 2 /1R	1	[ P	]	[ F	]	[ P	] (A)				ETE)
* CIL RE	TENTION	RATIONA	LE:	(If a	appli	icable			_		_	
								DEQUATE DEQUATE			]	
REMARKS: IOA/MDAC	AGREES	WITH TH	E FM	EA.	THE	ISSUE	E IS	WITHDRA	MN	ВУ	?	

ASSESSMENT DATA ASSESSMENT ID: NASA FMEA #:	MECH,	/ADP-1512			ATA: INE [ ] NEW [ X ]
SUBSYSTEM: MDAC ID: ITEM:	1512	/ADP/EPD&C			
LEAD ANALYST:	A.D.	MONTGOME	RY		
ASSESSMENT:					
	CALITY	REDUNI	DANCY SCR	EENS	CIL ITEM
	FUNC	A	В	С	11111
NASA [ 1 ,	(1 ] (3 ]	[ ]	[ ]	[ ]	[ X ] * [ X ]
COMPARE [ N ,	/N ]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIO	NS: (I	f differe	nt from N	IASA)	
[ 2 ,	/1R ]	[ P ]	[ <b>F</b> ]	[ P ]	[ A ] (ADD/DELETE)
* CIL RETENTI	ON RATIO	NALE: (If	applicat	ole) ADEQUA INADEQUA	
REMARKS: IOA/MDAC AGRE IOA/MDAC.	ES WITH	THE FMEA.	THE ISS	SUE IS WITH	DRAWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP- 05-6EE-2	-1513A 002-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1513 +28V CON				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [	P ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	fferent	from NA	SA)	
[ 2 /1R	. ] [	P ]	[ F ]	[ P ]	[ A ] ADD/DELETE
* CIL RETENTION	RATIONALE	E: (If a	applicabl	Le) ADEQUATE INADEQUATE	-
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHDRA	AWN BY

ASSESSMI	ENT DATE: ENT ID: EA #:	MECH/ADI	2-1513 2002-2		NASA DATA BASELINE NEW	
SUBSYSTI	:	MECH/ADE				
ITEM:		+28V CON	TACT #	3		
LEAD ANA	ALYST:	A.D. MON	TGOMER	Y		
ASSESSMI	ENT:					
	CRITICAL:	יַ		ANCY SCRE		CIL ITEM
	HDW/FUN	ic	A	В	С	
NASA IOA	[ 1 /1 [ 3 /1R	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE	[ N /N	] [	и ]	[ N ]	[ N ]	[ ]
RECOMMEN	NDATIONS:	(If di	fferen	t from NA	SA)	
	[ 2 /1R	] [	P ]	[ F ]		[ A ] DD/DELETE)
* CIL RE	ETENTION F	ATIONALE	: (If a	applicable	e)	
REMARKS:					ADEQUATE INADEQUATE	
	AGREES W	ITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMEN ASSESSMEN NASA FME	T ID:	1/08/88 MECH/AI 05-6EE-	OP-1514A			NASA DA BASELI 1		-	, ] ( ]	
SUBSYSTEM MDAC ID: ITEM:		1514	OP/EPD&C ONTACT #							
LEAD ANA	LYST:	A.D. MC	ONTGOMER	Y						
ASSESSME	NT:									
·	CRITICAL		REDUND	ANCY	SCREE	NS		CII		
	FLIGH HDW/FU		A	В		С		TII	714I	
NASA IOA	[ 1 /1 [ 3 /3	]	[ ]	[	]	[ ]		[ ]	x ] x ]	*
COMPARE	[ N /N	]	[ ]	[	]	[ ]		[	]	
RECOMMEN	DATIONS:	(If o	differen	t fr	om NAS	A)				
	[ 2 /1R	]	[ P ]	[ <b>F</b>	1	[ P ]	(AC	•	A ] DEL	ETE
* CIL RE	TENTION	RATIONA:	LE: (If	appl	icable	) ADEQUA' INADEQUA'		[	]	
REMARKS: IOA/MDAC IOA/MDAC		WITH TH	E FMEA.	THE	ISSUE	IS WITH	DRAV	N :	вұ	

ASSESSME ASSESSME NASA FME	NT	11	D:	MECH/	ADP-1	L514 )2-2				ASA DATA: BASELINE NEW	[		]	
SUBSYSTEMDAC ID:	M:			MECH/2 1514 +28V	,									
LEAD ANA	LYS	ST	:	A.D. I	TONT	OMERY								
ASSESSME	NT:	;												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM														
	F			NC	A		В		С		11	EN	i	
NASA IOA	[	1	/1 /3	]	[	]	[	]	[ [	]	[	X X	] * ]	•
COMPARE	[	N	/N	]	[	]	[	]	[	]	[		]	
RECOMMEN	DA'I	rio	ons:	(If	diff	ferent	fro	om NAS	A)					
	[	2	/1R	]	[ P	]	[ F	]	[ P		-	A DE	] LET	'E)
* CIL RE	TEN	T:	ION 1	RATION	ALE:	(If a	ppli	cable	Al	DEQUATE DEQUATE			]	
REMARKS: IOA/MDAC IOA/MDAC		RI	EES 1	WITH TI	HE FM	MEA.	THE	ISSUE	: IS	WITHDRAW	۷N	ву		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADI 05-6EE-2	P-1515A 2002-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1515 +28V COI		1		
LEAD ANALYST:	A.D. MOI	NTGOMER'	Y		
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	ANCY SCREI	ens	CIL ITEM
HDW/FU	NC	A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [	] P ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
[ 2 /1R	. ] [	P ]	[ F ]		[ A ] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-151	5 2	NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/EPD 1515 +28V CONTACT			
LEAD ANALYST:	A.D. MONTGOM	ERY		
ASSESSMENT:				
CRITICAI FLIGH HDW/FU	T	NDANCY SCRE	ENS C	CIL ITEM
		_	_	f V 7 4
IOA [ 3 /1R	[ ] [ P ]	[ F ]	[ P ]	[ X ] *
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If differe	ent from NAS	SA)	
[ 2 /1R	[ P ]	[ F ]		[ A ] ADD/DELETE)
* CIL RETENTION	RATIONALE: (I1	applicable	e) ADEQUATE INADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FMEA.	THE ISSU		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADI 05-6EE-2	P-1516A 2002-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1516 +28V COI		-		
LEAD ANALYST:	A.D. MO	NTGOMERY	<u>r</u>		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCREE	ins	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 1 /1 IOA [ 3 /1]	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	и }	[ N ]	[ N ]	[ ]
RECOMMENDATIONS	: (If d	lifferen	t from NA	SA)	
[ 2 /1	R ] [	P ]	[ F ]	[ P ]	[ A ] DD/DELETE)
* CIL RETENTION	RATIONAL	LE: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THI	E FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSM	ENT DATE: ENT ID: EA #:	1/08/88 MECH/AD 05-6EE-	08/88 NASA DATA: CH/ADP-1516 BASELINE [ ] -6EE-2002-2 NEW [ X ]							
SUBSYSTI MDAC ID ITEM:		MECH/AD 1516 +28V CO								
LEAD AND	ALYST:	A.D. MO	NTGOMEI	RY						
ASSESSMI	ENT:									
	CRITICAL: FLIGHT	r		DANCY SCI	REENS	CIL ITEM				
	HDW/FUI	NC	A	В	С					
NASA IOA	[ 1 /1 [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]				
COMPARE	[ N /N	] [	N ]	[ N ]	[ N ]	[ ]				
RECOMMEN	DATIONS:	(If d	ifferen	it from N	ASA)					
	[ 2 /1R	] [	P ]	[ F ]	[ P ]	[ A ] (ADD/DELETE)				
* CIL RE	TENTION F	RATIONALI	E: (If	applicab		ID ( )				
REMARKS:					ADEQUAT INADEQUAT					
	AGREES W	ITH THE	FMEA.	THE ISS	UE IS WITHD	RAWN BY				

ASSESSMENT DA ASSESSMENT II NASA FMEA #:	<b>):</b>	MECH/	08/88 NASA DATA: ECH/ADP-1517A BASELINE [ ] 5-6EE-2002-1 NEW [ X ]								
SUBSYSTEM: MDAC ID: ITEM:		1517	/ADP/E								
LEAD ANALYST	:	A.D.	MONTO	OMER	Y						
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS FLIGHT									CII		
		NC	A		В		С				
NASA [ 1 IOA [ 3	/1 /3	]	[ [	]	[	]	[	]	[ ]	[ ]	*
COMPARE [ N	/N	]	[	]	[	]	[	]	[	]	
RECOMMENDATI	ons:	(I	f dif	ferer	nt fr	om NAS	5A)				
[ 2	/1R	: ]	[ P	]	[ <b>F</b>	]	[ P		[ ] [/DD.		ETE)
* CIL RETENT	ION	RATIO	NALE:	(If	appl	icabl	Α	DEQUATE DEQUATE	_	]	
REMARKS: IOA/MDAC AGR IOA/MDAC.	EES	WITH	THE F	MEA.	THE	ISSU	E IS	WITHDRA	WN :	вч	

ASSESSMENT ASSESSMENT NASA FMEA	ID:	MECH/	ADP-1	L517 )2-2	NASA DATA: BASELINE [ ] NEW [ X ]					
SUBSYSTEM: MDAC ID: ITEM:		MECH/ 1517 +28V	ŕ		L					
LEAD ANALYS	ST:	A.D. 1	MONTO	OMERY	Č					
ASSESSMENT	•									
CR:	ITICAL:		RE	EDUNDA	MCA	SCREE	ENS		CIL	_
I	HDW/FUN	=	A		В		С		ITE	.M.
NASA [ IOA [	1 /1 3 /3	]	[	]	[	]	[	]	[ X	*
COMPARE [	N /N	]	[	]	[	]	[	]	[	]
RECOMMENDAT	rions:	(If	diff	erent	fro	om NAS	SA)			
[	2 /1R	]	[ P	]	[ <b>F</b>	]	( P			] ELETE)
* CIL RETEN	TION F	RATION	ALE:	(If a	ppli	cable	AI	DEQUATE DEQUATE	[	]
REMARKS: IOA/MDAC AC IOA/MDAC.	GREES W	ITH TH	HE FM	ŒΑ.	THE	ISSUE		_	•	•

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADE 05-6EE-2	P-1518A 2002-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1518 +28V COM				
LEAD ANALYST:	A.D. MOI	NTGOMERY	•		
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREI	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
[ 2 /1F	: ] (	P ]	[ F ]	[ P ]	[ A ] .DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSM ASSESSM NASA FM	ENT	'I	D:	MEC	/08/88 NASA DATA: ECH/ADP-1518 BASELINE [ 5-6EE-2002-2 NEW [						x	]							
SUBSYST MDAC ID ITEM:				MEC 151 +28															
LEAD AN	ALY	ST	<b>':</b>	A.D	. M	ONT	GOM	ERY											
ASSESSM	ENT	:																	
CRITICALITY REDUNDANCY SCREENS FLIGHT HDW/FUNC A B C									C]	IL EN	1								
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ASSESSMENT DA' ASSESSMENT ID NASA FMEA #:	: MECH/	88 ADP-1519A E-2002-1				ATA: INE [ NEW [	_	
SUBSYSTEM: MDAC ID: ITEM:	1519	ADP/EPD&C CONTACT #						
LEAD ANALYST:	A.D.	MONTGOMER	Y					
ASSESSMENT:								
	CALITY	REDUND	ANCY	SCREEN	ıs		L CEM	
	IGHT /FUNC	A	В		С	**	. 1311	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1 05-6EE-200	.519 )2 <b>-</b> 2	<b>N</b> 2	ASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/E 1519 +28V CONTA				
LEAD ANALYST:					
ASSESSMENT:					
CRITICAL: FLIGHT		DUNDANCY			CIL ITEM
HDW/FUN	IC A	В	С		
NASA [ 1 /1 IOA [ 3 /3	] [	] [	] [	]	[ X ] * [ X ]
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* CIL RETENTION F	RATIONALE:	(If appli	AI	DEQUATE DEQUATE	[ ]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADI	P-1520A 2002-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1520 +28V CON		3		
LEAD ANALYST:	A.D. MOI	TGOMER'	Z.		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU	-	A	В	С	
NASA [ 1 /1 IOA [ 3 /1F	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	.SA)	
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* CIL RETENTION	RATIONAL	E: (If	applicabl	.e) ADEQUATE INADEQUATE	-
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHDRA	AWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP- 05-6EE-20	-1520 002 <b>-</b> 2	NAS BA	A DATA: SELINE [ ] NEW [ X ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/ 1520 +28V CONT			
LEAD ANALYST:	A.D. MONT	GOMERY		
ASSESSMENT:				
CRITICAI FLIGH		EDUNDANCY	SCREENS	CIL ITEM
HDW/FU	NC A	В	С	± ± 1371
NASA [ 1 /1 IOA [ 3 /1R	] [ P	] [ ] [ F	] [ ] ]	[ X ] * [ X ]
COMPARE [ N /N	] [ N	] [ N	] [ N ]	[ ]
RECOMMENDATIONS:	(If dif	ferent fro	m NASA)	
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* CIL RETENTION	RATIONALE:	(If appli	ADE	QUATE [ ] QUATE [ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FI	MEA. THE		

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SUBSYSTEM: MDAC ID: ITEM:		MECH/F 1521 +28V									
LEAD ANALY	ST:	A.D. N	ONTG	OMERY							
ASSESSMENT	<b>':</b>										
CR	ITICAL		RE	DUNDA	NCY	SCREE	NS		CII		
	FLIGHT HDW/FU		A		В		С			21.1	
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SUBSYSTE MDAC ID: ITEM:			MECH/ 1521 +28V	·								
LEAD ANA	LYSI	C:	A.D.	MONT	GOMER	Y						
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		CICAL:	ITY	RI	EDUND	ANCY	SCRE	ENS			IL	
	_	W/FUI	_	A		В		С		1.	ГЕМ	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/AD	P-1522A 2002-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/AD 1522 +28V CO		4		
LEAD ANALYST:	A.D. MO	NTGOMER	Y		
ASSESSMENT:					
CRITICAL		REDUND	ANCY SCRE	ENS	CIL ITEM
FLIGH HDW/F		A	В	С	
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SUBSYSTE MDAC ID:	EM:			1	ECH, 522 28V		-												
LEAD ANA	LY	ST	:	A	.D.	MO	NT	GOM	ERY										
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		F	ICAI LIGH	IT					NDAN		SC	REEN					IL TEN	M	
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SUBSYSTEM: MDAC ID: ITEM:	1523	I/ADP/EPD8 3 7 CONTACT					
LEAD ANALYST	A.D.	MONTGOME	ERY				
ASSESSMENT:							
	CALITY	REDU	NDANCY	SCRE	ens		CIL ITEM
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SUBSYSTE MDAC ID: ITEM:	M:		MECH/2 1523 +28V			4						
LEAD ANA	LYS	r:	A.D.	OTON	OMER	Y						
ASSESSME	NT:											
		TICAL FLIGH	ITY	RE	EDUND	ANCY	SCREE	NS		CI	L EM	[
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADE 05-6EE-2	P-1532A 2002-1		NASA DATA: BASELINE NEW	
MDAC ID:	MECH/ADI 1532 +28V COI		L		
LEAD ANALYST:	A.D. MOI	NTGOMERY	r.		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCRE	ENS	CIL ITEM
FLIGH' HDW/FU		A	В	С	T T D
NASA [ 1 /1 IOA [ 3 /1R	] [	] P ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ X ] * [ X ]
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SUBSYSTE MDAC ID:			15	32												
ITEM:			+2	8V CO	NT.	ACT	#1									
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ASSESSME	NT:															
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADF 05-6EE-2	7-1533 002-2		NASA DATA BASELINE NEW	
	MECH/ADF 1533 +28V CON				
LEAD ANALYST:	A.D. MON	ITGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	
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SUBSYST MDAC ID ITEM:				1	ECH, 534 28V				0&C T #1												
LEAD AN	ALY	ST	<b>':</b>	Α	.D.	МО	NT	GOM	ŒRY												
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			W/FU				A				В			C	?		-	LT.	EM		
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP	7-1534A 002-1			TA: NE [ ] EW [ X ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1534 +28V CON		:		
LEAD ANALYST:	A.D. MON	TGOMERY	7		
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCR	EENS	CIL ITEM
HDW/FU		A	В	С	<b>112.</b>
NASA [ 1 /1 IOA [ 3 /1R	] [	P ]	[	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	fferent	from N	ASA)	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1534		NASA DATA: BASELINE NEW	
	MECH/ADP/EPD&C 1534 +28V CONTACT #2			
LEAD ANALYST:	A.D. MONTGOMERY			
ASSESSMENT:				
CRITICAL: FLIGHT		NCY SCREENS	3	CIL ITEM
HDW/FU	NC A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [ ] ] ]	[	P ]	[ X ] * [ X ]
COMPARE [ N /N	] [ N ]	[ N ]	N ]	[ ]
RECOMMENDATIONS:	(If different	from NASA)		
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SUBSYSTE MDAC ID: ITEM:	M:			MECH/ 1535 +28V															
LEAD ANA	LYS	T:		A.D.	MON	TG	OME	ERY											
ASSESSME	NT:																		
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SUBSYSTEM MDAC ID: ITEM:		MECH/AD 1535 +28V CC	•				
LEAD ANAL	YST:	A.D. MC	NTGOME	RY			
ASSESSMEN	T:						
C	RITICALI FLIGHT	<u>.</u> "	REDUN	DANCY	SCREENS	5	CIL ITEM
	HDW/FUN	C	A	В		C	TILM
NASA IOA	[ 1 /1 [ 3 /1R	] [	p ]	[ [ F	] [	P ]	[ X ] * [ X ]
COMPARE	[ N /N	] [	N ]	[ N	] [	N ]	[ ]
RECOMMEND	ATIONS:	(If d	iffere	nt fro	m NASA)		
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* CIL RET	ENTION R	ATIONAL	E: (If	appli		ADEQUAT:	
REMARKS: IOA/MDAC ! IOA/MDAC.	AGREES W	ITH THE	FMEA.	THE	ISSUE I	S WITHD	RAWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADE 05-6EE-2	P-1536A 2002-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1536 +28V CON				
LEAD ANALYST:	A.D. MOI	NTGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [	] P ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ X ] * [ X ]
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RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	* * · · · · · · · · · · · · · · · · · ·	A DATA: SELINE [ ] NEW [ X ]
MDAC ID:	MECH/ADP/EPD&C 1536	
ITEM:	+28V CONTACT #3	
LEAD ANALYST:	A.D. MONTGOMERY	
ASSESSMENT:		
CRITICAL: FLIGHT	RESUMBLIAGE BURELIAS	CIL
HDW/FUN		ITEM
NASA [ 1 /1 IOA [ 3 /1R	] [ ] [ ] [ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [ N ] [ N ]	[ ]
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* CIL RETENTION R	RATIONALE: (If applicable)	
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REMARKS: IOA/MDAC AGREES W IOA/MDAC.	TITH THE FMEA. THE ISSUE IS WI	THDRAWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP- 05-6EE-20	1537 <b>A</b> 02-1			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/ 1537 +28V CONT					
LEAD ANALYST:	A.D. MONT	GOMERY				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDA	NCY	SCREEN		CIL ITEM
HDW/FU	NC A	1	В		С	
NASA [ 1 /1 IOA [ 3 /1R	] [ ] [ I	]	[ [ F	] [	P ]	[ X ] * [ X ]
COMPARE [ N /N	] [ ]	1]	[ N	] [	N ]	[ ]
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* CIL RETENTION	RATIONALE	: (If a	ppli	.cable)	ADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE	ISSUE	IS WITHDRA	AWN BY

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SUBSYSTI MDAC ID ITEM:	EM:			15	ECH/ 537 28V					3											
LEAD AND	ALY	ST	:	Α.	D.	MO	NT	GOM	ERY	?											
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			W/FU				A				В			С				1.1	EN	1	
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ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/AD 05-6EE-	P-1538A		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/AD 1538 +28V CO	P/EPD&C NTACT #4			
LEAD ANALYST:	A.D. MO	NTGOMERY	?		
ASSESSMENT:					
CRITICA		REDUNDA	ANCY SCREE	ens	CIL ITEM
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REMARKS: IOA/MDAC AGREE IOA/MDAC.	WITH TH	E FMEA.	THE ISSU	E IS WITHDRA	AWN BY

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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADF 05-6EE-2				NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADE 1539 +28V CON		4			
LEAD ANALYST:	A.D. MON	TGOMER'	Y			
ASSESSMENT:						
CRITICAL		REDUND	ANCY	SCREEN	ıs	CIL ITEM
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADI 05-6EE-	P-1539 2002-2			NASA DATA BASELINE NEW	-
MDAC ID:	MECH/ADI 1539 +28V COI		<u>l</u>			
LEAD ANALYST:	A.D. MOI	NTGOMERY	Z			
ASSESSMENT:						
CRITICAL FLIGH		REDUNDA	NCA	SCREE	ins	CIL
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SUBSYSTEM MDAC ID: ITEM:	:	1540	ADP/EP									
LEAD ANAL	YST:	A.D.	MONTGO	MERY								
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SUBSYSTEM: MDAC ID: ITEM:	MECH/AD 1541 +28V CO	P/EPD&C NTACT #1			
LEAD ANALYST:	A.D. MO	NTGOMERY	•		
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM
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SUBSYSTEM: MDAC ID: ITEM:		MECH/F 1542 +28V			2							
LEAD ANALYST: A.D. MONTGOMERY												
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS FLIGHT											1	
	DW/FU		A		В		С			ΕM		
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	MECH/ADP/E 1542 +28V CONTA												
LEAD ANALYST:	A.D. MONTG	OMERY											
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM													
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NASA [ 1 /1 IOA [ 3 /3	] [	] [	] [	]	[ X ] * [ X ]								
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADE 05-6EE-2	P-1543A 002-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1543 +28V COI				
LEAD ANALYST:	A.D. MO	NTGOMERY			
ASSESSMENT:				w.a	CIL
CRITICAL		REDUNDA	NCY SCREE	INS	ITEM
FLIGH HDW/FU		A	В	С	
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* CIL RETENTION	RATIONA	LE: (If	applicabl	e) ADEQUATE INADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH TH	E FMEA.	THE ISSU	E IS WITHDR	AWN BY

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SUBSYST MDAC ID ITEM:	EM:	1543	ADP/EPD& CONTACT			
LEAD AN	ALYST:					
ASSESSMI	ENT:					
	CRITICALI FLIGHT		REDUN	DANCY SCRI	EENS	CIL
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SUBSYSTI MDAC ID: ITEM:	EM:			154											
LEAD ANA	LY	ST	:	A.D	O. MON	ITGOM	ERY								
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADI 05-6EE-	P-1545A		NASA DA' BASELI N	
SUBSYSTEM: MDAC ID: ITEM:	MECH/AD: 1545 +28V CO		3		
LEAD ANALYST:	A.D. MO	NTGOMER'	Z.		
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	ANCY SCR	EENS	CIL ITEM
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP-15- 05-6EE-2002-	45 -2	NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/EPP 1545 +28V CONTACT		
LEAD ANALYST:	A.D. MONTGO	MERY	
ASSESSMENT:			
CRITICAI FLIGH HDW/FU	T	JNDANCY SCREENS B	CIL ITEM
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ASSESSMENT DAT: ASSESSMENT ID: NASA FMEA #:	MECH/A	8 DP-1546 -2002-1	A		NASA DATA BASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:	MECH/A 1546 +28V (	ADP/EPD&C							
LEAD ANALYST:	A.D. M	ONTGOME	RY						
ASSESSMENT:									
CRITIC		REDUNI	DANCY	SCREEN	rs	CIL ITEM			
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SUBSYSTE MDAC ID:				MECH/ 1546 +28V	·						
LEAD ANA	LYS	ST:	:	A.D.	MONT	GOME	RY				
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	CRI		ICAL LIGH	ITY T	RI	EDUN	DANCY	SCI	REENS		CIL ITEM
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:					NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADE 1547 +28V CON		ŀ			
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LEAD ANA	'TA	ST	:	<b>A</b> .1	D. M	101	)T	GOME	ERY											
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REMARKS: IOA/MDAC IOA/MDAC	AC	RI	EES	WITH	H TH	E	FM	IEA.	7	ГΗ	Œ	ISSU	JE I	S	WIT	HDRAV	۷N	ву		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADF 05-6EE-2	-1548A 002-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADE 1548 +28V CON				
LEAD ANALYST:	A.D. MON	ITGOMERY	:		
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCRE	ENS	CIL ITEM
HDW/FU	<del>_</del>	A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	t from NA	SA)	
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* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	-
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSME ASSESSME NASA FME	ENT DA ENT ID EA #:	TE: 1 : M	/08/88 ECH/AD 5-6EE-	P-15- 2002-	48 -2			A DATA: SELINE NEW		
SUBSYSTE MDAC ID:		1	ECH/AD 548 28V CO	·						
LEAD ANA	LYST:	A	.D. MO	NTGO	MERY					
ASSESSME	ENT:									
	CRITI	CALIT IGHT		REDU	JNDANCY	SCRI	EENS		CIL	
		/FUNC		A	В		С		ITEM	
NASA IOA	[ 1 ,	/1 ] /1R ]	[	P ]	[ [ F	]	[ ] [ P ]		[ X ]	*
COMPARE	[ N ]	/N ]	]	N ]	[ И	]	[ N ]		[ ]	
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IOA/MDAC IOA/MDAC	AGREI	ES WIT	TH THE	FMEA	. THE	ISSU	JE IS WI	THDRAW	N BY	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP-1 05-6EE-200	.549A 2-1			SA DATA: ASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/E 1549 +28V CONTA						
LEAD ANALYST:	A.D. MONTO	OMERY					
ASSESSMENT:							
CRITICAL		EDUNDAN	CY SO	CREENS		CIL	
FLIGH HDW/FU			В	С			
NASA [ 1 /1 IOA [ 3 /3	] [	] [		[	]	[ X [ X	] <b>*</b> ]
COMPARE [ N /N	] [	]	[ ]	Ĺ	]	(	]
RECOMMENDATIONS:	(If dif	ferent	from	NASA)			
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* CIL RETENTION	RATIONALE:	(If a	pplic	AD	EQUATE EQUATE	[	]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE F	MEA.	THE I	SSUE IS	WITHDRA	WN E	BY

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	E: 1/08/ MECH/ 05-6E	/88 /ADP-1 EE-200	549 2-2				ASA DATA BASELINE NEW	(	x	]	
SUBSYSTEM: MDAC ID: ITEM:	1549	'ADP/E CONTA									
LEAD ANALYST:	A.D.	MONTG	OMERY								
ASSESSMENT:											
CRITICA FLIG		RE	DUNDAI	NCY	SCREE	NS		CI		•	
HDW/F		A		В		С		1.1	'EM		
NASA [ 1 /1 IOA [ 3 /3	]	[	]	[	]	[	]	[	X X	]	*
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REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH T	HE FMI	EA. T	HE	ISSUE	IS	WITHDRAV	IN	вч		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADE 05-6EE-2	P-1550A 2002-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1550 +28V COI	•	!		
LEAD ANALYST:	A.D. MOI	NTGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	11211
NASA [ 1 /1 IOA [ 3 /1R	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	from NA	asa)	
[ 2 /1R	] [	P ]	[ F ]	[ P ]	[ A ] ADD/DELETE
* CIL RETENTION	RATIONAL	E: (If a	applicabl	.e) ADEQUATE INADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1550		NASA DATA: BASELINE NEW	
	MECH/ADP/EPD&C 1550 +28V CONTACT #2	2		
LEAD ANALYST:	A.D. MONTGOMERY	ľ		
ASSESSMENT:				
CRITICALI FLIGHT HDW/FUN	ני	ANCY SCREENS		CIL ITEM
nDW/ FOR	NC A	ь	С	
NASA [ 1 /1 IOA [ 3 /1R	] [ p ]	[	p ]	[ X ] * [ X ]
COMPARE [ N /N	] [N]	[ N ]	N ]	[ ]
RECOMMENDATIONS:	(If different	: from NASA)		
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* CIL RETENTION F	RATIONALE: (If a		ADEQUATE	
REMARKS: IOA/MDAC AGREES W	VITH THE FMEA.		ADEQUATE S WITHDRAW	_

ASSESSMEN ASSESSMEN NASA FMEA	NT ID:	MECH/A	L/08/88 NASA DATA MECH/ADP-1551A BASELINE D5-6EE-2002-1 NEW								
SUBSYSTEM MDAC ID: ITEM:		MECH/A 1551 +28V C	•								
LEAD ANA	LYST:	A.D. M	ONTGO	MERY							
ASSESSME	T:										
C	CRITICAL:		RED	UNDANC	CY SCR	EENS		CIL ITEM			
	HDW/FU	_	A		В	С		TIDM			
NASA IOA	[ 1 /1 [ 3 /3	]	[ ]	[	]	[	]	[ X ] * [ X ]			
COMPARE	[ N /N	]	[ ]	[	1	[	]	[ ]			
RECOMMENI	DATIONS:	(If	diffe	rent f	from N	ASA)					
	[ 2 /1R	]	[ P ]	[	F ]	[ P	] (A)	[ A ] DD/DELETE)			
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REMARKS: IOA/MDAC IOA/MDAC		VITH TH	E FME	A. TH	Æ ISS		_				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1	1551 02 <b>-</b> 2			SA DATA: ASELINE NEW	[	x ]	
	MECH/ADP/I 1551 +28V CONTA							
LEAD ANALYST:	A.D. MONTO	GOMERY						
ASSESSMENT:								
CRITICALI FLIGHT	TY RI	EDUNDANG	CY SCREE	ENS		CII		
	IC A		В	С		111	EPI	
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COMPARE [ N /N	] [	] [	1	[	]	[	]	
RECOMMENDATIONS:	(If dif	ferent i	from NAS	SA)				
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REMARKS: IOA/MDAC AGREES V IOA/MDAC.	VITH THE FI	MEA. TI	HE ISSUE	E IS	WITHDRAV	VN ]	BY	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP 05-6EE-2	-1552A 002-1		BASELINE NEW	[ x ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1552 +28V CON				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	INS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 1 /1 IOA [ 3 /1R	_	p ]	[ ] [ F ]	[ ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)	
	2] [	P ]	[ F ]	[ P ]	[ A ] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	AWN BY

ASSESSMENT DATE: 1/08/88 ASSESSMENT ID: MECH/ADP-1552 NASA FMEA #: 05-6EE-2002-2 SUBSYSTEM: MECH/ADP/EPD&C											NASA DATA: BASELINE [ ] NEW [ X ]								
SUBSYST MDAC ID ITEM:		}		1	IECH, .552 ·28V		•			3									•
LEAD AN	ALY	SI	:	A	.D.	MO	NT	GOM	ER:	Y									
ASSESSM	ENT	<b>':</b>																	
		r	TITGI	1.1.	Y				NDA	/N	CY	SC	REEN	IS			CI IT	L	
	HDW/FUNC										В	С							
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COMPARE	[	N	/N	]		[	N	]		[	N	]	[	N	]		[	]	
RECOMMEN	IDA?	ric	ons:		(If	d:	Ĺfí	fer	ent	f	rc	n m	NASA	)					
	[	2	/1R	]		[	P	]		[	F	]	[		]			A ] DELI	ETE)
* CIL RE	TEN	T	ON	RAI	NOI	ALE	:	(I1	f a	pp	li	cab	ole)						
REMARKS:													II	IAV	DEQ	UATE UATE	į	]	
IOA/MDAC IOA/MDAC	AG	RE	ES 1	TIW	'H TI	HE	FM	EA.		ГH	E	ISS	UE :	s	WI	THDRA	WN E	3Y	

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	MECH/ADP	1/08/88 NASA D MECH/ADP-1553A BASEI D5-6EE-2002-1							
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP, 1553 +28V CON								
LEAD ANALYST:	A.D. MON	rgomer	Y						
ASSESSMENT:									
CRITICA FLIG		REDUND	ANCY	SCREE	ENS		CIL		
HDW/F		A	В		С		110	•	
NASA [ 1 /1 IOA [ 3 /3	] [	]	[ [	]	[	]	[ X [ X	] * ]	
COMPARE [ N /N	] [	]	[	]	[	]	[	]	
RECOMMENDATIONS	: (If di	fferen	t fr	om NAS	SA)				
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* CIL RETENTION	RATIONALE	: (If	appl:	icable	Al	DEQUATE DEQUATE	[	]	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE	ISSU	E IS	WITHDRA	WN B	Y	

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SUBSYSTEMDAC ID				1553										
LEAD AN	ALY	ST	:	A.D.	MONT	GOME	RY							
ASSESSM	ENT	:												
	CR		ICAI LIGH		R	EDUN	DANCY	SCR	REENS			CI	L	
	]			NC	A		Е	3	C	2			LH	
NASA IOA	[	1	/1 /3	]	[	]	[	]	[	]		[	X X	] <b>*</b> ]
COMPARE	[	N	/N	1	[	]	[	]	[	]		[		]
RECOMME	NDA!	ΓI	ons:	(I	f dif	fere	nt fr	om N	IASA)					
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* CIL R	ETE)	NT:	ION	RATIC	NALE:	(If	appl	icab		ADEQU ADEQU	ATE ATE	[ [		]
REMARKS IOA/MDA	C A	GR:	EES	WITH	THE F	MEA.	THE	: ISS						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-155	1/08/88 NASA DATA: MECH/ADP-1554A BASELINE [ 05-6EE-2002-1 NEW [ X							
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/EPD 1554 +28V CONTACT								
LEAD ANALYST:	A.D. MONTGOM	ERY							
ASSESSMENT:									
CRITICAL		NDANCY SCRE	EENS	CIL ITEM					
FLIGH HDW/FU		В	С	11211					
NASA [ 1 /1 IOA [ 3 /1R	] [ ] [ P ]	[	[ ] [ P ]	[ X ] * [ X ]					
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ ]					
RECOMMENDATIONS:	(If differ	ent from NA	ASA)						
[ 2 /1R	[ P ]	[ F ]	[ P ]	[ A ] ADD/DELETE					
* CIL RETENTION	RATIONALE: (1	If applicab	le) ADEQUATE INADEQUATE						
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FME	A. THE ISS	JE IS WITHDR	AWN BY					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/AD 05-6EE-			NASA DATA BASELINE NEW							
	1554	28V CONTACT #4									
LEAD ANALYST: A.D. MONTGOMERY											
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS C											
HDW/FUI	1C	A	В		С						
NASA [ 1 /1 IOA [ 3 /1R	] [	P ]	[ [ F	] [	P ]	[ X ] * [ X ]					
COMPARE [ N /N	] [	и ]	[ N	] [	N ]	[ ]					
RECOMMENDATIONS:	(If d	ifferen	t fro	om NASA	)						
[ 2 /1R	] [	P ]	[ F	] [		[ A ] DD/DELETE)					
* CIL RETENTION H	RATIONALE	E: (If a	appli	•	ADEQUATE	[ ]					
REMARKS: IOA/MDAC AGREES V IOA/MDAC.	VITH THE	FMEA.	THE		NADEQUATE IS WITHDRAW	. ,					

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SUBSYSTER MDAC ID:	M:			1555	'ADP/E CONTA									
LEAD ANA	LYS	T:		A.D.	.D. MONTGOMERY									
ASSESSMENT:														
	CRI	TI	CAL	YTI	RI	REDUNDANC			NCY SCREENS			CIL ITEN	1	
FLIGHT HDW/FUNC					A			В С						
NASA IOA	[	1		]	[	]	[	]	[	]		[ X	]	*
COMPARE	_	N	/N	]	[	1	[	]	[	}		[	]	
RECOMME	NDA	TI	ons:	: (3	[f dif	fere	ent fi	com N	NASA)					
RECOILLE				R ]	[ P	)	[ ]	F ]	[	P ]	IA)	A ] 1 \ DC	.] ELI	ETE)
* CIL R	ETE	:NT	NOI	RATI	ONALE:	: (I:	f app	lical	ble) IN	ADEQI IQBDAI	UATE UATE	[	]	
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ASSESSMENT DATE: 1/08/88 ASSESSMENT ID: MECH/ADP-1555 NASA FMEA #: 05-6EE-2002-2									NASA DATA: BASELINE [ ] NEW [ X ]					
SUBSYST MDAC II ITEM:		:		1555		/EPD					)			
LEAD AN	ALY	'SI	:	A.D.	MON'	TGOME	RY							
ASSESSM	ENT	<b>':</b>												
		F	LIG		I	REDUN	DANCY	SCR	EENS		CIL			
		HD	W/Ft	JNC	7	4	Е	3	c	2	ITEM			
NASA IOA	[	1	/1 /3	]	[ [	]	[	]	[	]	[ X ] * [ X ]			
COMPARE	[	N	/N	]	[	]	[	1	[	]	[ ]			
RECOMMEN					dif	ferer	nt fr	om NA	SA)					
				]	[ P		[ F		_	J	[ A ] (ADD/DELETE)			
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REMARKS:									IA INAI	DEQUAT	E i i			
IOA/MDAC IOA/MDAC	AG	KE	es v	VITH TH	E FN	MEA.	THE	ISSU	E IS	WITHE	PRAWN BY			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP	<b>-</b> 1556	NASA DATA BASELINE NEW		]						
SUBSYSTEM: MDAC ID: ITEM:	1556	MECH/ADP/EPD&C 1556 +28V CONTACT #1									
LEAD ANALYST:	A.D. MONTGOMERY										
ASSESSMENT:											
CRITICAL	ENS	CIL ITEN									
FLIGH HDW/FU		A	В	С	TIEF	1					
NASA [ / IOA [ 3 /1R	] [	] [ P ] [	F ]	[ ] [ P ]	[	] <b>*</b>					
COMPARE [ N /N	] [	и] [	N ]	[ N ]	[	]					
RECOMMENDATIONS:	(If di	fferent	from NA	SA)							
[ /	] [	] [	]	[ ]	[ \DD/D1	] ELETE)					
* CIL RETENTION	RATIONALE	: (If ap	plicable		_	_					
				ADEQUATE INADEQUATE		]					
REMARKS:  AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP-	1557	1	NASA DATA: BASELINE NEW	[	]
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/ 1557 +28V CONT					
LEAD ANALYST:	A.D. MONT	GOMERY				
ASSESSMENT:						
CRITICAI FLIGH		EDUNDANCY	SCREENS		CIL	,
HDW/FU		В	•	С	1150	•
NASA [ / IOA [ 3 /3	] [	] [	] [	]	[	] * ]
COMPARE [ N /N	] [	] [	] [	1	[	]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)			
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* CIL RETENTION	RATIONALE:	(If appl:	Ť	ADEQUATE ADEQUATE	[	]
REMARKS: THE ISSUE AROSE FMEA/CIL INTERPE ISSUE IS WITHDRA	RETATION AN	D IMPLEME	BETWEEN S	THE NASA A	ND I	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		P-1558		NASA DATA: BASELINE [ ] NEW [ ]							
SUBSYSTEM: MDAC ID: ITEM:	1558	MECH/ADP/EPD&C 1558 +28V CONTACT #2									
LEAD ANALYST:	A.D. MO	NTGOMER'	Y								
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIT											
HDW/FU		A	В	С							
NASA [ / IOA [ 3 /1R	] [	P ]	[ F ]	[ ] [ P ]	[ ] *						
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ ]						
RECOMMENDATIONS:	(If d	ifferen	t from N	ASA)							
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* CIL RETENTION	RATIONAL	E: (If	applicab	le) ADEQUATE INADEQUATE							
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP-1	1559		NASA DATA: BASELINE NEW		]					
MDAC ID:	MECH/ADP/I 1559 +28V CONTA										
LEAD ANALYST: A.D. MONTGOMERY											
ASSESSMENT:											
CRITICALI FLIGHT	TY RI	EDUNDANCY	SCREENS		CIL ITEM						
	ic a	В		С	1121.						
NASA [ / IOA [ 3 /3	] [	] [	] [	]	[	] <b>*</b>					
COMPARE [ N /N	] [	] [	] [	]	E	]					
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)								
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* CIL RETENTION E	RATIONALE:	(If appl:	•	ADEQUATE ADEQUATE	[	]					
REMARKS: THE ISSUE AROSE I FMEA/CIL INTERPRI ISSUE IS WITHDRAW	ETATION AND	O IMPLEME									

ASSESSMEN ASSESSMEN NASA FME	NT :	ID:	1/08/ MECH/	1/08/88 NASA DATA MECH/ADP-1560 BASELINE NEW								
SUBSYSTEM MDAC ID:	M:		1560	MECH/ADP/EPD&C L560 CONTACT #1								
LEAD ANA	LYS'	т:	A.D.	MONTO								
ASSESSME	NT:											
		TICAL FLIGH		RI	EDUNI	ANCY	SCRE	ENS		_	IL TEM	
		DW/FU		A		В			C			
NASA IOA	[	3 /3	]	[	]	[	]	[	]	[	· :	] <b>*</b> ]
COMPARE	[	n /n	]	[	]	[	]	[	]	[		]
RECOMMEN	DAT	'IONS:	(I	f dif:	ferer	nt fr	om NA	SA)				
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* CIL RE	TEN	TION	RATIO	NALE:	(If	appl	icabl		ADEQUATI ADEQUATI		:	]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/08/88 MECH/ADP-	-1561	NASA DATA BASELINE NEW	[	]						
SUBSYSTEM: MDAC ID: ITEM:	1561	ECH/ADP/EPD&C .561 CONTACT #1									
EAD ANALYST: A.D. MONTGOMERY											
ASSESSMENT:											
CRITICAL: FLIGHT		REDUNDANCY	SCREENS	5	CIL ITEM	,					
HDW/FUN		A E	3	С	TIEM	<u>.</u>					
NASA [ / IOA [ 3 /3	] [	] [	] [	]	[	] <b>*</b>					
COMPARE [ N /N	] [	] [	] [	]	[	]					
RECOMMENDATIONS:	(If dif	ferent fr	om NASA)	)							
[ /	] [	] [	] [	] (AI	[ DD/DE	] LETE)					
* CIL RETENTION F	RATIONALE:	(If appl	•	ADEQUATE NADEQUATE	[	]					
THE ISSUE AROSE DE LE LE LE LE LE LE LE LE LE LE LE LE LE	TATION AN	D IMPLEME									

ASSESSME ASSESSME NASA FME	NТ	II			8/88 H/AD	P-15	62				NASA DA BASELI			]	
SUBSYSTE MDAC ID: ITEM:				156	ONTACT #2										
LEAD ANA	LYS	ST:	:	A.D	. мо	NTGO	MER	Y							
ASSESSME	NT	:													
CRITICALITY REDU FLIGHT								INDANCY SCREENS					CIL ITEM		
	I			INC		A		В			С				
NASA IOA	[	3	/3	]	[	]		[	]	[	]		[	]	*
COMPARE	[	N	/N	]	[	]		[	]	[	]		[	]	
RECOMMEN	1DA'	ri	ONS:	: (	(If d	iffe	rer	nt fr	om	NASA)	)				
	[		/	]	[	)		[	]	[	]	(AI	[ DD/D		ETE)
* CIL RI	E <b>TE</b>	NT:	ION	RATI	IONAI	ъЕ: (	Ίf	appl	ica		ADEQUA NADEQUA		[	]	
REMARKS: THE ISSU FMEA/CII ISSUE IS	JE L I	NT	ERPI	RETAT	NOIT	AND	IMI	PLEME	BET NTA	rween Ation	THE NA OF NST	SA 1 S 21	AND 2206	102	A THE

ASSESSMI ASSESSMI NASA FMI	ENT	I			/88 /ADP-	1563	3	NASA DATA: BASELINE [ ] NEW [ ]					
SUBSYSTE MDAC ID:				1563	MECH/ADP/EPD&C L563 CONTACT #2								
LEAD ANA	LYS	ST	: A.D. MONTGOMERY										
ASSESSME	NT:	:											
	CR		ICAL LIGH	ITY T	R	EDUN	IDANCY	SCI	REENS		CII		
	I			NC	A		В		•	C	LIL	.1.1	
NASA IOA	[	3	/3	]		]	[	]	[	]	[	] <b>*</b>	
COMPARE	[	N	/N	]	[	]	[	]	[	]	[	1	
RECOMMEN	DAT	ΓI	ons:	(I	f dif	fere	ent fr	om N	IASA)				
	[		/	]	[	]	[	]	[		[ ADD/D	} ELETE)	
* CIL RE	TEN	VT:	ION	RATIO	NALE:	(If	appl	icab	1	ADEQUATE ADEQUATE	[	]	
REMARKS: THE ISSU FMEA/CIL ISSUE IS	IN	1TI	ERPR	ETATI	ON AN	D IM	PLEME	BETW NTAT	EEN T	THE NASA OF NSTS 2	AND 2206	IOA . THE	

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	MECH/A	3 OP-1589 -2017-1		NASA DATA: BASELINE [ ] NEW [ X ]						
SUBSYSTEM: MDAC ID: ITEM:	1589 AND GA	ND GATE								
LEAD ANALYST:	A.D. M	D. MONTGOMERY								
ASSESSMENT:										
CRITICA	LITY	REDUND	ANCY SCRE	ENS	CIL ITEM					
FLIC HDW/1	HT	A	В	С	_					
NASA [ 3 / IOA [ 3 /	IR ] IR ]	[ P ] [ P ]	[ P ] [ F ]	[ P ] [ P ]	[ x ] *					
COMPARE [ /	]	[ ]	[и]	[ ]	[ N ]					
RECOMMENDATION	s: (If	differer	nt from N	ASA)						
[ 3 /		[ P ]	[ F ]	[ P ]	[ A ] ADD/DELETE)					
* CIL RETENTION	N RATION	NALE: (If	applicab	le) ADEQUATI INADEQUATI	[ ] E					
REMARKS: IOA/MDAC AGRE IOA/MDAC.	ES WITH	THE FMEA.	THE ISS	UE IS WITHD	RAWN BY					

ADOEOO!	MENT DATE: MENT ID: MEA #:	MECH,	/88 /ADP-159 EE-2017-	1 1	NASA DATA: BASELINE [ ] NEW [ X ]			
SUBSYST MDAC ID ITEM:	EM:	1591	/ADP/EPD	&C				
	ALYST:			ERY				
ASSESSM	ENT:							
	CRITICALI FLIGHT	,	DANCY SCR	EENS	CIL			
	HDW/FUN	C	A	В	С	ITEM		
	[ 3 /1R [ 3 /1R	]	[ P ] [ P ]	[ P ] [ F ]	[ P ] [ P ]	[ ] * [ X ]		
COMPARE	[ /	]	[ ]	[ N ]	[ ]	[ N ]		
RECOMMEN	DATIONS:	`	differe	nt from NA	.SA)			
	[ 3 /1R ]	]	[ P ]	[ F ]		[ A ] (ADD/DELETE)		
* CIL RE	TENTION RA	TIONA	LE: (If	applicabl	e)	(1100) DELETE)		
REMARKS:	AGREES WT				ADEQUATE INADEQUATE E IS WITHDR	įį		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADI			NASA DATA: BASELINE [ ] NEW [ X ]				
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1593 SOLID ST		IVER					
LEAD ANALYST:	A.D. MONTGOMERY							
ASSESSMENT:								
CRITICAL: FLIGHT		REDUNDA	ANCY SCRE	CENS	CIL ITEM			
HDW/FU	4C	A	В	С				
NASA [ 3 /1R IOA [ 3 /1R	] [	P ] P ]	[ P ] [ F ]	[ P ] [ P ]	[ ] * [ X ]			
COMPARE [ /	] [	]	[ N ]	[ ]	[ N ]			
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)				
[ 3 /1R	] [	P ]	[ F ]		[ A ] ADD/DELETE)			
* CIL RETENTION I	RATIONALI	E: (If a	applicabl	e) ADEQUATE INADEQUATE				
REMARKS: IOA/MDAC AGREES V IOA/MDAC.	VITH THE	FMEA.	THE ISSU		• •			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADI	2-1595 2016-1		NASA DATA BASELINE NEW	-			
SUBSYSTEM: MDAC ID: ITEM:	1595	•	ONTROLLER					
LEAD ANALYST:	A.D. MON	A.D. MONTGOMERY						
ASSESSMENT:								
CRITICAL: FLIGHT		REDUNDA	NCY SCREE	15	CIL ITEM			
HDW/FUI	NC	A	В	С				
NASA [ 3 /1R IOA [ 3 /1R	] [	P ] P ]	[ P ] [ F ]	[ P ] [ P ]	[ ] * [ X ]			
COMPARE [ /	] [	]	[ N ]	]	[ N ]			
RECOMMENDATIONS:	(If di	fferent	from NAS	A)				
[ 3 /1R	] [	P ]	[ F ]	[ P ] (A)	[ A ] DD/DELETE)			
* CIL RETENTION I	RATIONALE	E: (If a		ADEQUATE INADEQUATE				
REMARKS: IOA/MDAC AGREES V IOA/MDAC.	WITH THE	FMEA.	THE ISSUE	IS WITHDRAN	•			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/21/88 MECH/ADF 05-6EE-2	-1597 016-1	NASA DATA BASELINE NEW			
MDAC ID:	MECH/ADE 1597 REMOTE E		NTROLLER			
LEAD ANALYST:	A.D. MON	ITGOMERY				
ASSESSMENT:						
CRITICAL: FLIGH		REDUNDA	ANCY SCRE	ENS	CIL ITEM	
HDW/FU	-	A	В	С		
NASA [ 3 /1R IOA [ 3 /1R	] [	P ] P ]	[ P ] [ F ]	[ P ] [ P ]	[	
COMPARE [ /	] [	]	[ N ]	[ ]	[ N ]	
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)		
[ 3 /1R	] [	P ]	[ F ]		[ A ] .DD/DELETE)	
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	[ ]	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY	

ASSESSME ASSESSME NASA FME	ITM	ID:	1/22/88 MECH/ADP-1600 05-6EE-2015-2						NASA DATA: BASELINE [ ] NEW [ X ]								
SUBSYSTE MDAC ID: ITEM:			MECH/ 1600 SWITC				C										
LEAD ANA	LEAD ANALYST: A.D. MONTGOMERY																
ASSESSME	NT:																
	E	FICAL FLIGHT DW/FUI	-		RI A	EDUN	DAN	CY B	SCI	REEN	is C			CI	L	]	
		,			••			ט			C						
NASA IOA	[ 3	3 /1R 3 /3	]	[	P	]	[	F	]	[	P	]		[	Х	]	*
COMPARE	[	/N	]	[	N	]	[	N	J	[	N	]		[	N	]	
RECOMMEN	DATI	ons:	(If	di	ff	fere	nt :	fro	om N	NASA	.)						
	[ 3	/1R	]	[	P	]	[	P	]	(	P		(AD	[ D/		] LE:	ΓE}
* CIL RE	TENT	'ION F	RATIONA	LE	:	(If	apı	ol i	.cab	ole)							
REMARKS:												DEQUAT:		[ [		]	
IOA/MDAC IOA/MDAC	AGR	EES W	ITH TH	ΙE	FM	IEA.	TI	ΗE	ISS	UE	IS	WITHD	RAW.	N	BY		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/22/88 MECH/ADI 05-6EE-2			NASA DATA BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1602 LATCH RI	-							
LEAD ANALYST:	A.D. MOI	D. MONTGOMERY							
ASSESSMENT:									
CRITICAL FLIGH		REDUND	ANCY SCRE		CIL ITEM				
HDW/FU	NC	A	В	С					
NASA [ 3 /1R IOA [ 3 /3	] [	P ]	[ F ] [ ]	[ P ] [ ]	[ X ] * [ ]				
COMPARE [ /N	] [	N ]	[ N ]	[ N ]	[ N ]				
RECOMMENDATIONS:	(If d	ifferen	t from NA	ASA)					
[ 3 /1R	] [	P ]	[ P ]	[ P ]	[ ] ADD/DELETE				
* CIL RETENTION	RATIONAL	E: (If	applicab:	le) ADEQUATE INADEQUATE					
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISS	JE IS WITHDR	AWN BY				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/25/88 MECH/ADP-1	604	NASA DATA: BASELINE [ ] NEW [ X ]						
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/E 1604 EMI FILTER								
LEAD ANALYST:	A.D. MONTG	.D. MONTGOMERY							
ASSESSMENT:									
CRITICAL] FLIGHT		SCREENS	CIL						
HDW/FUN		В		С	ITEM				
NASA [ / IOA [ 3 /3	] [	] [	] [	]	[				
COMPARE [ N /N	] [	] [	] [	3	[ N ]				
RECOMMENDATIONS:	(If diffe	erent fro	m NASA)						
[ /	] [ ]	] [	] [		[ ] DD/DELETE)				
* CIL RETENTION R	RATIONALE: (	(If appli		ADEQUATE	[ ]				
INADEQUATE [ ] REMARKS: THE ISSUE AROSE DUE TO DIFFERENCES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THE ISSUE IS WITHDRAWN BY IOA/MDAC.									

ASSESSMEN' ASSESSMEN' NASA FMEA	r ID:	1/25/88 MECH/ADF	-1605		NASA DATA: BASELINE [ ] NEW [ X ]					
SUBSYSTEM MDAC ID:		MECH/ADI 1605 EMI FILT	TER							
LEAD ANAL	YST:	A.D. MOI	NTGOMER'							
ASSESSMEN	IT:					CIL				
C	CRITICAL	YTI	REDUND	ANCY SCRE	ENS	ITEM				
	FLIGH HDW/FU		A	В	С					
NASA IOA	[ / [ 3 /1]	] [ R ] [	p ]	[	[ ] [ P ]	[ x ] *				
COMPARE	[ N /N	] (	[ N ]	[ и ]	[ N ]	[ 14 ]				
RECOMMEN	DATIONS	: (If o	lifferer	nt from NA	ASA)					
	[ /			[ ]	r 1	[ ] (ADD/DELETE)				
* CIL RE	ETENTION	RATIONA	LE: (If	applicab	le) ADEQUAT INADEQUAT	E [ ]				
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.										

ASSESSI ASSESSI NASA FI	ILN'.	ľ.	ID:	E: 1/2 ME	25/88 CH/ADP	-160	)6				DATA: ELINE [ ] NEW [ X ]
SUBSYST MDAC II ITEM:	TEM:	:		160	H/ADP 6 AMP	/EPD	&C				
LEAD AN	ALY	(S)	?:	A.D	. MON	TGOM	ERY				
ASSESSM	ENT	?:									
	CR	II F	ICA LIG	LITY HT	I	REDU	NDANC'	Y SCI	REENS		CIL
				UNC	2	4	1	В		c	ITEM
	[				[	]	[	]	[	]	[ ] * [ x ]
COMPARE	[	N	/N	]	[	]	[	]	[	]	[ N ]
RECOMMEN	NDA'	<b>r</b> I(	ons:	(1	f dif	fere	nt fr	om N	ASA)		
	-			]	•		[			]	[ ] (ADD/DELETE)
* CIL RE	TEN	(TI	ON	RATIO	NALE:	(If	appl	icab	le)	220	
REMARKS:									INA	DEQUA DEQUA	TE [ ]
THE ISSU FMEA/CIL ISSUE IS	E A IN WI	RC TE	SE RPR DRA	DUE T ETATI WN BY	O DIFI ON ANI IOA/N	FERE D IM MDAC	NCES PLEME:	BETWI NTAT:	EEN T	HE NA F NST	SA AND IOA S 22206. THE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/25/88 MECH/ADP-1607	,	NASA DATA BASELINE NEW			
110110 1	MECH/ADP/EPD8 1607 OP AMP	<b>c</b>				
LEAD ANALYST:	A.D. MONTGOME	ERY				
ASSESSMENT:						
CRITICAL: FLIGH	ITY REDUI	NDANCY SCRE	ENS	CIL ITEM		
	NC A	В	С			
NASA [ / IOA [ 3 /1R	] [ p ]	[ ] [ F ]	[ ] [ P ]	[ x ] *		
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ N ]		
RECOMMENDATIONS:	(If differ	ent from NA	ASA)			
[ /	] [ ]	[ ]	[ ] (A)	[ ] .DD/DELETE)		
* CIL RETENTION	RATIONALE: (I	f applicabl	le) ADEQUATE INADEQUATE	[ ]		
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NASA, T FFERENCES IN	HE REMAINI	NG ISSUES MAI	DE		

ASSESSMENT I NASA FMEA #:		5/88 CH/ADP-1608	1	nasa d Basel	
SUBSYSTEM: MDAC ID: ITEM:	160	H/ADP/EPD& 8 ULATOR	c		
LEAD ANALYST	: A.D	. MONTGOME	RY		
ASSESSMENT:					
	ICALITY LIGHT	REDUN	DANCY SCR	EENS	CIL ITEM
HD	W/FUNC	A	В	С	
NASA [ IOA [ 3	/3 ]	[ ]	[ ]	[ ]	[ ] * [ x ]
COMPARE [ N	/N ]	[ ]	[ ]	[ ]	[ N ]
RECOMMENDATI	ons: (	If differe	nt from N	ASA)	
[	/ ]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)
* CIL RETENT	ION RATI	ONALE: (If	applicab	le) ADEQUAT INADEQUAT	<b>.</b> .
THE ISSUE ARC FMEA/CIL INTI ISSUE IS WITH	ERPRETAT	ION AND IM	PLEMENTAT	EEN THE NAS	SA AND IOA S 22206. THE

ASSESSME ASSESSME NASA FME	NT I	D:	1/25/ MECH/	88 ADP	-1	.609						ASA DATA BASELINE NEW	[	x	]	
SUBSYSTEMDAC ID:			MECH/ 1609 REGUL		•	PD&C										
LEAD ANA	LYSI	? <b>:</b>	A.D.	MON	TG	OMER	Y									
ASSESSME	NT:															
		ICAL LIGH	ITY		RE	DUND	ANG	CY	SCRE	ENS	3			IL PEM	<b>.</b>	
			NC		A			В			С		-		•	
NASA IOA	[ 3	/ 3 /1R	]	[ [	P	]	[	F	]	[	P	]	]	x	] <b>*</b>	
COMPARE	[ N	1 /N	]	[	N	]	[	N	]	[	N	]	[	N	]	
RECOMMEN	DATI	cons:	(If	di	.f1	feren	t:	fr	om NA	SA	)					
	[	/	]	[		]	[		]	[		] (A		/DI	] ELETE	)
* CIL RE	TENT	NOI	RATION	ALE	:	(If	apj	pl:	icabl		A NAI	DEQUATE DEQUATE	[		]	
AFTER CO	INADEQUATE [ ] EMARKS: FIGURE COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT LIREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE															

ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/25/88 MECH/ADP	-1610		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1610 GENERATO	•			
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL: FLIGHT		REDUNDANC	Y SCREE	ns	CIL ITEM
HDW/FU		A	В	С	IICM
NASA [ / IOA [ 3 /1R	] [	] [ P ] [	<b>F</b> ]	[ ] [ P ]	[ x ] *
COMPARE [ N /N	1 [	и][	и ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If di	fferent f	from NAS	A)	
[ /	] [	] [	]	[ ] (A)	[ ] DD/DELETE)
* CIL RETENTION 1	RATIONALE	: (If app	olicable	ADEQUATE	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIFIE ATTRIBUTED TO DI	ED BY NAS	A, THE RE	EMAINING	CIES FOUND :	THAT WERE NOT

WITHDRAWN BY IOA/MDAC.

NASA DATA:

ASSESSMENT DA' ASSESSMENT ID NASA FMEA #:	TE: 1/ : ME	/25/88 ECH/ADP	-163	11				BASE	LINE NEW	) ( X	]		
SUBSYSTEM: MDAC ID: ITEM:	16	ECH/ADP 611 ENERATO		D&C									
LEAD ANALYST:	A	.D. MON	TGO	MERY									
ASSESSMENT:										<b>0</b> T	-		
CRITI	CALIT	Y	RED	UNDAN	ICY	SCREI	ENS			CI			
	LIGHT N/FUNC	:	A		В		(	C					
NASA [ IOA [ 3	/ ] /1R ]	] [	P ]		[ [ <b>F</b>	]	[	] P ]					
COMPARE [ N	/N ]	j (	N ]	1	( N	]	[	N ]		[	N	}	
RECOMMENDATI	ons:	(If d	iff	erent	fı	om NA	SA)						
		] [		]	[	3	[	1	(A	[ DD/	DE	] LETE)	)
* CIL RETENT	ON R	ATIONAL	E:	(If a	pp:	licabl	le) Iñ	ADEQ IADEQ	UATE UATE	ĵ [		]	
REMARKS: AFTER COMPARAIREADY IDEN ATTRIBUTED TO WITHDRAWN BY	TIFIE O DIF	FERENCE	WER SA, ES I	E NO THE N GRO	DI: RE: OUN	SCREPA MAINIA D RULI	ANC NG ES.	ES F ISSUE THE	OUND S MAY : ISSU	THA BI	AT E IS	WERE	NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/25/88 MECH/AD	P-1612		NASA DATA BASELINI NEV	
	MECH/AD 1612 CLOCK	P/EPD&C			
LEAD ANALYST:	A.D. MO	NTGOMERY			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDAN	CY SCRE	ENS	CIL
HDW/FUI		A	В	С	ITEM
NASA [ / IOA [ 3 /1R	] [	P ] [	F ]	[ ] [ P ]	[ ] * [ x ]
COMPARE [ N /N	] [	и][	N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If di	fferent f	rom NAS	SA)	
		] [		(AI	[ ] DD/DELETE)
* CIL RETENTION R	ATIONALE	: (If app	licable		
REMARKS:				ADEQUATE INADEQUATE	
AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF WITHDRAWN BY IOA/	FERENCES	ERE NO DI A, THE RE IN GROUN	SCREPAN MAINING D RULES	CIES FOUND TO ISSUES MAY . THE ISSUE	HAT WERE NOT BE IS

ASSESSMENT D. ASSESSMENT I NASA FMEA #:	D:	1/25/8 MECH/A	8 DP-	-16	513				1		SA DATA: ASELINE NEW				
SUBSYSTEM: MDAC ID: ITEM:		MECH/A 1613 CLOCK	DP,	/EI	PD&C										
LEAD ANALYST	7 •	A.D. M	(ON	TG	OMERY										
ASSESSMENT:															
CRIT	CICAL:	ITY		RE	DUNDA	NC	Y:	SCREE	NS			_	L EM		
	FLIGH'			A			В			С					
NASA [ IOA [	/ 3 /1R	]	[	P	]	]	F	]	[ [	P	]	[	x	] <b>*</b> ]	
COMPARE [										N		ί	N	1	
RECOMMENDAT	ions:	(If	d:	iff	erent	: :	fr	om NAS	SA)	)					
		]									] (A	] QQ.	/DI	] ELETE)	
* CIL RETEN	TION	RATION	AL	E:	(If	ap	pl	icable			DEQUATE DEQUATE			]	
REMARKS: AFTER COMPA ALREADY IDE ATTRIBUTED WITHDRAWN E	TO D	LED BY IFFEREI	NA ICE	WE: SA	RE NO , THE IN GR	D R OU	IS EM INI	CREPAI IAININ RULE	NC G S.	IE IS	S FOUND SUES MAY THE ISSU	TH / E JE	IAT BE IS	WERE	тои

ASSESSM ASSESSM NASA FM	ENT	r j	D:	1/2 MEC	5/88 H/ADF	-161	4		;		DATA: LINE [ ] NEW [ X ]
SUBSYST MDAC ID ITEM:	EM:	•		MEC 161 +Q	H/ADP 4 TRANS	-					
LEAD AN	ALY	SI	<b>':</b>	A.D	. MON	TGOM	ERY				
ASSESSM	ENT	<b>:</b>									
	CR		ICA:	LITY HT	:	REDUI	NDANCY	SC	REENS		CIL
				UNC	į	A	В		c	2	ITEM
NASA IOA	[	3	/3	]	[ [	]	( (	]	[	]	[ ] * [ X ]
COMPARE	[	N	/N	]	[	]	[	]	[	]	[ N ]
RECOMMEN	IDA'	TI	ONS:	: (1	f di	fere	ent fr	om N	IASA)		
				]				-	-	3	[ ] (ADD/DELETE)
* CIL RE	TEI	NT]	ION	RATIC	NALE:	(If	appl	icab			
REMARKS:									INA	DEQUA DEQUA	TE [ j
THE ISSU FMEA/CIL ISSUE IS			**/* */		OIA WIA	11 1791	MI H WIN	BETW ITAT	EEN TI	HE NA F NST	SA AND IOA S 22206. THE

ASSESSMEN ASSESSMEN NASA FME	NT :	ID		1/2 MEC	5/88 H/AI	3 DP-	-10	515							SA DAT ASELIN NE			[ ]			
SUBSYSTEM MDAC ID:	M:			161	H/AI .5 TRAI				2												
LEAD ANA	LYS	T:		A.[	). M	ON	TG	OME	RY												
ASSESSME	NT:	;																_			
	CRI		[CAL]				RE	DUN	DAN	CY	!	SCR	EENS	3			CI IT				
	F		LIGHT V/FUI				A			F	3			С							
NASA IOA	[	3	/ /1R	]		]	P	]	[	]	F	]	[	P	]		[	x	] ]	*	
COMPARE	[	N	/N	]		[	N	]	(	]	N	3	[	N	]		[	N	]		
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LEAD ANALYST:	A.D. MONTO	GOMERY			
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LEAD ANALYST:	A.D. MO	NTGOMERY						
ASSESSMENT:								
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LEAD ANALYST:	A.D. MO	NTGOMERY			
ASSESSMENT:					
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AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT
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	MECH/ADE 1629 POWER SU		ST AMP					
LEAD ANALYST:	A.D. MON	ITGOMERY	•					
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LEAD ANALYST: A.D. MONTGOMERY												
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LEAD ANALYST:	A.D.	MONTGOMER	ΥY					
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LEAD ANALYST:	A.D. MONTG	OMERY						
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LEAD ANALYST:	A.D. MON	TGOMER	Y					
ASSESSMENT:								
CRITICA FLIG		REDUND	ANCY	SCREI	ENS		CIL	
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SUBSYSTEM: MDAC ID: ITEM:		MECH/AI 1635 THERMIS			METER								
LEAD ANALY	ST:	A.D. MC	NTGO	MERY									
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SUBSYSTE MDAC ID:			MECH/A 1636 FIELD									
LEAD ANALYST: A.D. MONTGOMERY												
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM												
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COMPARE	[	/	]	[	]	[	]	[	]	[ ]	r ]	
RECOMMEN	IDAT:	ions:	(If	dif	ferent	fro	om NAS	5A)				
	[	3 /1R	]	[ P	]	[ P	]	[ P		[ DD/[	] ELETE)	
* CIL RI	CIL RETENTION RATIONALE: (If applicable)  ADEQUATE [ ]  INADEQUATE [ ]											
REMARKS: IOA/MDAG IOA/MDAG	MARKS: DA/MDAC AGREES WITH THE FMEA. THE ISSUE IS WITHDRAWN BY											

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/AD 05-6EE-	P-1637 2014-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/AD 1637 FIELD E		ANSISTOR		
LEAD ANALYST:	A.D. MO	NTGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 3 /3 IOA [ 3 /1F	] [	p ]	[	[ ] [ P ]	[ x ] *
COMPARE [ /N	]	[ N ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS	: (If o	differen	t from NA	.SA)	
[ 3 /1]	R ]	[ P ]	[ P ]	[ P ]	[ ] ADD/DELETE)
* CIL RETENTION	RATIONA	LE: (If	applicabl	Le) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH TH	E FMEA.	THE ISSU	JE IS WITHDR	AWN BY

ASSESSMEN ASSESSMEN NASA FMEA	D:	1/26/ MECH/ 05-6E	-1638 )14 <b>-</b> 1		NASA DATA: BASELINE [ ] NEW [ X ]								
SUBSYSTEM MDAC ID: ITEM:	1:		MECH/ 1638 CONTR										
LEAD ANAI	YST	:	A.D. 1	MONT	GOME	RY							
ASSESSMEN	T:												
c		CALI LIGHT		R	EDUND	ANCY	SCRE	ENS			IL		
	HDW/FUNC			A					ITEM				
NASA IOA	[ 3	/3 /3	]	[	]	[	]	[	]	]	х	]	*
COMPARE	C	/	]	[	]	[	]	[	1	[		_	
RECOMMENDA	ATIO	NS:	(If	difi	feren	t fro	m NAS	SA)					
					]			[ P	•	[ DD/	DE	] :LE	TE)
* CIL RETERMARKS:	ENTI	ON R	ANOITA	LE:	(If	appli	cable	ΑI	DEQUATE DEQUATE	[		]	
IOA/MDAC A	AGRE	es Wi	тн тн	E FM	EA.	THE	ISSUE			۷N	BY	_	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		P-1						ASA DATA BASELINE NEW	[		]	
SUBSYSTEM: MDAC ID: ITEM:	MECH/AD 1639 CONTROL	•										
LEAD ANALYST:	A.D. MO	NTC	GOMER	Č								
ASSESSMENT:												
CRITICAL		ANC	Y	SCREE	NS			IL TEN				
	FLIGHT HDW/FUNC						С		1.	I E.P	1	
NASA [ 3 /3 IOA [ 3 /1	] [	P	]	[	F	]	[ [ P	]	[	x	]	*
COMPARE [ /N	) [	N	]	[	N	]	[ N	]	[	N	]	
RECOMMENDATIONS:	(If d	iff	ferent	: f	rc	om NAS	A)					
[ 3 /1	. ] [	P	1	[	P	]	[ P		DD,	/DF	] ELI	ETE
* CIL RETENTION	RATIONAL	E:	(If a	app	<b>1</b> i		A	DEQUATE DEQUATE	[		]	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FM	ÆA.	TH	E	ISSUE	IS	WITHDRA	WN	B	ľ	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1640		NASA DATA: BASELINE NEW	
MDAC ID:	MECH/ADP/EPD&C 1640 READ ONLY MEMORY	ď		
LEAD ANALYST:	A.D. MONTGOMERY			
ASSESSMENT:				
CRITICAL FLIGH	<del></del>	NCY SCREENS	3	CIL ITEM
HDW/FU		В	С	TIBM
NASA [ 3 /3 IOA [ 3 /1R	] [ ] ] ]	[ ] [ [ <b>F</b> ] [	P ]	[ ] * [ X ]
COMPARE [ /N	] [ N ]	[и]	N ]	[ N ]
RECOMMENDATIONS:	(If different	from NASA	)	
[ 3 /1R	] [ P ]	[ P ] [	P ] (AI	[ ] OD/DELETE)
	RATIONALE: (If a		ADEQUATE NADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FMEA.	THE ISSUE	IS WITHDRAW	√N BY

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/AL 05-6EE-	)P-1641		NASA DATA BASELINE NEW	_
SUBSYSTEM: MDAC ID: ITEM:	MECH/AI 1641 READ OI	OP/EPD&C	RY		
LEAD ANALYST:	A.D. M	ONTGOMERY	Z.		
ASSESSMENT:					
CRITIC		REDUNDA	ANCY SCRE	ENS	CIL ITEM
FLI HDW/		A	В	С	
NASA [ 3 / IOA [ 3 /	3 ] 1R ]	[ ] [ P ]	[ ] [ F ]	[ ] [ P ]	[ x ] *
COMPARE [ /	N ]	[ N ]	[ N ]	[ N ]	[ N ]
RECOMMENDATION	s: (If	differen	t from NA	SA)	
[ 3 /	1R ]	[ P ]	[ P ]	[ P ]	[ ] ADD/DELETE)
* CIL RETENTION	N RATION?	ALE: (If	applicabl	le) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREI IOA/MDAC.	S WITH T	HE FMEA.	THE ISSU	JE IS WITHDE	RAWN BY

ASSESSM ASSESSM NASA FM	ENT	II	ATE:	MECH	/88 /ADP- EE-20	-1642 )14-2	2 1		ŀ	IASA DAT BASELIN NE		]
SUBSYST				MECH 1642 TRAN			C EMP AM	ıΡ				
LEAD AND	ALYS	ST:		A.D.	TOM	GOME	ERY					
ASSESSMI	ENT:	:										
		FL	IGH		R	EDUN	IDANCY	SCR	EENS		CIL ITEN	
	H	IDW _.	/FU	NC	A		В		С		TIE	1
NASA IOA	[	3	/3 /3	]	[	]	[ [	]	[	]	[ [ x	] *
COMPARE	[	,	/	]	[	]	(	]	[	1	[ N	]
RECOMMEN	DAT	IOI	NS:	(If	dif	fere	nt fr	om Ni	ASA)			
			/1R				[ P				[ \DD/DE	] LETE)
* CIL RE	TEN'	TIC	ON F	NOITAS	ALE:	(If	appli	[cab]		\Down ==	_	
REMARKS:									INAI	EQUATE EQUATE	[	]
IOA/MDAC IOA/MDAC	AGI	REE	es w	ITH T	HE FN	ŒA.	THE	ISSU	JE IS	WITHDRA	WN BY	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/AD 05-6EE-	P-1643				ASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	MECH/AD 1643 TRANSDU			•				
LEAD ANALYST:	A.D. MC	NTGOME	RY					
ASSESSMENT:								
CRITICAL		REDUN	DANCY	SCRI	EENS		CIL ITEM	
FLIGH HDW/FU		A	В		С			
NASA [ 3 /3 IOA [ 3 /3	]	[ ]	[	]	[	]	( x )	e
COMPARE [ /		[ ]	[	]	[	1	[ N ]	
RECOMMENDATIONS:	(If	differe	nt fr	om N	ASA)			
[ 3 /11	R ]	[ P ]	[ P	]	[ P	. ]	[ ] ADD/DELE	ΓE)
* CIL RETENTION	RATIONA	LE: (Ii	f appl	icab	4	DEQUATE		
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH TH	IE FMEA	. THE	E ISS	SUE IS	S WITHDR	AWN BY	

ASSESSMENT DATE: 1/26/88 ASSESSMENT ID: MECH/ADP-1644 NASA FMEA #: 05-6EE-2014-1									1	NASA I BASEI		
SUBSYST MDAC ID ITEM:				MEC 164 AMP	-	/EPI	)&C					
LEAD AN	ALY	ST	' <b>:</b>	A.D	. MONT	rgo <u>m</u>	ERY					
ASSESSM	ENT	:										
	CR			ITY T	F	REDU	NDANCY	sci	REENS		CIL	
	FLIGHT HDW/FUNC						E	3	c	:	ITEM	
NASA IOA	]	3	/3 /3	]	]	]	[ [	]	[	]	[ ] * [ X ]	•
COMPARE	[		/	]	[	]	[	]	ſ	]	[ N ]	
RECOMMEN	IDAI	CIC	ons:	(1	f dif	fer	ent fr	om N	(ASA)			
							[ P			]	[ ] (ADD/DELET	E)
* CIL RE	TEN	T]	ON	RATIC	NALE:	(II	f appl:	icab		NB0*** -		
REMARKS:									INA	DEQUAT DEQUAT	re [ ] re [ ]	
IOA/MDAC IOA/MDAC	AG	RE	es v	HTIV	THE FI	MEA.	THE	ISS	UE IS	WITHE	DRAWN BY	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADI	P-1645 2014-1		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1645 AMP	P/EPD&C			
LEAD ANALYST:	A.D. MOI	NTGOMER!	Ž.		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCRE	EENS	CIL ITEM
FLIGH HDW/FU	-	A	В	С	IIEM
NASA [ 3 /3 IOA [ 3 /1R	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ ] * [ X ]
COMPARE [ /N	] [	N ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferent	t from NA	ASA)	
[ 3 /1R	] [	P ]	[ P ]	[ P ]	[ ] ADD/DELETE
* CIL RETENTION	RATIONALI	E: (If a	applicabl	le) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHDR	AWN BY

ASSESSME NASA FME	ENT	II	D:	ME	MECH/ADP-1646 05-6EE-2014-1				BASELINE [ ] NEW [ X ]						
SUBSYSTE MDAC ID: ITEM:				164	CH/ADP 46 ANSIST		С								
LEAD ANA	LYS	ST:	:	A.	o. Mon	TGOME	RY								
ASSESSME	ENT:	:													
	CRI		ICA LIGI	LITY		REDUN	DANCY	SCR	EENS			CI	L EM	r	
	I			JNC		A	E	3	C				EP.	L	
NASA IOA	[	3 3	/3 /3	]	[ [	]	[ [	]	[	]		[	X	]	*
COMPARE	[		/	]	[	1	[	1	[	1		[	N	]	
RECOMMEN	IDA?	ric	SMC	:	(If di	ffere	nt fr	om N	ASA)						
	[	3	/11	a j	[	P ]	[ P	<b>)</b>	[ P	' ]	(Al		'DE		ETE)
* CIL RE		VT:	ION	RAT	IONALE	: (If	appl	icab	· A	DEQU		[		]	
REMARKS: IOA/MDAC IOA/MDAC	C AC	3R)	EES	WIT	H THE	FMEA.	THE	ISS	UE IS	WIT	HDRA	NN	ВУ	<b>:</b>	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP- 05-6EE-20	-1647 014-1		NASA DATA: BASELINE [ NEW [ X				
SUBSYSTEM:	MECH/ADP/ 1647 TRANSISTO	/EPD&C						
LEAD ANALYST:	A.D. MON	.D. MONTGOMERY						
ASSESSMENT:								
CRITICAL FLIGH		REDUNDA	NCY SCREE	NS	CIL ITEM			
HDW/FU		A	В	С				
NASA [ 3 /3 IOA [ 3 /1R	] [	] P ]	[ ] [F]	[ ] [ P ]	[			
COMPARE [ /N	] [	и ]	[ N ]	[ N ]	[ N ]			
RECOMMENDATIONS:	(If di	fferent	from NAS	A)				
[ 3 /1R	. ] [	P ]	[ P ]	[ P ] (A	[ ] DD/DELETE)			
* CIL RETENTION	RATIONALE	: (If a	pplicable	ADEQUATE				
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSUE	IS WITHDRA	WN BY			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP- 05-6EE-20	-1648 014-1				ASA DATA BASELINE NEW	[	x	]	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP, 1648 AND GATE									
LEAD ANALYST:	A.D. MON	<b>IGOMER</b> Y	Z.							
ASSESSMENT:										
CRITICAL: FLIGH		REDUNDA	NCY	SCREEN	IS			IL PEM	,	
HDW/FU		A	В		С			LER	1	
NASA [ 3 /3 IOA [ 3 /1R	] [ ]	) P ]	[ [ <b>F</b>	] [	P	]	[	x	]	*
COMPARE [ /N	] [ 1	1 ]	[ N	] [	N	1	[	N	]	
RECOMMENDATIONS:	(If dif	ferent	fro	m NASA	.)					
[ 3 /1R	] [ [	? ]	[ P	] [	P	-	[ /QC/	'DE	] :LE	TE)
* CIL RETENTION I	RATIONALE:	(If a	ppli	·		EQUATE	[		]	
REMARKS: IOA/MDAC AGREES V IOA/MDAC.	ITH THE F	MEA.	THE				•		,	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1	.649 .4-1		ASA DATA: BASELINE NEW	[
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/E 1649 AND GATE	PD&C			
LEAD ANALYST:	A.D. MONTG	OMERY			
ASSESSMENT:					
CRITICAL FLIGH		DUNDANCY	SCREENS		CIL
HDW/FU	_	В	С		ITEM
NASA [ 3 /3 IOA [ 3 /1R	] [ P	] [ ] [ F	] [ ] [ P	]	[ ] *
COMPARE [ /N	] [ N	] [ N	] [ N	]	и]
RECOMMENDATIONS:	(If diffe	erent fro	m NASA)		
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* CIL RETENTION I	RATIONALE:	(If appli	ΑI	DEQUATE [DEQUATE [	]
REMARKS: IOA/MDAC AGREES V IOA/MDAC.	ITH THE FME	EA. THE			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADE 05-6EE-2	2-1650 2014-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1650 SERIAL S		GISTER		
LEAD ANALYST:	A.D. MOI	NTGOMERY	•		
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREI	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 3 /3 IOA [ 3 /1R	] [	] P ]	[	[ ] [ P ]	[ x ] *
COMPARE [ /N	] [	и ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
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* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	MECH/AD 05-6EE-	P-1621		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/AI 1651 SERIAL	P/EPD&C SHIFT RE	GISTER		
LEAD ANALYST:	A.D. MO	ONTGOMER'S	Z.		
ASSESSMENT:					
CRITIC		REDUNDA	ANCY SCRE	ENS	CIL ITEM
	GHT FUNC	A	В	С	
NASA [ 3 /	3 ] 1R ]	[ ] [ P ]	[ ] [ F ]	[ ] [ P ]	[ x ] *
COMPARE [ /	и ]	[ N ]	[ N ]	[ N ]	[ N ]
RECOMMENDATION	s: (If	differen	t from NA	SA)	
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* CIL RETENTI	ON RATIONA	LE: (If	applicabl	le) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGRE IOA/MDAC.	ES WITH TE	HE FMEA.	THE ISSU	JE IS WITHDR	AWN BY

ASSESSM ASSESSM NASA FM	ENT	I			/AD	P-	1652 14-1	2 L				N	NASA DA Baseli N	NE	: [	) X ]	
SUBSYST				MECH/ 1652 BINAR													
LEAD AND	ALYS	ST	:	A.D.	MO	NT	GOME	ERY									
ASSESSMI	ENT :	:															
	CRI	T: F)	ICAL LIGH	ITY T		R	EDUN	DAN	CY	SCR	REEN	S			CII	_	
	F		/FU			A			В			С			ITE	EM	
NASA IOA	[	3	/3 /1R	]	[	P	]	[	F	]	[	P	]		[ [ X	]	*
COMPARE	[		/N	]	Į	N	]	[	N	]	[	N	]		[ N	[ ]	
RECOMMEN	DAT	'IC	NS:	(If	đ	i.f1	fere	nt	fro	om N	ASA)						
			/1R	-			]				_	P	-		[ D/D	] ELE	TE)
* CIL RE	TEN	TI	ON F	RATION	ALE	:	(If	ap	ol i	cab	le)				_		
REMARKS:											IN		DEQUATE DEQUATE		[ [	]	
IOA/MDAC IOA/MDAC	AG	RE	ES W	ITH TH	ΙE	FM	EA.	TI	ΙE	ISSU	JE I	S	WITHDR	AWI	1 B.	Y	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP-16 05-6EE-2014	553 -1	NASA DATA BASELINE NEW	7			
SUBSYSTEM: MDAC ID: ITEM:	1653	MECH/ADP/EPD&C L653 BINARY COUNTER					
LEAD ANALYST:	A.D. MONTGO	D. MONTGOMERY					
ASSESSMENT:							
CRITICAL FLIGH	r	UNDANCY SCRE		CIL ITEM			
HDW/FU	NC A	В	С				
NASA [ 3 /3 IOA [ 3 /1R	] [ ] ] [ P ]	[ ] [ F ]	[ ] [ P ]	[			
COMPARE [ /N	] [ N ]	[ N ]	[ N ]	[ N ]			
RECOMMENDATIONS:	(If diffe	rent from NAS	SA)				
[ 3 /1R	] [ P ]	[ P ]		[ ] DD/DELETE)			
* CIL RETENTION 1	RATIONALE: (	If applicable	ADEQUATE INADEQUATE				
REMARKS: IOA/MDAC AGREES VIOA/MDAC.	VITH THE FME	A. THE ISSUI	~				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP	-1654 014-1		NASA DATA: BASELINE NEW				
:	1654	ECH/ADP/EPD&C .654 ADDRESSABLE SWITCH						
LEAD ANALYST:	EAD ANALYST: A.D. MONTGOMERY							
ASSESSMENT:								
CRITICAL: FLIGH		REDUNDA	NCY SCREE	ns	CIL ITEM			
HDW/FU		A	В	С				
NASA [ 3 /3 IOA [ 3 /1R	] [	P ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ X ]			
COMPARE [ /N	] [	N ]	[ N ]	[ N ]	[ N ]			
RECOMMENDATIONS:	(If di	fferent	from NAS	A)				
[ 3 /1R	] [	P ]	[ P ]	[ P ] (AI	[ ] DD/DELETE)			
* CIL RETENTION	RATIONALE	E: (If a		ADEQUATE	[ ]			
REMARKS:				INADEQUATE	[ ]			
IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSUE	IS WITHDRAW	WN BY			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-			NASA DATA BASELINE NEV	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/ 1655 ADDRESSAI		гсн		
LEAD ANALYST:	A.D. MONT	<b>IGOMERY</b>			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDAN	NCY SCRE	EENS	CIL
HDW/FU	_	A	В	С	ITEM
NASA [ 3 /3 IOA [ 3 /1R	] [ ]	] [	[ ] [ <b>F</b> ]	[ ] [ P ]	[ x ] *
COMPARE [ /N	] [ ]	4 ] [	[и]	[ N ]	[ N ]
RECOMMENDATIONS:	(If di	fferent	from NA	asa)	
[ 3 /1R	] [ ]	? ] [	[ P ]	[ P ]	[ DD/DELETE
* CIL RETENTION	RATIONALE:	(If ap	pplicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES 1 IOA/MDAC.	WITH THE P	FMEA. I	THE ISSU	~	

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	MECH/ADI			NASA DATA: BASELINE NEW			
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1656 AMP	P/EPD&C					
LEAD ANALYST:	ANALYST: A.D. MONTGOMERY						
ASSESSMENT:							
CRITICA FLIG	LITY	REDUNDA	ANCY SCREE	INS	CIL ITEM		
HDW/F		A	В	С	112		
NASA [ 3 /3 IOA [ 3 /1	] [ R ] [	P ]	[ ] [ F ]	[ ] [ P ]	[		
COMPARE [ /N	] [	N ]	[ N ]	[ N ]	[ N ]		
RECOMMENDATIONS	: (If d	ifferent	t from NAS	SA)			
[ 3 /1	R ] [	P ]	[ P ]	[ P ] (AI	[ ] DD/DELETE)		
* CIL RETENTION	RATIONAL	E: (If a	applicable	ADEQUATE INADEQUATE	[ ]		
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSUE		-		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADI 05-6EE-	P-1657 2014-1	NASA DATA: BASELINE [ ] NEW [ X ]						
SUBSYSTEM: MDAC ID: ITEM:	MECH/AD 1657 AMP	P/EPD&C							
LEAD ANALYST:	A.D. MO	NTGOMERY							
ASSESSMENT:									
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM				
FLIGH HDW/FU		A	В	С					
NASA [ 3 /3 IOA [ 3 /1F	] [	] P ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[				
COMPARE [ /N	] [	[ N ]	[ N ]	[ N ]	[ N ]				
RECOMMENDATIONS	: (If (	differen	t from NA	SA)					
		[ P ]	[ P ]	[ P ]	[ ] ADD/DELETE)				
* CIL RETENTION	RATIONA	LE: (If	applicabl	e) ADEQUATE INADEQUATE					
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH TH	E FMEA.	THE ISSU	E IS WITHDR	AWN BY				

ASSESSM ASSESSM NASA FM	ENT	ID:	MECH	/AD	P-165 2014-	58 -1	NASA DATA: BASELINE [ ] NEW [ X ]					
SUBSYSTIMDAC ID:			1658		P/EPC				. ,			
LEAD ANA	ALYS	T:	A.D.	MON	VTGOM	ERY						
ASSESSME	ENT:											
	11		REDU	NDANCY	SCR	EENS	CIL ITEM					
	Н	DW/FU	INC		A	В		С	TIEM			
NASA IOA	[	3 /3 3 /1R	]	[	P ]	[ [ F	]	[ ] [ P ]	[ ] * [ X ]			
COMPARE	[	/N	]	[	и ј	[ N	]	[ N ]	[ N ]			
RECOMMEN	DAT:	ions:	(If	di	ffere	ent fro	m N2	ASA)				
			3	-	Ρj	[ P		[ P ]	[ ] (ADD/DELETE)			
* CIL RE	reni	ION I	RATION	ALE	: (If	appli	cab]	le)				
REMARKS:								ADEQUAT INADEQUAT	E į j			
IOA/MDAC	AGR	ees v	VITH T	HE I	FMEA.	THE	ISSU	E IS WITHD	RAWN BY			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/AD 05-6EE-	P-1659		NASA DATA: BASELINE [ ] NEW [ X ]						
SUBSYSTEM: MDAC ID: ITEM:	MECH/AD 1659 SWITCHI	•								
LEAD ANALYST:	A.D. MO	NTGOMER	Υ							
ASSESSMENT:										
CRITICAI FLIGH	<del>-</del>	REDUND	ANCY	SCREE	CIL ITEM					
HDW/FU	_	A	В			IIEM				
NASA [ 3 /3 IOA [ 3 /1F	] [	p ]	[ [ F	]	[ [ P	]	[	x	]	*
COMPARE [ /N	] [	n j	[ N	]	[ И	]	[	N	]	
RECOMMENDATIONS:	(If d	ifferen	t fro	om NASA	ł)					
[ 3 /1R	] [	P ]	[ P	]	P		) DD,	/DF	] ELE:	TE;
* CIL RETENTION	RATIONAL	E: (If	appli	•	ΑI	DEQUATE	[		]	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE			DEQUATE WITHDRAI	] NW	ВУ	] !	

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADE 05-6EE-2	P-1660 2014-1	BASELINE	NASA DATA: BASELINE [ ] NEW [ X ]				
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1660 POLARITY	•	or					
LEAD ANALYST:	A.D. MON	NTGOMERY						
ASSESSMENT:								
CRITICAL FLIGH		REDUNDA	NCY SCREE	ens	CIL ITEM			
HDW/FU	<del>_</del>	A	В	С				
NASA [ 3 /3 IOA [ 3 /1R	] [	p ]	[	[ ] [ P ]	[ x ] *			
COMPARE [ /N	] [	и ]	[ N ]	[ N ]	[ N ]			
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)				
[ 3 /1R	] [	P ]	[ P ]	[ P ] (A	[ ] DD/DELETE)			
* CIL RETENTION	RATIONALI	E: (If a	applicable	e) ADEQUATE INADEQUATE	[ ]			
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADI 05-6EE-2	P-1661 2014-1	: [	x ]					
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1661 POLARITY								
LEAD ANALYST:	A.D. MOI	NTGOMER	Y						
ASSESSMENT:									
CRITICAL FLIGH		REDUND	ANCY	SCREEN	s	CIL ITEM			
HDW/FU		A	В		С				
NASA [ 3 /3 IOA [ 3 /1R	] [	p ]	[ [ F	] [	P ]	[	x ]	*	
COMPARE [ /N	] [	N ]	[ 1	] [	N ]	[	N ]		
RECOMMENDATIONS:	(If d	ifferen	t fro	om NASA	)				
[ 3 /1R	] [	P ]	[ P	] [	P ] (A	[ DD/	DEI	ETE)	
* CIL RETENTION	RATIONAL	E: (If	appli		ADEQUATE NADEQUATE	[	]		
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE	ISSUE	IS WITHDRA	.WN	ву		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP	-1662 014-1		NASA DATA: BASELINE [ ] NEW [ X ]						
	MECH/ADP, 1662 CONTROL									
LEAD ANALYST:	A.D. MON	TGOMERY								
ASSESSMENT:										
CRITICALI FLIGHT	r	REDUNDAN	CY SCREE	ens	CIL ITEM					
HDW/FU	1C /	A	В	С						
NASA [ 3 /3 IOA [ 3 /1R	] [	P ] [	F ]	[ ] [ P ]	[					
COMPARE [ /N	] [ ]	4 ] [	и ]	[ и ]	[ N ]					
RECOMMENDATIONS:	(If di	fferent	from NAS	A)						
[ 3 /1R	] [1	P ] [	P ]		[ ] DD/DELETE)					
* CIL RETENTION F	RATIONALE	: (If app	plicable	ADEQUATE INADEQUATE	[ ]					
REMARKS: IOA/MDAC AGREES WIOA/MDAC.	VITH THE 1	FMEA. TH	HE ISSUE	IS WITHDRAW	√N BY					

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SUBSYSTI MDAC ID: ITEM:			MECH/ 1663 CONTE		•		C										
LEAD ANA	ALYST	:	A.D.	MON	ITC	GOME	RY										
ASSESSMI	ENT:																
	CRITICALITY FLIGHT							CY	SCRE	ENS	5			CIL ITEM			
	NC		A			В			С					•			
NASA IOA	[ 3 [ 3	/3 /1R	]	]	P	]	]	F	]	[	P	]		]	x	]	*
COMPARE	[	/N	]	[	N	]	[	N	]	[	N	]		[	N	]	
RECOMME	NDATI	ons:	(I	f di	f	fere	nt :	fro	om NA	SA	)						
	[ 3	/1R	]	[	P	]	[	P	]	[	P	]	(AI		/DE		ETE)
* CIL R	ETENT	'ION	RATIO	NALE	E :	(If	apı	pl:	icabl	-		DEQUATI DEQUATI		[		]	
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SUBSYSTEM MDAC ID: ITEM:	M:		MECH/A 1664 REGIST	•	EPD&C											
LEAD ANA	LYST:	:	A.D. M	TNO	GOMER	Y										
ASSESSME	NT:															
•			TY	R	EDUND	ANC	CY	SCREE	ENS	3		CI				
	FLIGHT HDW/FUNC						В			С		ITEM				
NASA IOA	[ 3	/3 /1R	]	[ [ P	]	[	F	]	[	P	]	[ :	x ] *			
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	[ 3	/1R	3	[ P	]	[	P	]	[	P		[ DD/1	] DELETE)			
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADE 05-6EE-2	2-1665 2014-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1665 REGISTE				
LEAD ANALYST:	A.D. MOI	NTGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	C	
NASA [ 3 /3 IOA [ 3 /1F	] [	p ]	[	[ P ]	[ x ] *
COMPARE [ /N	] [	и ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS	(If d	ifferen	t from NAS	SA)	
[ 3 /1	R][	P ]	[ P ]	[ P ]	[ ] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THI	E FMEA.	THE ISSU	E IS WITHDR	AWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:					1/26/88 MECH/ADP-1666 05-6EE-2014-1						NASA DATA: BASELINE [ ] NEW [ X ]												
SUBSYST MDAC ID ITEM:				1	ECH, 666 ISC						UF	'FER								•			
LEAD AN	ALY	ST	:	A	.D.	MO	NT	'GOI	MER	Y													
ASSESSM	ENT	:																					
	FLIGHT				Y REDUNDAN							NCY SCREENS						CIL					
	]	HDW/FUNC				A					В			С					ITEM				
NASA IOA	[	[ 3 /3 ] [ 3 /1R ]			[	P	]		[	F	]	[	P	]			[	x	]	*			
COMPARE	[		/N	]		[	N	]		[	N	]	[	N	]			[	N	]			
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			/1R			•	P						ſ	P	J	(			<b>DE</b>		TE)		
* CIL RE	TEN	TI	ON	RAI	'ION	ALE	:	(I	f a	app	)li	.cab	le)										
REMARKS:														IAL	EQ	UATE UATE	:	[	:	]			
IOA/MDAC IOA/MDAC	AG •	RE	es v	TIV	H TI	HE	FM	EΑ	•	TH	E	ISS	UE I	S	WI	THDR	AWI	N I	ВУ				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:			NASA DATA: BASELINE [ ] NEW [ X ]							
MDAC ID:	MECH/ADI 1667 DISCREET	•	BUFFER							
LEAD ANALYST:	A.D. MON	TGOMER	Z.							
ASSESSMENT:										
CRITICAL: FLIGH		REDUNDA	ANCY SCREE	ens	CIL ITEM					
HDW/FU		A	В	С						
NASA [ 3 /3 IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[					
COMPARE [ /N	] [	и ј	[ N ]	[ N ]	[ <b>N</b> ]					
RECOMMENDATIONS:	(If d	ifferent	t from NAS	SA)						
[ 3 /1R	] [	P ]	[ P ]	[ P ]	[ ] DD/DELETE)					
* CIL RETENTION	RATIONALI	E: (If a	applicable	e) ADEQUATE INADEQUATE	[ ]					
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ASSESSMENT ID:	MECH/ADP-									
NASA FMEA #:	05-6EE-20	14-1		N	EW [ 3	<b>(</b> ]				
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/ 1668 SERIAL/PA		COMMEDM	en						
IICM:	SERIAL/ PA	KALLEL	CONVERT	LK						
LEAD ANALYST:	A.D. MONT	GOMERY								
ASSESSMENT:										
CRITICAL: FLIGH		EDUNDA	NCY SCRE	CY SCREENS						
HDW/FUI			В	C	ITE	22.1				
NASA [ 3 /3 IOA [ 3 /1R	] [ ] [ P	]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ ]	] * K]				
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RECOMMENDATIONS:	(If dif	ferent	from NA	SA)						
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* CIL RETENTION 1	RATIONALE:	(If ag	pplicable	e) ADEQUAT	י דרי	1				
				INADEQUAT	Έ [	j				
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	1/26/88 MECH/ADP 05-6EE-2		NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADF 1669 SERIAL/F		CONVERTE	:R	
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 3 /3 IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ x ] *
COMPARE [ /N		<b>N</b> ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)	
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* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	AWN BY

ASSESSM ASSESSM NASA FM		MECH/AI	3 DP-1670 -2014-1		NASA DAS BASELII NI	
SUBSYST MDAC ID ITEM:		MECH/AD 1670 OSCILLA	•	:		
LEAD AN	ALYST:	A.D. MC	NTGOMER	ĽΥ		
ASSESSMI	ENT:					
	CRITICAL:		REDUND	ANCY SCRI	EENS	CIL
	HDW/FU	_	A	В	С	ITEM
NASA IOA	[ 3 /3 [ 3 /1R	] [	p ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ ] * [ X ]
COMPARE	[ /N	] [	N ]	[ N ]	[ и ]	[ N ]
RECOMMEN	DATIONS:	(If d	ifferen	t from NA	SA)	
	[ 3 /1R	] [	P ]	[ P ]		[ ] ADD/DELETE)
* CIL RE	TENTION R	ATIONALI	E: (If a	applicabl		
REMARKS:					ADEQUATE INADEQUATE	
	AGREES W	ITH THE	FMEA.	THE ISSU	E IS WITHDRA	AWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADI 05-6EE-2	2-1671 2014-1		NASA DATA BASELINE NEW	
	MECH/ADI 1671 OSCILLA				
LEAD ANALYST:	A.D. MOI	TGOMER'	Z.		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCRE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	11211
NASA [ 3 /3 IOA [ 3 /1R	] [	p ]	[	[ ] [ P ]	[ x ] *
COMPARE [ /N	] [	N ]	[ N ]	[и]	[ N ]
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* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	•
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP-1672 05-6EE-2014-1	<u>}</u>	NASA DATA: BASELINE [ ] NEW [ X ]						
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/EPD& 1672 2 MH2 CLOCK	ıC							
LEAD ANALYST:	A.D. MONTGOME	RY							
ASSESSMENT:									
CRITICAL: FLIGHT	נ	DANCY SCREE	NS	CIL ITEM					
HDW/FUN	IC A	В	С						
NASA [ 3 /3 IOA [ 3 /1R	] [ ] ] ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ ] * [ X ]					
COMPARE [ /N	] [ N ]	[ N ]	[ N ]	[ N ]					
RECOMMENDATIONS:	(If differe	nt from NAS	A)						
[ 3 /1R	] [P]	[ P ]	[ P ] (AI	[ ] DD/DELETE)					
* CIL RETENTION F	RATIONALE: (If		) ADEQUATE INADEQUATE	[ ]					
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA.		~						

ASSESSMENT DAY ASSESSMENT ID NASA FMEA #:		1/26/88 MECH/AI 05-6EE	)P-1	673 4 <b>-</b> 1						SA DATA: ASELINE NEW	[	]	
SUBSYSTEM: MDAC ID: ITEM:		MECH/A 1673 2 MH2											
LEAD ANALYST:		A.D. M	ОПТО	OMERY	Z								
ASSESSMENT:													
CRITI			RI	EDUND	ANC	Y	SCREI	ENS	3		CIL		
	LIGHT V/FU		A			В			С				
NASA [ 3 IOA [ 3	/3 /1R	]	[ [ P	]	[	F	]	[	P	]	] K ]	[ ]	*
COMPARE [	/N	1	[ N	1	[	N	]	[	N	1	[ ]	[ ]	
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REMARKS: IOA/MDAC AGR IOA/MDAC.	EES	WITH T	HE F	MEA.	т	HE	ISSU	ΙE	IS	WITHDRA	AWN	вч	

ASSESSMENT DATE: 1/26/88 ASSESSMENT ID: MECH/ADP-1674 NASA FMEA #: 05-6EE-2014-1 SUBSYSTEM: MECH/ADP/EPD&C											ASA DA BASEL]	
SUBSYST MDAC ID ITEM:			MECH, 1674 1 MH:			&C						
LEAD ANALYST: A.D. MONTGOMERY												
ASSESSMENT:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM												
		W/FUI			A		В			С	* * * * * * * * * * * * * * * * * * *	
NASA IOA	[ 3	3 /3 3 /1R	]	[	P ]	[	F	]	[ [	P	]	[ ] * [ x ]
COMPARE	[	/N	]	[	N ]	[	N	]	[	N	]	[ N ]
RECOMMEN	DATI	ONS:	(If	di	ffere	ent f	ro	m NA	SA)	ı		
		/1R	-			[ ]			-	P	-	[ ] (ADD/DELETE)
* CIL RE	TENT	ION R	ATION	ALE	(If	app	Lio	cabl	e)			
REMARKS:									IN	AD	EQUATE EQUATE	
IOA/MDAC IOA/MDAC	AGRI	ees w	ITH T	HE I	MEA.	THE	E ]	SSU	ΕI	S	WITHDR	AWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP 05-6EE-2	-1675 014-1		NASA DATA: BASELINE NEW	_
	MECH/ADP 1675 1 MH2 CI				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 3 /3 IOA [ 3 /1R	] [	] P ]	[ ] [ F ]	[ ] [ P ]	[ X ] *
COMPARE [ /N	] [	и ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[ 3 /1R		P ]	[ P ]	[ P ]	[ ] .DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMI NASA FMI	ENT	ID:	ME	26/88 CH/ADI -6EE-2	P-167 2014-	6 1			DATA: ELINE [ ] NEW [ X ]
SUBSYSTI MDAC ID: ITEM:			167	CH/ADE 76 MH2					
LEAD ANA	ALYS	ST:	A. [	. MON	TGOM	ERY			
ASSESSME	ENT:								
	CRI	TICA	LITY		REDUI	NDANC!	c sci	REENS	CIL
	H		UNC		A	1	3	С	ITEM
NASA IOA	]	3 /3 3 /1	R ]	<u>[</u>	P ]	[ [ I	]	[ ] [ P ]	[ ] * [ X ]
COMPARE	[	/N	]	[	и ]	[ ]	<b>i</b> ]	[ N ]	[ N ]
RECOMMEN	DAT	IONS	: (	If di	ffere	ent fr	om N	IASA)	
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* CIL RE	TEN'	TION	RATIO	ONALE	: (If	appl	icab	ADEQU	
REMARKS: IOA/MDAC IOA/MDAC	AGI	REES	WITH	THE 1	FMEA.	THE	ISS	INADEQU UE IS WIT	•

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP 05-6EE-2	-1677 014-1		NASA DATA: BASELINE NEW					
MDAC ID:	MECH/ADP 1677 500 MH2								
LEAD ANALYST:	A.D. MON	TGOMER	Y						
ASSESSMENT:									
CRITICAL		REDUNDA	ANCY SCREE	NS	CIL ITEM				
FLIGH HDW/FU	_	A	В	С					
NASA [ 3 /3 IOA [ 3 /1R	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ x ] *				
COMPARE [ /N	] [	N ]	[ N ]	[ N ]	[ N ]				
RECOMMENDATIONS:	(If di	fferen	t from NAS	A)					
[ 3 /1R	[	P ]	[ P ]	[ P ] (A	[ ] DD/DELETE)				
* CIL RETENTION	RATIONALI	E: (If	applicable	e) ADEQUATE INADEQUATE	[ ]				
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSUE	E IS WITHDRA	WN BY				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1678	BASELI	NASA DATA: BASELINE [ ] NEW [ X ]								
	MECH/ADP/EPD&C 1678 COUNTER										
LEAD ANALYST:	A.D. MONTGOMERY	ľ									
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C											
IIDW/ POR	IC A	В С									
NASA [ 3 /3 IOA [ 3 /1R	] [ ] ] ]	[ ] [ ] [ F ]	[ x ] *								
COMPARE [ /N	] [ N ]	[и] [и]	[ N ]								
RECOMMENDATIONS:	(If different	from NASA)									
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* CIL RETENTION R	ATIONALE: (If a	pplicable)									
REMARKS:		ADEQUATE INADEQUATE	i i								
IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA.	THE ISSUE IS WITHDR	AWN BY								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADI 05-6EE-2		NASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1679 COUNTER	P/EPD&C			
LEAD ANALYST:	A.D. MOI	NTGOMER!	Y		
ASSESSMENT:					
CRITICAL		REDUND	ANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU	_	A	В	С	1111
NASA [ 3 /3 IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ x ] *
COMPARE [ /N	] [	и ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
[ 3 /1R	] [	P ]	[ P ]	[ P ]	[ ] ADD/DELETE
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMEN	SSESSMENT DATE: 1/26/88 SSESSMENT ID: MECH/ADP-1680 ASA FMEA #: 05-6EE-2014-1											ASA DATA BASELINE NEW	[	x	]	
SUBSYSTEM MDAC ID: ITEM:	ī:		1680	ECH/ADP/EPD&C 680 R GATE												
LEAD ANALYST: A.D. MONTGOMERY																
ASSESSMEN	T:															
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM																
		W/FU1			A			В	C					LEN	•	
NASA IOA	[ 3 [ 3	/3 /1R	]	[	P	]	[ [	F	]	[	P	]	[	x	] * ]	
COMPARE	[	/N	]	[	N	1	[	N	]	[	N	]	[	N	]	
RECOMMEND	ATI	ONS:	(If	di	fí	fere	nt :	fro	om NA	SA	)					
	[ 3	/1R	]	[	P	]	[	P	]	[	P	-	[ DD/	DE	] LETE	E)
* CIL RET	ENT	ON F	RATION	ALE	:	(If	app	pli	cabl	e)	ΑI	DEQUATE	ſ		1	
REMARKS:										I		DEQUATE	į		j	
IOA/MDAC.	AGRI	ees w	ITH T	HE	FM	ŒA.	TH	ΗE	ISSU	E ]	s	WITHDRA	NW	BY		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADF 05-6EE-2	2-1681 2014-1		NASA DATA: BASELINE NEW			
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1681 OR GATE	P/EPD&C					
LEAD ANALYST:	A.D. MOI	NTGOMERY					
ASSESSMENT:							
CRITICAL		REDUNDA	NCY SCREE	CIL ITEM			
FLIGH HDW/FU		A	В	С			
NASA [ 3 /3 IOA [ 3 /1R	] [	p ]	[	[ ] [ P ]	[ X ] *		
COMPARE [ /N	] [	и ]	[ N ]	[ N ]	[ N ]		
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)			
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* CIL RETENTION	RATIONAL	E: (If	applicable	e) ADEQUATE INADEQUATE			
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	E FMEA.	THE ISSU	E IS WITHDRA	WN BY		

ASSESSMENT DATE: 1/26/88 ASSESSMENT ID: MECH/ADP- NASA FMEA #: 05-6EE-20						-16 14	NASA DATA: 82 BASELINE [ -1 NEW [ X					[ [										
SUBSYST MDAC ID ITEM:				1	ECH 682 ENS						NE	RAT	'OR									
LEAD AN	AL	YSI	r:	A	.D.	MO	NT	GOI	1ER	Y												
ASSESSM	ENT	r:																				
CRITICALITY FLIGHT				Y	REDUNDANCY SCREENS						3	CIL										
	HDW/FUNC				A				В			С			I,	ITEM						
NASA IOA	[	3	/3 /1F	] ? ]		[	P	]		[	F	]		[ [	P	]			[	x	]	*
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RECOMMEN	NDA	TI	ons:		(If	d:	ifi	fer	ent	- 1	fro	om 1	NASA	ł)								
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IOA/MDAC IOA/MDAC	A	GRI	EES	WIT	'H T	HE	FM	ΙEΑ	•	TH	E	ISS	UE	I	S	WI	THE	RA	WN	BY	•	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:			NASA DATA BASELINE NEW	
	MECH/ADP/EPD&C 1683 SENSOR WINDOW			
LEAD ANALYST:	A.D. MONTGOMER	Y		
ASSESSMENT:				
CRITICAL FLIGH		ANCY SCREE	NS	CIL ITEM
HDW/FU	NC A	В	С	
NASA [ 3 /3 IOA [ 3 /1R	] [ ] ] ]	[ ] [F]	[ ] [ P ]	[
COMPARE [ /N	] [ N ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If differen	t from NAS	A)	
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* CIL RETENTION	RATIONALE: (If		ADEQUATE INADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FMEA.	THE ISSUE	is WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1	684 4-1	NAS BA	SA DATA: ASELINE [ ] NEW [ X ]
	MECH/ADP/E 1684 BUFFER	PD&C		
LEAD ANALYST:	A.D. MONTG	OMERY		
ASSESSMENT:				
CRITICALI FLIGHT	ŗ	DUNDANCY		CIL ITEM
HDW/FU	IC A	В	С	
NASA [ 3 /3 IOA [ 3 /1R	] [ ] [ P	] [ ] [ F	] [ P	[ ] * [ X ]
COMPARE [ /N	] [ "и	] [ N	] [N]	] [и]
RECOMMENDATIONS:	(If diff	erent fro	m NASA)	
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* CIL RETENTION I	RATIONALE:	(If appli	ADI	EQUATE [ ] EQUATE [ ]
REMARKS: IOA/MDAC AGREES V IOA/MDAC.	VITH THE FM	EA. THE		~

REPORT DATE 22 JULY 1988 C.10-208

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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:				NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1685 BUFFER	P/EPD&C			
LEAD ANALYST:	A.D. MON	TGOMERY	<i>t</i>		
ASSESSMENT:					
CRITICAL: FLIGHT	r		ANCY SCR		CIL ITEM
HDW/FUI	NC	A	В	С	
NASA [ 3 /3 IOA [ 3 /1R	] [	P ]	[	[ ] [ P ]	[ x ] *
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* CIL RETENTION	RATIONALE	E: (If a	applicab	le) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES 'IOA/MDAC.	WITH THE	FMEA.	THE ISS	UE IS WITHDE	lawn by

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SUBSYSTE MDAC ID: ITEM:				MECH 1686 OUTP		•													
LEAD ANA	LYS	T:		A.D.	MO	NTO	GOME	RY											
ASSESSME	NT:																		
		FLI	GHT				EDUN	IDAN	CY	SCI	REENS						CL CEN	1	
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RECOMMEN	DAT	ION	5:	(I	f d	if:	fere	nt	fr	om 1	NASA)	)							
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* CIL RE	TEN	TIO	N R	ATIO	NAL	E:	(If	ap	pl	icak	•			TAU TAU		[		]	
REMARKS: IOA/MDAC		REE	5 W	ITH '	THE	FI	MEA.	T	ΉE	ISS	SUE :	ıs	WI	ГНD	RAV	/N	В	[	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADI	P-1687 2014-1		: [ x ]	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1687 OUTPUT	·			
LEAD ANALYST:	A.D. MOI	NTGOMERY	Z .		
ASSESSMENT:					
CRITICAL FLIGH HDW/FU	r	REDUNDA	ANCY SCRE	ENS C	CIL ITEM
•			_	•	
NASA [ 3 /3 IOA [ 3 /1R	] [	P ]	[ ] [F]	[ ] [ P ]	[ x ] *
COMPARE [ /N	] [	N ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferent	t from NA	SA)	
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* CIL RETENTION	RATIONALI	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[ ]
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SUBSYST				MECH, 1688 ENCO		P/I	EPD	§C										
LEAD AN	ALY:	ST	•	A.D.	MOI	)T	GOMI	ERY										
ASSESSM	ENT	:																
	CR		ICAL:			RI	EDUì	NDA	NC	CY	SCREE	NS	5			IL PEN	vî	
	1		W/FUI			A				В			С				•	
NASA IOA	[	3 3	/3 /1R	]	[	P	]		]	F	]	]	P	]	[	x	]	*
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RECOMME	NDA'	ric	ons:	(I	f d:	if	fere	ent	í	ro	om NAS	A)	)					
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADI 05-6EE-2	2-1689 2014-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1689 ENCODER	P/EPD&C			
LEAD ANALYST:	A.D. MO	NTGOMER'	<u>r</u>		
ASSESSMENT:					
CRITICA		REDUNDA	ANCY SCRE	ENS	CIL ITEM
FLIG HDW/F		A	В	С	
NASA [ 3 /3 IOA [ 3 /1	] [ R ] [	P ]	[	[ ] [ P ]	[ x ] *
		и ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS	: (If d	ifferen	t from NA	SA)	
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* CIL RETENTION	RATIONAL	Æ: (If	applicabl	.e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHDRA	AWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP- 05-6EE-20	1690 14-1	NASA DATA: BASELINE [ ] NEW [ X ]					
	MECH/ADP/ 1690 AMP	EPD&C						
LEAD ANALYST:	A.D. MONT	GOMERY						
ASSESSMENT:								
CRITICAL: FLIGHT HDW/FU	ľ	EDUNDANCY B	SCREENS	CIL ITEM				
NASA [ 3 /3	1 r	1 r		f 7 4				
NASA [ 3 /3 IOA [ 3 /1R	j [P	j [F	] [P]	[				
COMPARE [ /N	] [ N	] [ N	] [ N ]	[ N ]				
RECOMMENDATIONS:	(If diff	ferent fro	m NASA)					
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REMARKS:			ADEQUA INADEQUA					
IOA/MDAC AGREES W IOA/MDAC.	ITH THE FM	IEA. THE	ISSUE IS WITH	DRAWN BY				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP- 05-6EE-20	-1691 014-1		NASA DATA: BASELINE NEW	
MDAC ID:	MECH/ADP/ 1691 AMP	/EPD&C			
LEAD ANALYST:	A.D. MONT	<b>rgomery</b>			
ASSESSMENT:					
CRITICAL: FLIGH		REDUNDA	NCY SCRE	ens	CIL ITEM
HDW/FU		A	В	С	
NASA [ 3 /3 IOA [ 3 /1R	] [	] P ]	[ ] [ F ]	[ ] [ P ]	[ x ] *
COMPARE [ /N	] [1	и ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If di	fferent	from NA	SA)	
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* CIL RETENTION	RATIONALE	: (If a	pplicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/ADP-1692	NASA DATA: BASELINE [ ] NEW [ X ]	
	MECH/ADP/EPD&C 1692 CPU		
LEAD ANALYST:	A.D. MONTGOMERY		
ASSESSMENT:			
CRITICAL) FLIGHT		SCREENS CIL ITEM	
HDW/FUN	IC A B	C	
NASA [ 3 /3 IOA [ 3 /1R	] [ ] [ F ]	] [ ] [ ] *	
COMPARE [ /N	] [N] [N]	] [ N ] [ N ]	
RECOMMENDATIONS:	(If different from	m NASA)	
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* CIL RETENTION R	ATIONALE: (If applic	cable)  ADEQUATE [ ]  INADEQUATE [ ]	
	ITH THE FMEA. THE ]	ISSUE IS WITHDRAWN BY	

ASSESSMENT DATE: 1/26/88 ASSESSMENT ID: MECH/ADP-1693 NASA FMEA #: 05-6EE-2014-1													DATA LINE NEW	[		]	
SUBSYSTIMDAC ID			MECH, 1693 CPU	/AD	<b>P/</b> 1	EPD&	iC										
LEAD AN	ALYSI	r:	A.D.	MOI	NTO	GOME	RY										
ASSESSMI	ENT:																
		'ICAL			RI	EDUN	IDAN	CY	SCR	EENS	3				IL Per		
		W/FUI			A			В			С			1	rer	1	
NASA IOA	[ 3	3 /3 3 /1R	]	]	P	]	]	F	]	[	P	]		[	х	]	*
COMPARE	[	/N	]	[	N	]	[	N	]	[	N	]		[	N	]	
RECOMME	NDATI	ons:	(II	đ	if	fere	nt i	fro	om Na	ASA)	ļ						
	[ 3	/1R	]	[	P	]	[	P	]	[	P	]	(A	] DD,	/DI	] ELE	TE)
* CIL RI	ETENT	I NOI	RATION	IALI	Ξ:	(If	apı	21:	icab:	·		DEQU DEQU		[		]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		P-1694 2014-1		NASA DA' BASELI N	
	MECH/ADI 1694 SELECTO				
LEAD ANALYST:	A.D. MO	NTGOMERY	Z.		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	C	4. 4.44.
NASA [ 3 /3 IOA [ 3 /1R	] [	] P ]	[	[ ] [ P ]	[ x ] *
COMPARE [ /N	] [	и ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	ASA)	
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* CIL RETENTION	RATIONAL	E: (If	applicab	le) ADEQUAT INADEQUAT	• •
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHD	DRAWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADE 05-6EE-2	2-1695 2014-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADI 1695 SELECTOR				
LEAD ANALYST:	A.D. MOI	NTGOMERY	?		
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 3 /3 IOA [ 3 /1R	] [	p ]	[	[ ] [ P ]	[ x ] *
COMPARE [ /N	] [	и ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
[ 3 /1R	: ] [	P ]	[ P ]	[ P ]	[ ] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	.e) ADEQUATE INADEQUATE	-
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHDRA	AWN BY

ASSESSM ASSESSM NASA FM	ENT DATE: ENT ID: EA #:	MECH/A	DP-				NASA DA BASELI 1			
SUBSYST MDAC ID ITEM:		MECH/A 1696 READ O	•							
LEAD AN	ALYST:	A.D. M	OTIC	GOME	RY					
ASSESSMENT:										
	CRITICAL:		RI	EDUN	DANC	Y SC	REENS	CIL		
	HDW/FU		A		;	В	С	ITEM		
NASA IOA	[ 3 /3 [ 3 /1R	] !	P	]	[ ]	] ? ]	[ ] [ P ]	[ ] * [ x ]		
COMPARE	[ /N	] [	N	]	[ ]	1 ]	[ N ]	[ N ]		
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* CIL RE	ETENTION F	RATIONAL	E:	(If	app]	icak	ADEQUAT			
REMARKS: INADEQUATE [ ] IOA/MDAC AGREES WITH THE FMEA. THE ISSUE IS WITHDRAWN BY IOA/MDAC.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP 05-6EE-2	-1697 014-1		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP 1697 ROM	/EPD&C			
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	INS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 3 /3 IOA [ 3 /1R	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ ] * [ X ]
COMPARE [ /N	] [	N ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
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* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	1/26/88 MECH/ADP-1698 05-6EE-2014-1	NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/ADP/EPD&C 1698 READ/WRITE MEMORY	
LEAD ANALYST:	A.D. MONTGOMERY	
ASSESSMENT:		
CRITICALI FLIGHT	INDOMEDIALCI	SCREENS CIL
HDW/FUN	IC A B	С 2722.
NASA [ 3 /3 IOA [ 3 /1R	] [ ] [ F	] [ ] [ ] * [ X ]
COMPARE [ /N	] [ N ] [ N	] [ N ] [ N ]
RECOMMENDATIONS:	(If different fro	om NASA)
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* CIL RETENTION R	ATIONALE: (If appli	ADEQUATE [ ]
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA. THE	INADEQUATE [ ] ISSUE IS WITHDRAWN BY

ASSESSME ASSESSME NASA FME	$\mathbf{NT}$	ID	TE:	MECH	ECH/ADP-1699 5-6EE-2014-1										ATA: .INE NEW	[	x	]	
SUBSYSTE MDAC ID: ITEM:	M:			MECH 1699 REAL	)				Υ										
LEAD ANA	LYS	T:		A.D.	MO	NTC	OME	RY											
ASSESSME	NT:	3																	
	CRI		CAL			RI	EDUN	(ACI	C	Ź	SCREE	NS				CI	L EN	ſ	
	F	<b>IDV</b>	/FUI	NC		A			1	В			С						
NASA IOA	]	3	/3 /1R	]	[	P	]	<b>!</b>	[ ]	F	]	[	P	]		[	X	]	*
COMPARE	[		/N	]	[	N	]		[ ]	N	]	[	N	]		[	N	]	
RECOMMEN	IDA'	ri(	ons:	(	If d	lif	fere	ent	f	rc	m NAS	A)	)						
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* CIL RI	ETE:	NT:	ION	RATI	ONAI	Œ:	<b>(I</b> 1	f a	рp	1 <b>i</b>	.cable				ATE ATE			]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/ESP	-2106			ì		DATA: LINE NEW		]
MDAC ID:	MECH/ESP 2106 ALL ITEM TER PIN,	MDAC	: ID	100-1	05	(WASHER			
LEAD ANALYST:	H.J. LOW	ERY							
ASSESSMENT:									
CRITICALI FLIGHT	TY :	REDUND	ANCY	SCRE	EENS			CIL	
HDW/FUN		A	В		С	!	_	ITEM	1
NASA [ / IOA [ 3 /3	] [	]	[	]	[	]	[		] <b>*</b>
COMPARE [ N /N	] [	]	[	]	[	]	[		]
RECOMMENDATIONS:	(If di	fferen	t fr	om NA	SA)				
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* CIL RETENTION RA					A) INA		ATE [		]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS 01-4-CS	-2500 12 <b>-</b> 1	)			SA DATA: ASELINE NEW	[	x	]	
SUBSYSTEM: MDAC ID: ITEM:	MAS/CMS 2500 ENVIRON				LS)					
LEAD ANALYST:	н. ј. І	OWER	Y.							
ASSESSMENT:										
CRITICAL		RED	UNDANC	Y SCREI	ENS		CI	L EM	ĺ	
FLIGH HDW/FU		A		В	С					
NASA [ 1 /1 IOA [ /	] [	[ ]	[	]	[	]	[	X	]	*
COMPARE [ N /N	1	[ ]	[	3	[	]	[	N	]	
RECOMMENDATIONS:	: (If (	diffe	erent f	rom NA	SA)					
[ /				]		] (2		/DI		ETE)
* CIL RETENTION	RATIONA	LE: (	(If app	plicabl	A	DEQUATE DEQUATE	[	x	]	
REMARKS: THE ISSUE AROSE NASA AND IOA FM 22206. THIS FA	DUE TO EA/CIL I ILURE WA	NTER	PRETAT. P INIT.	ALLY AND	IALYZ	ED OR AS	SSE	SS		

IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMENT DATE: ASSESSMENT ID: MECH/OS NASA FMEA #: 01-4-CS								-2 1-	501 1							ASA [ BASEI		[		]	
SUBSYSTI MDAC ID: ITEM:	EM:				250	1							E SE Asse		•						
LEAD ANA	YLY	ST	:		н.	J.	L	OW:	ERY												
ASSESSME	ENT	:																			
		F.	LIG	HI						IDAI	NC:	Y	SCRE	EN	s				IL Pen		
	1	HD	W/F	Uľ	IC			A			I	3			С			Ψ.	L	1	
NASA IOA	[	3	/1 /	.R	]		[	F	]		: I	7	]	[	P	]		[	x	]	*
COMPARE	[	N	/N	Ī	]		[	N	]	[	N	1	]	[	N	1		[	N	]	
RECOMMEN	DA'	CIC	ONS	:	(:	Ιf	di	.ff	ere	nt	fr	on	n NA:	SA)	)						
																]	(AD		'DE		TE)
* CIL RE	TEN	T]	ON	R	ATIC	ONA	LE	:	(If	ap	pl	ic	able								
REMARKS:	E 3	DC	VC E											IN	AL	EQUAT	ľΕ	Ī		j	
THE ISSUINASA AND 22206. 'IOA. HO	THI	S	FA.	ia, IL	URE	WA:	N.T.	ER NO	PKET T Ti	TAT TTV	IO At.	N T.V	AND	IM	PL	EMENT	'ATI	ON	_	_	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS- 01-4-CS3	2502 <b>-</b> 1		NASA DATA: BASELINE NEW	
SUBSYSTEM:	2502		ODULE SEA		
MDAC ID: ITEM:	SEALS, W	INDOW A	SSEMBLY S	PACER/RETAIN	IER
LEAD ANALYST:	H. J. LC	WERY			
ASSESSMENT:					
CRITICAL	ITY	REDUNDA	NCY SCREE	ns	CIL
FLIGH HDW/FU		A	В	С	
NASA [ 3 /1R IOA [ /	] [	F ]	[ F ] [ ]	[ P ] [ ]	[ X ] *
COMPARE [ N /N	] [	и ]	[ 11 ]	[и]	[ N ]
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)	
			[ ]	r 1	[ ] .DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicable	e) ADEQUATE INADEQUATE	[ X ]
REMARKS: THE ISSUE AROSE NASA AND IOA FM 22206. THIS FA IOA. HOWEVER,	EA/CIL IN	TERPRET	MA V.T.TATTI	ALYZED OR AS	SESSED BY

ASSESSMEN' ASSESSMEN' NASA FMEA	r id: #:	01-4-0	CS4-	1		NASA DATA: BASELINE [ ] NEW [ X ]							
SUBSYSTEM: MDAC ID: ITEM:	:	2503											
					ASSE	MBLY	IN	ST	ALLATION				
LEAD ANALY	ST:	н. J.	LOW	ERY									
ASSESSMENT	r:												
CF	RITICALI FLIGHT	TY.	RI	EDUND	ANCY	SCRE	ENS	3		C]			
	HDW/FUN	C	A		В			С		1.1	EM		
NASA [ IOA [	2 /1R /	]	[ <b>F</b>	]	[ <b>F</b>	]	[	P	]	[	x	]	*
COMPARE [	N /N	]	[ N	]	[ N	]	[	N	]	[	N	]	
RECOMMENDA	TIONS:	(If	diff	erent	t fro	om NA	SA)						
[	/	]	[	]	C	]	ĺ				DE:		TE)
* CIL RETE	NTION R	ATIONA:	LE:	(If a	ppli	.cable	≘)						
REMARKS:							IN	AD.	EQUATE EQUATE	į	•	]	
THE ISSUE AND ICE 22206. THE IOA. HOWEY	IS FAIL	TRE WAS	S NO	PREIA Trans	LITON	AND	IM.	PL	EMENTATI	ON			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS-25 01-4-CS13-		BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	2504	AS/CMS (CREW MODULE SEALS) 504 EALS, MANUFACTURING ACCESS PANEL						
LEAD ANALYST:	H. J. LOW	J. LOWERY						
ASSESSMENT:								
CRITICAL FLIGH		EDUNDAN	CY SCREENS	3	CIL ITEM			
HDW/FU			В	С				
NASA [ 3 /1R IOA [ /	] [ <b>F</b>	] [	F ] [	P ]	[ X ] * [ ]			
COMPARE [ N /N	] [ N	] [	N ] [	N ]	[ N ]			
RECOMMENDATIONS:	(If dif	ferent	from NASA	)				
[ /	] [	] [	] [	] (A	[ ] DD/DELETE)			
* CIL RETENTION	RATIONALE:	(If ap		ADEQUATE NADEQUATE				
REMARKS: THE ISSUE AROSE	DUE TO DIE	FERENCE	S IN GROU	ND RULES B	ETWEEN THE			

THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	T ID: MECH/OS-2505 BASELING #: 01-4-CS15-1 NEW							
SUBSYSTEM: MDAC ID: ITEM:	2505			ALS) ES, BULKHEAD	os			
LEAD ANALYST:	н. ј. к	OWERY						
ASSESSMENT:								
CRITICALI FLIGHT		REDUNDA	NCY SCREI	ens	CIL ITEM			
HDW/FUN	ic	A	В	C	11211			
NASA [ 2 /1R IOA [ /	] [	F ]	[ <b>F</b> ]	[ P ] [ ]	[ X ] *			
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ N ]			
RECOMMENDATIONS:	(If di	.fferent	from NAS	SA)				
[ /	] [	1	[ ]	[ ] (A	[ ] DD/DELETE)			
* CIL RETENTION R	ATIONALE	: (If a	pplicable					
REMARKS:				ADEQUATE INADEQUATE	[ ]			
THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.								

	01-4-CS1	1-4-CS1/-1						
SUBSYSTEM: MDAC ID: ITEM:	2506			LS) UGH CONNECTO	OR			
LEAD ANALYST:	н. ј. ц	OWERY						
ASSESSMENT:								
CRITICAL	CIL ITEM							
FLIGH HDW/FU		A	В	С				
NASA [ 2 /1F IOA [ /	2][	F ]	[ F ] [ ]	[ P ] [ ]	[ X ] *			
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ N ]			
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)				
[ /	] [	]	[ ]	[ ] (A	[ ] .DD/DELETE)			
* CIL RETENTION RATIONALE: (If applicable)  ADEQUATE [ X ]  INADEQUATE [ ]								
REMARKS: THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.								

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	MECH/C	0S-2507 CS18-1		NASA DATA: BASELINE [ ] NEW [ X ]				
SUBSYSTEM: MDAC ID: ITEM:	01-4-0 2507 SEALS,		NE FEED T	HROUGH FITTI	NG			
LEAD ANALYST:	н. ј.	J. LOWERY						
ASSESSMENT:								
CRITIC: FLIC	CIL ITEM							
HDW/1	UNC	A	В	С	1154			
NASA [ 3 /: IOA [ /	R ]	[ <b>F</b> ]	[ F ] [ ]	[ P ] [ ]	[ X ] *			
COMPARE [ N /	]	[ N ]	[ N ]	[ N ]	[ N ]			
RECOMMENDATIONS	: (If o	different	from NA	SA)				
[ /	]	[ ]	[ ]	[ ]	[ ] DD/DELETE)			
* CIL RETENTION RATIONALE: (If applicable)  ADEQUATE [ X ] INADEQUATE [ ]								
REMARKS:  THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NACE TO A SESSION BY								

IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMEI ASSESSMEI NASA FME	TИ	ID	:		CH/OS -4-CS	s- s1	25 9-	08 1					SA DA ASELI N				]	
SUBSYSTEMDAC ID: ITEM: PLUGS (O				250 SE	-4-C 08 ALS,				DULE,	, E	TS F	EEC	THOUG	н в	LA	NK	IN(	G
LEAD ANA	LYS	T:		H.	J.	LC	WE	RY										
ASSESSME	NT:																	
	CRI		CAL				RE	DUND	ANCY	SC	REEN	S			CI	L	1	
	F		IGH /FU				A		В			С						
NASA IOA	]	3	/1R /	]		[	F	]	[ F	]	[	P	]		[	X	]	*
COMPARE	ί	N	/N	]		[	N	]	[ И	]	(	N	]		[	N	]	
RECOMMEN	IDA'	ric	ons:		(If	đ.	ifí	ferer	nt fr	om	NASA	۲)						
	ι		/	]		[		]	[	]	{		1	(A	DD,	/D	] ELE	ETE)
* CIL RI	ETE:	NT:	ION	RAI	NOI	AL	E:	(If	appl	ica	able)	A NA	DEQUA DEQUA	TE TE	[	x	]	
REMARKS	:		007	<b>P</b> OT T T	3 MO	<b>D</b>	TE	ושמשם	JCES	TN	GROI	IND	RULE	s B	EΤ	WE	EN	THE

THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

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SUBSYSTI MDAC ID ITEM:	EM:			2.	AS/C 509 EALS										•	D	"B"	WI	:ND	ow:	s	
LEAD AND	ALY:	ST	ST: H. J. LOWERY																			
ASSESSMI	ENT	:																				
CRITICALITY REDUNDA FLIGHT						NC	CY	sc	CREE	ENS	5					CIL ITEM						
	F	HDV	√FU	NC			A				В				С				-	LEF	1	
NASA IOA	]	3	/1R /	]		[	F	]		[ [	F	]		[	P	]			[	X	]	*
COMPARE	[	N	/N	]		[	N	]		[	N	]		[	N	]			[	N	]	
RECOMMEN	[DAT	CIC	NS:		(If	ď	Ĺff	ere	ent	f	rc	m	NAS	A)								
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* CIL RE	TEN	ΙΤΙ	ON 1	RAT	IONA	LE	E :	(If	aŗ	qq	li	ca	ble									
REMARKS:	T 1	D.O.		~~~										IN	AD	ΕÇ	TAU( TAU(	Έ	[		]	
THE ISSU NASA AND 22206. IOA. HO	THI	S	FAI	LUR	E WA	.NI S	ER' NO	PRE'	TAT TTN	II. A'	ON T.T.	A V	ND Ana	IM L.V	PL 7F	EM	ENT	'AT	ION	· ^	E.	Meme
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ASSESSMEN ASSESSMEN NASA FMEA	T ID	:	MECH/O 01-4-C						BASELINE NEW		
SUBSYSTEM MDAC ID: ITEM:	<b>1:</b>		MAS/CM 2510 SEALS,						TCH WIND	OW	
LEAD ANAI	LYST:		н. J.	LOWE	RY						
ASSESSMEN	YT:										
C	CRITI	CALI IGHI		RE	DUND	ANCY	SCREE	NS		CIL ITEM	
			ic	A		В		C	!		
NASA IOA	[ 3 [	/1R /	]	[ <b>F</b>	]	[ <b>F</b>	]	[ P	]	[ X [	] <b>*</b>
COMPARE	[ N	/N	]	[ N	]	[ N	1	[ N	[ ]	[ 11	]
RECOMMEN	DATIC	ns:	(If	diff	eren	t fr	om NAS	SA)			
	[	/	]	[	]	[	]	[	] (2	[ ADD/DE	
* CIL RE	TENTI	ON 1	RATION	ALE:	(If	appl	icable	P	ADEQUATE ADEQUATE		]
REMARKS:											

THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	IENT DATE: IENT ID: MECH/OS-2511 BASELINE IEA #: 01-4-CS24-1 NEW						
MDAC ID:	01-4-CS24- 2511 SEAL, SIDE	1 HATCH WINDOW A	SSEMBLY				
LEAD ANALYST:	H. J. LOWE	RY					
ASSESSMENT:							
CRITICALI FLIGHT	CIL						
HDW/FUN		В	С	ITEM			
NASA [ 2 /1R IOA [ /	] [ F ]	] [F] [ ] [ ] [	P ]	[ X ] *			
COMPARE [ N /N	] [ N ]	] [N] [	<b>N</b> ]	[ N ]			
RECOMMENDATIONS:	(If diffe	erent from NASA	)				
[ /	] [ ]	] [ ] [		[ ] D/DELETE)			
* CIL RETENTION R	RATIONALE: (						
ADEQUATE [ X ] INADEQUATE [ ] REMARKS:  THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS-2 01-4-CS25	ECH/OS-2512 BASELINE 1-4-CS25-1 NEW						
SUBSYSTEM: MDAC ID: ITEM:	MAS/CMS ( 2512 SEALS, AI			LS) SS/EGRESS H	ATCHES			
LEAD ANALYST:	H. J. LOW	VERY						
ASSESSMENT:								
CRITICAL		REDUNDA	NCY SCREE	INS	CIL ITEM			
FLIGH HDW/FU	_	A	В	С				
NASA [ 3 /1F IOA [ /	R ] [ ]	P ]	[ F ] [ ]	[ P ] [ ]	[ X ] * [ ]			
COMPARE [ N /N	] [1	N ]	[ N ]	[ N ]	[и]			
RECOMMENDATIONS	: (If di	fferen	t from NA	SA)				
[ /	] [	]	[ ]	[ ]	[ ] ADD/DELETE)			
* CIL RETENTION RATIONALE: (If applicable)  ADEQUATE [ X ]  INADEQUATE [ ]								
REMARKS: THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS NASA AND IOA FMEA/CIL INTERPRETATION ANALYZED OR ASSESSED BY 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY								

IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS-2 01-4-CS28	513 -1		NASA DATA BASELINE NEW	[ ]			
SUBSYSTEM: MDAC ID: ITEM:	2513	MAS/CMS (CREW MODULE SEALS) 2513 SEALS, TUNNEL/CREW MODULE STRUCTURAL						
LEAD ANALYST:								
ASSESSMENT:								
CRITICALI FLIGHT	?	SCREENS		CIL				
HDW/FUN	IC A	В	1	С	ITEM			
NASA [ 3 /1R IOA [ /	] [ F	] [ F	] [	P ]	[ X ] *			
COMPARE [ N /N	] [ N	] [ N	] [ ]	<b>v</b> ]	[ N ]			
RECOMMENDATIONS:	(If diff	erent fro	om NASA)					
			] [		[ ] D/DELETE)			
* CIL RETENTION R	ATIONALE:	(If appli						
REMARKS:			INA	DEQUATE	[ X ]			
THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.								

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	MECH/OS-251 01-4-CS29-1		NASA DAT BASELIN NI	
SUBSYSTEM: MDAC ID: ITEM:	MAS/CMS (CR 2514 SEALS, SIDE		SEALS) NNEL SEPARATIO	ON PLANE
LEAD ANALYST:	H. J. LOWEF	RA		
ASSESSMENT:				
CRITICA		OUNDANCY S	CREENS	CIL ITEM
FLIG HDW/F		В	С	
NASA [ 3 /1 IOA [ /	R] [F]	] [ F ] ] [ ]	[ P ] [ ]	[ X ] * [ ]
COMPARE [ N /N	] [ N ]	] [и]	[ N ]	[и]
RECOMMENDATIONS	: (If diffe	erent from	NASA)	
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* CIL RETENTION	RATIONALE:	(If applic	able) ADEQUAT INADEQUAT	<del>-</del>

**REMARKS:** 

THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS-2515 01-4-CS30-1	MECH/OS-2515 NASA DATA 01-4-CS30-1 NEW						
SUBSYSTEM: MDAC ID: ITEM:	2515	NAS/CMS (CREW MODULE SEALS) 1515 EALS, AIRLOCK TO BULKHEAD STRUCTURA						
LEAD ANALYST:	H. J. LOWERY							
ASSESSMENT:								
CRITICAL FLIGH	ITY REDUNI	DANCY SCREENS	CIL					
	NC A	В С	ITEM					
NASA [ 3 /1R IOA [ /	[ F ] ] [ ]	[F] [P] [] []	[ X ] * [ ]					
COMPARE [ N /N	] [N]	[ N ] [ N ]	[ N ]					
RECOMMENDATIONS:	(If differer	nt from NASA)						
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* CIL RETENTION	RATIONALE: (If							
ADEQUATE [ X ] INADEQUATE [ ]  REMARKS: THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.								
TOR. HOWEVER, I	DA MAS NO ISSUE	E WITH THE NASA FMEA	/CIL.					

ASSESSME ASSESSME NASA FME	TK	ID					NASA DATA: 3-2516 BASELINE 31-1 NEW														
SUBSYSTE MDAC ID: ITEM:	TDAC TD: 2516							CREW MODULE SEALS) BULKHEAD FEED THROUGH, WCCS LINES													
LEAD ANA	LYS	ST:	:	н.	J.	LC	WE	RY													
ASSESSME	NT:	:																			
	CRI		CAL:				RE	EDUND	AN	CY	SCRE	ENS	3			CI I'I	L	ſ			
FLIGHT HDW/FUNC							A		В				С								
NASA IOA			/1R /	]		[	F	]	[	F	]	[	P	]		]	X	]	*		
COMPARE	[	N	/N	]		[	N	]	[	N	]	[	N	]		[	N	]			
RECOMME	NDA!	ΓI	ons:		(If	d:	if	ferer	nt	fr	om NA	SA	)								
	[		/	]		[		]	[		]	[		]	(AI	] (D)	/DI	] ELE	ETE)		
* CIL R		NT:	ION	RAI	'ION	AL	E:	(If	ap	pl:	icab]			DEQUAT DEQUAT		[	x	]			
REMARKS	:																				

THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS 01-4-CS	-2517 32-1		NASA DATA: BASELINE [ ] NEW [ X ]							
SUBSYSTEM: MDAC ID: ITEM:	2517			ALS) HATCH STRUCTURE							
LEAD ANALYST:	н. ј. ц	OWERY									
ASSESSMENT:											
CRITICALITY REDUNDANCY SCREENS CI FLIGHT IT: HDW/FUNC A B C											
HDW/FUN	VC	A	В	С							
NASA [ 3 /1R IOA [ /	] [	F ]	[ F ] [ ]	[ P ] [ ]	[ X ] *						
COMPARE [ N /N	] [	N ]	( N )	[ N ]	[ N ]						
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)							
[ /	] [	]	[ ]		[ ] DD/DELETE)						
* CIL RETENTION R	RATIONALI	E: (If a	pplicable	·)							
REMARKS:				ADEQUATE INADEQUATE	į į						
THE ISSUE AROSE D NASA AND IOA FMEA 22206. THIS FAIL IOA. HOWEVER, IO	/CIL INT JURE WAS	ERPRETA! NOT INI!	TION AND TALLY ANA	IMPLEMENTATI LYZED OR ASS	ON OF NSTS						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS-2 01-4-CS34	NASA DATA: ECH/OS-2518 BASELINE [ ] 1-4-CS34-1 NEW [ X ]										
SUBSYSTEM: MDAC ID: ITEM:	2510	NAS/CMS (CREW MODULE SEALS) 1518 SEAL, CREW MODULE, ETS PYRO LINE FITTING										
LEAD ANALYST:	H. J. LOW	ERY										
ASSESSMENT:												
CRITICAL		EDUNDAN	CY SCREE	NS	CIL ITEM							
FLIGH HDW/FU		<b>\</b>	В	С								
NASA [ 3 /1R IOA [ /	[ ] [ I	? ] [ ] [	F ]	[ P ] [ ]	[ X ] *							
COMPARE [ N /N	] [ ]	4 ] [	и ]	[и]	[ 14 ]							
RECOMMENDATIONS:	(If di	fferent	from NAS	A)								
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* CIL RETENTION	RATIONALE	: (If ap	plicable	e) ADEQUATE INADEQUATE	[ x ]							
REMARKS: THE ISSUE AROSE NASA AND IOA FM 22206. THIS FA	EA/CIL INT	ERPRETAT NOT INI	LYTTA YNY	OUND RULES B IMPLEMENTAT ALYZED OR AS	SESSED BY							

IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS-2519 01-4-CS35-1		BASELIN	NASA DATA: BASELINE [ ] NEW [ X ]						
MDAC ID:	2519 SEAL, CREW MOD	L, CREW MODULE, FLIGHT DECK 02 ONLY)								
LEAD ANALYST:	H. J. LOWERY									
ASSESSMENT:										
CRITICALI FLIGHT HDW/FUN		ANCY SCREI	ens C	CIL ITEM						
NASA [ 2 /1R IOA [ /	] [ F ] ] [ ]	[ F ] [ ]	[ P ] [ ]	[ X ] *						
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ N ]						
RECOMMENDATIONS:										
[ /	] [ ]	[ ]		[ ] .DD/DELETE)						
* CIL RETENTION R	ATIONALE: (If a	applicable								
REMARKS:			ADEQUATE INADEQUATE	[ ]						
THE ISSUE AROSE DO NASA AND IOA FMEA, 22206. THIS FAILU IOA. HOWEVER, IOA	JRE WAS NOT IN	ATION AND	IMPLEMENTAT	ION OF NSTS						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS-2520 NASA DATA:  MECH/OS-2520 BASELINE [ ]  01-4-CS39-1 NEW [ X ]										
SUBSYSTEM: MDAC ID: ITEM: ATTACH AND COVER	2520 SEALS, S		LS) COLLAR STR	JCTURAL							
LEAD ANALYST:	H. J. LO	WERY									
ASSESSMENT:											
		REDUNDA	NCY SCREE	ns	CIL ITEM						
FLIGH HDW/FU	_	A	В	С							
NASA [ 2 /1R IOA [ /	] [	F ]	[ F ] [ ]	[ P ] [ ]	[ X ] *						
COMPARE [ N /N			[ N ]		[ N ]						
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)							
[ /	] [	]	[ ]	[ ] (2	[ ] ADD/DELETE)						
* CIL RETENTION	RATIONAL	E: (If	applicablo	e) ADEQUATE INADEQUATE	[ X ]						
REMARKS: THE ISSUE AROSE NASA AND IOA FMI 22206. THIS FA	na /ott tw	TERPRET NOT IN	TATION AND	OUND RULES I IMPLEMENTATE ALYZED OR AS	SSESSED BY						

IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS- 01-4-CS4	-2521 10-1			NASA DATA: BASELINE [ ] NEW [ X ]						
	MAS/CMS 2521 SEAL, ST										
LEAD ANALYST:	H. J. LO	WERY									
ASSESSMENT:											
CRITICALI FLIGHT		REDUNDA	NCY SC	REENS	CIL						
HDW/FUN	IC .	A	В	С	ITEM						
NASA [ 3 /1R IOA [ /	] [	F ]	[ F ] [ ]	[ P ] [ ]	[ X ] * [ ]						
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ N ]						
RECOMMENDATIONS:	(If di	fferent	from 1	NASA)							
[ /	] [	]	[ ]	[ ]	[ ] (ADD/DELETE)						
* CIL RETENTION R	ATIONALE:	: (If a	pplical								
REMARKS:				ADEQUAT	re ( j						
THE ISSUE AROSE DI NASA AND IOA FMEA, 22206. THIS FAILI IOA. HOWEVER, IOA	URE WAS N	SKPKETA' IOT TNT'	TION AN	ID IMPLEMENT	TATION OF NSTS						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS- 01-4-CS4	2522 3 <b>-</b> 1		BASELINE	BASELINE [ ] NEW [ X ]							
SUBSYSTEM: MDAC ID: ITEM:			DULE SEA		LE STRUCTURE							
LEAD ANALYST:	н. ј. к	WERY										
ASSESSMENT:												
		REDUNDA	NCY SCREE	INS	CIL ITEM							
FLIGH HDW/FU	T NC	A	В	С								
NASA [ 2 /1R IOA [ /	] [	F ]	[ F ] [ ]	[ P ] [ ]	[ X ] * [ ]							
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ N ]							
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)								
[ /	] [	]	[ ]	[ ] (A	[ ] DD/DELETE)							
* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[ X ] [ ]							
REMARKS: THE ISSUE AROSE NASA AND IOA FM 22206. THIS FA IOA. HOWEVER,	EA/CIL IN	ALEKEKETA	ATTON AND	ALYZED OR AS	SESSED BY							

	ENT EA	#:	D:	MECH/ 01-4-	MECH/OS-2523 01-4-CS44-1							NASA DATA: BASELINE [ ] NEW [ X ]						
ITEM:	•			2523 SEAL	S/CMS (CREW MODULE SEALS) 23 AL, AFT BULKHEAD-POSITIVE 5 & LEFT HAND SIDE-NEGATIVE													
LEAD AND	ALYS	ST	:	н. ј.	L	OW:	ERY											
ASSESSMI	ENT:	:																
		L.T	TGH.	ITY T				AN	CY	SCRE	EN	s			IL TEN			
					A				В			C		ITEM				
NASA IOA	[	2	/1R /	]	]	F	]	[	F	]	[	P	]	]	x	]	*	
COMPARE	[	N	/N	]	[	N	]	[	N	]	[	N	]		N			
RECOMMEN	DAT	ΊO	ns:	(If	di	ff	eren	t :	fro	om NA:	SA)	t						
				]										[ (ADD)	/DE	] LE'	TE)	
* CIL RE	TEN'	TI	ON R	ATIONA	LE	:	(If a	app	oli	cable	∍)							
REMARKS:											IN	ΆD	EQUATI	js	X	]		
THE ISSUINASA AND 22206. TOA. HOW	THIS	S 1	TATL	TRE WA		MO!	D TATE	. W. Z	UN	AND	TM	<u> </u>	EMENT?	TION	01	N T F N D I	THE 1STS 3Y	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS-3	NASA DATA:  I/OS-2524 BASELINE [ ]  NEW [ X ]								
SUBSYSTEM: MDAC ID: ITEM:	2524	S/CMS (CREW MODULE SEALS) 24 AL, VENT SEVERANCE PANEL								
LEAD ANALYST:	H. J. LO	WERY								
ASSESSMENT:										
		REDUNDAN	ICY SCREE	1S	CIL ITEM					
FLIGH HDW/FU		A	В	С						
NASA [ 2 /1R IOA [ /	. ] [	F ]	[ F ] [ ]	[ P ] [ ]	[ X ] *					
COMPARE [ N /N	] [	N ]	[и]	[ N ]	[ N ]					
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)						
			[ ]	r 1	[ ] .DD/DELETE)					
* CIL RETENTION	RATIONAL	E: (If a	pplicable	adequate	[ X ]					
REMARKS: THE ISSUE AROSE NASA AND IOA FM 22206. THIS FA IOA. HOWEVER,	EA/CIL IN	TERPRETA	TITON AND	LYZED OR AS	SESSED BY					

NASA FMEA #:					MECH/OS-2525 RASA									ELIN	DATA: LINE [ ] NEW [ X ]					
MDAC 1D: 252					AS/CMS (CREW MODULE SEALS) 525 EALS, SIDE HATCH CABIN FILL TEST PORT															
LEAD AN	ALY	ST	:	Н	. J.	L	OW	ER	ľ											
ASSESSMI	ENT	:																		
		F.	LIGH	T			R:		NDA	ΔN	CY B	sc	REEN					IL PEN	1	
HDW/FUNC NASA [ 3 /1R ] IOA [ / ]											_			С						
NASA IOA	[	3	/1R /	]		[	F	]		]	F	]	[ [	P	]		[	X	]	*
COMPARE	[	N	/N	]		[	N	]		[	N	]	[	N	1		[	N	]	
RECOMMEN																				
	[		/	]		[		J		[		]	[		]	(A	[ .DD/	'DE	] LE	TE)
* CIL RE	TEN	T]	ON I	RAT	IONA	LE	:	(I	f a	pr	1 i	cak	ole)							·
REMARKS:													IN	IAL	EQU	ATE ATE	[		-	
THE ISSU NASA AND 22206. ' IOA. HO	THI	S	FAII	JUR	E WA	NT.	r N∩	ידי ידי	STA'	L Y	ON	AN x v	ID IM	IPL	EME	NTAT	ION			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	01-4-CS48-1	1-4-CS48-1									
SUBSYSTEM: MDAC ID: ITEM: TO HATCH STRUCTU	SEAL, AIR EQUAL	AL. AIR EQUALIZATION VALVES AND PRESSU									
LEAD ANALYST:	H. J. LOWERY										
ASSESSMENT:											
CRITICAL	CIL ITEM										
FLIGH HDW/FU	NC A	ВС									
	[ F ] ] [ ]	[ F ] [ P ] [ ] [ ]	[ X ] * [ ]								
COMPARE [ N /N	] [N]	[и] [и]	[ N ]								
RECOMMENDATIONS	: (If differen	t from NASA)									
[ /	] [ ]	[ ] [ ]	[ ] (ADD/DELETE)								
* CIL RETENTION	RATIONALE: (If	applicable) ADEQUAT INADEQUAT	E [ X ]								
NASA AND IOA FM	EA/CIL INTERPRED	NCES IN GROUND RULES FATION AND IMPLEMENT NITALLY ANALYZED OR E WITH THE NASA FMEA	ASSESSED BY								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:					MECH/OS-2527 01-4-CS49-1										NASA DATA: BASELINE [ ] NEW [ X ]							
SUBSYST MDAC ID ITEM:	EM:	1			2:	527										ENT	' ISC	LAT	'IO	N '	VALVI	7
LEAD AND	ALY	SI	! :																	_ •		
ASSESSMI	ENT	:																				
		F	LI	AL GH	r			R	EDUI	NDA	NC	Y	SCR	EEN	s				IL TEI			
HDW/FUNC								A				В			C			_	TEI	M		
NASA IOA	[	2	/	1R	]		[	F	]	I	[ ]	F	]	[	P	]		[	X	]	*	
COMPARE	[	N	/1	N	]		[	N	]	1	[ ]	N	]	[	N	]		[	N	]		
RECOMMEN	'DA'	ric	3NC	s:		(If	đi	Ĺfí	ere	ent	fı	co	m N.	ASA)								
	[		/		]		]		]	(			]	[		]	(2	[ ADD/	/DF	] LE	TE)	
* CIL RE	TEN	T	[0]	1 R	AT	IONA	LE	:	(If	ap	pl	i	cab)	le)								
REMARKS:														IN	AD	EQU	ATE ATE	Ĩ	X	]		
THE ISSUE NASA AND 22206. I	rhi	S	FA	TI	IIRI	E MY	G M T	EK NO	TRE	MAT	TO	N	ANI	MI	PL	EME	PATK	CION	0			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/OS-25		NASA DATA: BASELINE NEW	[ x ]		
SUBSYSTEM: MDAC ID: ITEM:	0500	CREW MODULE SEAL		е натсн		
LEAD ANALYST:	H. J. LOW	ERY				
ASSESSMENT:						
CRITICAL FLIGH		EDUNDANCY SCREEN	S	CIL ITEM		
HDW/FU		В	С			
NASA [ 3 /1R IOA [ /	] [ <b>F</b>	[F] [F] [	P ]	[ X ] *		
COMPARE [ N /N	] [ N	[и] [и]	N ]	[ N ]		
RECOMMENDATIONS:	(If dif	ferent from NASA	7)			
[ /	] [	] [ ] [	[ ] (A)	[ ] DD/DELETE)		
* CIL RETENTION	RATIONALE:	: (If applicable)	) ADEQUATE INADEQUATE	[ x ]		
REMARKS: THE ISSUE AROSE DUE TO DIFFERENCES IN GROUND RULES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THIS FAILURE WAS NOT INITALLY ANALYZED OR ASSESSED BY IOA. HOWEVER, IOA HAS NO ISSUE WITH THE NASA FMEA/CIL.						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		S-2529 S52-1		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	2529			ALS) E, AIRLOCK	
LEAD ANALYST:	н. ј. і	LOWERY			
ASSESSMENT:					
CRITICAL] FLIGHT	TY	REDUNDA	NCY SCRE	ENS	CIL
	ic	A	В	С	ITEM
NASA [ 2 /1R IOA [ /	] [	F ]	[ F ] [ ]	[ P ] [ ]	[ X ] *
COMPARE [ N /N	] [	и ј	[ N ]	[ <b>n</b> ]	[ N ]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
			[ ]	(AI	[ ] DD/DELETE)
* CIL RETENTION R	ATIONAL	E: (If a	pplicable		
REMARKS:				ADEQUATE INADEQUATE	-
THE ISSUE AROSE DO NASA AND IOA FMEA 22206. THIS FAIL IOA. HOWEVER, IOA	URE WAS	NOT THE	TION AND	IMPLEMENTATI	ON OF NSTS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/MS-	MECH/MS-2700 02-3A-A2-1 NEW [ X					
SUBSYSTEM: MDAC ID: ITEM:	2700		, ORBITEF				
LEAD ANALYST:	R. O'DO	NNELL					
ASSESSMENT:							
CRITICAL FLIGH	ITY	REDUNDA	CIL ITEM				
HDW/FU		A	В	С			
NASA [ 1 /1 IOA [ /	] [	]			[ X ] *		
COMPARE [ N /N	] [	]	[ ]	[ ]	[и]		
RECOMMENDATIONS:	(If d	lifferent	from NA	SA)			
ι /	] [	1	[ ]	[ ]	[ ] DD/DELETE)		
* CIL RETENTION	RATIONAL	LE: (If a	applicabl	.e) ADEQUATE INADEQUATE	[ X ]		
REMARKS: THIS FAILURE WAS NOT INITIALLY ANALYZED BY IOA DUE TO DIFFERENCES BETWEEN THE NASA/RI AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. ON REVIEW OF THE FMEA/CIL, IOA/MDAC HAS NO ISSUE WITH THE NASA FMEA/CIL.							

ASSESSM NASA FM	ENT	ID:	MECH	6/06/88 MECH/MS-2701 D2-3A-U2-1				NASA DATA: BASELINE [ ] NEW [ X ]						
SUBSYST MDAC ID ITEM:	EM: :		2701					TER/E		'ARAT	ION	SY	STEM	, ,
LEAD AND	ALYS	r:	R. 0	DONI	NELL									
ASSESSMI	ENT:													
	ŀ	LIGH				DANC	Y SCF	REENS			CII			
	HI	W/FUI	NC.	P	7	]	В	(	3					
NASA IOA	[ 1	/1	]	[	]	[	]	[	]		[ X	]	*	
COMPARE	[ N	/ N	]	[	]	[	]	[	]		[ N	]		
RECOMMEN	DATI	ons:	(If	dif	fere	nt fi	om N	ASA)						
			]					[	]	(AI	[ DD/D:		ETE)	
* CIL RE	TENT	ION R	ATION	ALE:	(If	appl	icab							
REMARKS:								INA	DEQU <i>I</i> DEQU <i>I</i>	TE	-	]		
THIS FAILURE WAS NOT INITIALLY ANALYZED BY IOA DUE TO DIFFERENCES BETWEEN THE NASA/RI AND IOA FMEA/CIL INTERPRETATION AND EMPLEMENTATION OF NSTS 22206. ON REVIEW OF THE FMEA/CIL, COA/MDAC HAS NO ISSUE WITH THE NASA FMEA/CIL.														

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/MS-27	02	ľ	NASA DATA: BASELINE [ ] NEW [ X ]				
SUBSYSTEM: MDAC ID: ITEM:	MECH/SEPAR 2702 SPHERICAL				D ATTACH			
LEAD ANALYST:	R. O'DONNE	LL						
ASSESSMENT:								
CRITICAL	SCREENS		CIL ITEM					
FLIGH HDW/FU		В		С				
NASA [ 1 /1 IOA [ /	] [	] [	] [	]	[ X ] *			
COMPARE [ N /N	] [	] [	] [	1	[и]			
RECOMMENDATIONS:	(If dif:	ferent fr	om NASA)					
ι /	] [	] [	] [	] (A)	[ ] DD/DELETE)			
* CIL RETENTION	RATIONALE:	(If appl		ADEQUATE NADEQUATE	[ x ]			
REMARKS: THIS FAILURE WAS NOT INITIALLY ANALYZED BY IOA DUE TO DIFFERENCES BETWEEN THE NASA/RI AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. ON REVIEW OF THE FMEA/CIL, IOA/MDAC HAS NO ISSUE WITH THE NASA FMEA/CIL.								

ASSESSMI	ENT	ID:	TTE: 6/06/88 D: MECH/MS-2703 02-3A-A5-1						NASA BASE	LINE			
SUBSYSTI MDAC ID: ITEM:	EM:		MECH, 2703 BOLT				ORBI'	TER/E	r				
LEAD ANA	LYS	ST:				ACII							
ASSESSME	ENT	:											
	CRI	TICAL FLIGH	JTY T	F	EDUN	DANC:	Y SCI	REENS			CII		
	H	IDW/FU	NC	A		1	3	(	2		111	M	
NASA IOA	[	1 /1	]	[	]	[	]	[ [	]		[ }	; [ ; ]	*
COMPARE	[	N /N	]	[	]	[	]	[	]		[ ]	1 ]	
RECOMMEN	DAT	ons:	(If	dif	fere	nt fr	om N	(ASA					
	[	/	]	[	]	[	]	[	]	(A)	[ DD/D	] ELET	ľE)
* CIL RE	TEN	TION :	RATION.	ALE:	(If	appl	icab		DEQU <i>I</i>	\TE	[ X	1	
REMARKS:								INA	DEQUA	TE	Ĩ	]	
THIS FAIT BETWEEN T IMPLEMENT IOA/MDAC	TAT:	ION O	F NSTS	2220	A FMI	ON R	L IN	TERPR	ETATI				ENCES

NASA DATA:

ASSESSMENT ASSESSMENT NASA FMEA	ID:	MECH/M	S-2704	NASA DATA BASELINE NEV			
SUBSYSTEM: MDAC ID: ITEM:		2704	EPARATION UMBILICA			/ET	
LEAD ANALY	ST:	R. 0'D	ONNELL				
ASSESSMENT	? <b>:</b>						
CR	RITICAI FLIGH		REDUN	DANCY	SCREE	NS	CIL ITEM
	HDW/FU		A	В		С	
NASA [ IOA [	1 /1	]	[ ]	[	]	[ ]	[ X ] * [ ]
COMPARE [	N /N	1	[ ]	£ (	]	[ ]	[ N ]
RECOMMENDA	ATIONS	(If	differe	nt fro	om NAS	A)	
1	[ /	]	[ ]	[	]	[ ]	[ ] ADD/DELETE)
* CIL RETI	ENTION	RATION	ALE: (If	appl	icable	) ADEQUATE INADEQUATE	
REMARKS: THIS FAIL	REMARKS: THIS FAILURE WAS NOT INITIALLY ANALYZED BY IOA DUE TO DIFFERENCES						

BETWEEN THE NASA/RI AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. ON REVIEW OF THE FMEA/CIL,

IOA/MDAC HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSM ASSESSM NASA FM	ENT   ENT   EA # :	DATE: [D:	6/06/ MECH/ 02-3A	'88 'MS-2 -A7-	2705 -1				nasa i Basei		_	]	
SUBSYST: MDAC ID ITEM:	EM:		2705					•	T RBITEF	R/ET	AFI	' A]	ГТАСН
LEAD AND	ALYST	::	R. O'	DONN	ELL								
ASSESSMI	ENT:												
	CRIT	ICAL	ITY	R	EDUNI	DANCY	SCR	REENS			CIL	İ	
			NC	A		В	<b>,</b>	(	c		ITE	M	
NASA IOA	[ 1	/1	]	[	]	[	]	[	]		[ X	]	*
COMPARE	[ 14	/N	]	[	1	C	]	ĺ	]		[ N	]	
RECOMMEN	IDATI	ons:	(If	dif	ferer	nt fr	om N	ASA)					
	[	/	]	[	]	[	]	[	]	(AE	[ )D/D	] ELE	TE)
* CIL RE	TENT	ION F	RATION	ALE:	(If	appl	icab	le)					
REMARKS.								A INA	DEQUA'	PE PE	[ X	]	
THIS FAI BETWEEN IMPLEMEN	REMARKS: CHIS FAILURE WAS NOT INITIALLY ANALYZED BY IOA DUE TO DIFFERENCES DETWEEN THE NASA/RI AND IOA FMEA/CIL INTERPRETATION AND EMPLEMENTATION OF NSTS 22206. ON REVIEW OF THE FMEA/CIL, COA/MDAC HAS NO ISSUE WITH THE NASA FMEA/CIL.												
								-,					

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/MS-2/	ECH/MS-2706							
SUBSYSTEM: MDAC ID: ITEM:	2706	MBILICAL CLOSEOUT CURTAIN							
LEAD ANALYST:	R. O'DONNE	LL							
ASSESSMENT:									
CRITICAL		DUNDANC	SCREEN	1S	CIL ITEM				
FLIGH HDW/FU		I	3	С					
NASA [ 1 /1 IOA [ /	] [	] [	]	[ ]	[ X ] *				
COMPARE [ N /N		] [	1	[ ]	[ N ]				
RECOMMENDATIONS:	(If diff	ferent f	rom NAS	A)					
[ /	] [	] [	]	[ ]	[ ] ADD/DELETE)				
* CIL RETENTION	RATIONALE:	(If app		) ADEQUATE INADEQUATE					
REMARKS: THIS FAILURE WAS NOT INITIALLY ANALYZED BY IOA DUE TO DIFFERENCES BETWEEN THE NASA/RI AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NATS 22206. ON REVIEW OF THE FMEA/CIL,									

REPORT DATE 22 JULY 1988 C.10-261

IOA/MDAC HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMI ASSESSMI NASA FMI SUBSYSTI MDAC ID:	ENT ] EA #: EM:	D:	MECH/ 02-3A	MS-2 -U8-	· <b>T</b>							]	
ITEM:				RICA	L DIS	CONN	ECT A	SSEM	BLY, UMI	BILI	CA	L	
LEAD AN	ALYST	<b>!:</b>	R. 0'	DONN	ELL								
ASSESSME	ENT:												
		'ICALI	ITY r	R	EDUND	ANCY	SCRE	ENS		CI			
		W/FU		A		В		С		II	EM		
NASA IOA	[ 1	/1 /	]	[	]	[	]	[	]	[	X :	] * ]	
COMPARE	[ N	/N	]	[	]	[	]	[	]	[	<b>N</b> ]	l	
RECOMMEN	DATI	ons:	(If	difi	feren	t fro	m NA	SA)					
	[	/	]	C	]	[	J	[		[ DD/	DEI	ETE	)
* CIL RE	TENT:	ION R	ATION?	ALE:	(If a	appli	cable	ΑI	DEQUATE	֡֞֞֞֞֞֜֞֜֞֜֞֜֜֞֓֓֓֓֓֓֓֓֓֓֓֓֓֓֓֜֜֜֜֓֓֓֓֜֜֜֓֓֓֜֜֜֜֓֓֓֜֜֜֜	хj		
REMARKS:								TIAWI	DEQUATE	Ĺ	J		

THIS FAILURE WAS NOT INITIALLY ANALYZED BY IOA DUE TO DIFFERENCES BETWEEN THE NASA/RI AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. ON REVIEW OF THE FMEA/CIL, IOA/MDAC HAS NO ISSUE WITH THE NASA FMEA/CIL.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/MS-27	08	ASA DATA: BASELINE NEW			
SUBSYSTEM: MDAC ID: ITEM:	MECH/SEPAR 2708 ELECTRICAL			BLY, UMBI	LICAL	
LEAD ANALYST:	R. O'DONNE	LL				
ASSESSMENT:						
CRITICAL FLIGH	CIL ITEM					
	NC A	В	С			
NASA [ 1 /1 IOA [ /	] [	] [		-	[ X ] *	
COMPARE [ N /N	] [	] [	] [	]	[ N ]	
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)			
[ /	] [	] [	] [	] (A	[ ] DD/DELETE)	
* CIL RETENTION	RATIONALE:	(If appl	icable) P INP	ADEQUATE ADEQUATE	[ x ]	
REMARKS: THIS FAILURE WAS NOT INITIALLY ANALYZED BY IOA DUE TO DIFFERENCES BETWEEN THE NASA/RI AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. ON REVIEW OF THE FMEA/CIL, IOA/MDAC HAS NO ISSUE WITH THE NASA FMEA/CIL.						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/MS-2709		NASA DAT BASELIN NE			
SUBSYSTEM: MDAC ID: ITEM:	MECH/SEPARATI 2709 SIDE RESTRAIN					
LEAD ANALYST:	R. O'DONNELL					
ASSESSMENT:						
CRITICALI FLIGHT	CIL ITEM					
HDW/FUN	IC A	В	С	IIEM		
NASA [ 2 /1R IOA [ /	] [ P ] ] [ ]	[ F ] [ ]	[ P ] [ ]	[ X ] *		
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ N ]		
RECOMMENDATIONS:	(If differe	nt from NA	ASA)			
[ /	] [ ]	[ ]		[ ] ADD/DELETE)		
* CIL RETENTION R	ATIONALE: (If	applicabl				
REMARKS:			ADEQUATE INADEQUATE	[ X ] [ ]		
REMARKS: ITHIS FAILURE WAS NOT INITIALLY ANALYZED BY IOA DUE TO DIFFERENCES BETWEEN THE NASA/RI AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. ON REVIEW OF THE FMEA/CIL, IOA/MDAC HAS NO ISSUE WITH THE NASA FMEA/CIL.						

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 2/17/88 MECH/ET	8 TU-3102		NASA DATA BASELINI NEV		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/ET 3102 CENTER		TOR CLUTCH			
LEAD ANALYST:	J. BAC	HER				
ASSESSMENT:						
		REDUN	DANCY SCRE	ENS	CIL ITEM	
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ASSESSMENT DATE: 2/17/88 ASSESSMENT ID: MECH/ETU-3110 NASA FMEA #:									NASA DA BASEL		]		
SUBSYST MDAC ID ITEM:				311	CH/ETUD LO TERLIN		тсн :	LIMI!	r swi	rch			
LEAD AN	ALY	ST	<b>':</b>	J.	BACHER								
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SUBSYSTEM: MDAC ID: ITEM:	MECH/ETU 3112 DOOR CLO		OR CLUTC	н	
LEAD ANALYST:	J. BACHE	R			
ASSESSMENT:					
CRITICAL		REDUNDAN	CY SCREE	NS	CIL ITEM
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SUBSYSTEM: MDAC ID: ITEM:	MECH/ETUE 3144 READY TO		LIMIT SW	ІТСН		
LEAD ANALYST:	J. BACHER	•				
ASSESSMENT:						
CRITICAL: FLIGHT	ITY R	EDUNDA	NCY SCRE	ENS	CIL	
HDW/FU			В	С	ITEM	
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LEAD ANA	ALYS	ST:		J.	BACHER									
ASSESSMI	ENT:	:												
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MDAC TD.	MECH/ETU 3512 ET UMBIL	D/EPD&C	LATCH-REI	EASE SWIT	:CH	
LEAD ANALYST:	J. BACHE	R				
ASSESSMENT:						
		REDUNDANCY	SCREENS		CIL ITEM	
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	MECH/ETUD/EI 3513 ET UMBILICAI		I-RELEASE SW	ITCH
LEAD ANALYST:	J. BACHER			
ASSESSMENT:				
CRITICAL) FLIGHT		INDANCY SCRE	ENS	CIL ITEM
HDW/FUN		В	С	TIEM
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RECOMMENDATIONS:	(If differ	ent from NA	SA)	
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LEAD ANALYST:	J. BACHER			
ASSESSMENT:				
CRITICAL FLIGH		EDUNDANCY SCREEN		CIL ITEM
HDW/FU		В	С	
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SUBSYSTEM: MDAC ID: ITEM:	MECH/ETU 3515 CONTROL					
LEAD ANALYST:	J. BACHE	R				
ASSESSMENT:						
CRITICAL: FLIGHT	r	REDUNDANC	CY SCREEN	s	CIL ITEM	7
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/ETU	-3516		NASA DATA: BASELINE NEW		İ
SUBSYSTEM: MDAC ID: ITEM:	MECH/ETU 3516 MCA AC F	D/EPD&C	CUIT BRE	AKER		
LEAD ANALYST:	J. BACHE	R				
ASSESSMENT:						
CRITICAL		REDUNDAN	CY SCREE	ns	CIL ITEM	
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SUBSYSTEM: MDAC ID: ITEM:	MECH/ETU 3517 MCA RELA	JD/EPD&C	POWER SW	/ITCH	
LEAD ANALYST:	J. BACHE	R			
ASSESSMENT:					
CRITICAL FLIGH	ITY	REDUNDANG	CY SCREE	NS	CIL
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LEAD ANALYST:	J. BA	CHER								
ASSESSMENT:										
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SUBSYSTEM: MDAC ID: ITEM:	MECH/ETU 3524 RESISTOR		./4W			
LEAD ANALYST:	J. BACHE	R				
ASSESSMENT:						
CRITICAL		REDUNDAN	ICY SCREE	ns	CIL ITEM	
FLIGH HDW/FU		A	В	С		
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LEAD ANA	LY	ST	:	J	. BA	CH.	ER												
ASSESSME	TNE	:																	
	CR	IT: F	ICAL LIGH	IT T	Y		R	EDUND	AN	CY	sc	CREEN	s			CIL			
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/ETU	r <b>-</b> 3526		NASA DATA: BASELINE NEW		] ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/ETU 3526 RESISTOR	JD/EPD&C R, 5.1K 1/	′4W			
LEAD ANALYST:	J. BACHE	ER				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDANO	CY SCREENS	<b>;</b>	CIL ITEM	
HDW/FU		A	В	С		
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ASSESSME ASSESSME NASA FME	ENT I		2/17/ MECH/	'88 'ETU-	-352	7	NASA BASE	DATA: LINE [ NEW [	]
SUBSYSTE MDAC ID:			MECH/ 3527 FUSE,		•		R STATUS SW	ITCH	
LEAD ANA	LYST	:	J. BA	CHER	₹				
ASSESSME	NT:								
	F	LIGH.	-	F	EDUI	NDANCY S	CREENS	CII	
	HDV	/FUI	IC	A		В	C		
NASA IOA	[ 2	/ /1R	]	[ [ P	]	[ ] [F]	[ ] [ P ]	[	] *
COMPARE	[ N	/N	]	[ N	]	[и]	[ N ]	C	]
RECOMMEN	DATIC	ons:	(If	dif	fere	ent from	NASA)		
	[	/	]	[	]	[ ]	[ ]	[ (ADD/D	] PELETE)
* CIL RE	TENTI	ON F	RATION	ALE:	(If	applica	able) ADEQUA INADEQUA		]

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSME ASSESSME NASA FME	TK	ID		2/: ME	17/8 CH/E	8 TU	-3	528						SA DATA ASELINI NEV	E	-	]	
SUBSYSTE MDAC ID:				35	28			EPD&C		o.	MCA	LOG	ic	SWITC	Ħ			
LEAD ANA	LYS	ST:		J.	BAC	HE	R											
ASSESSMI	ENT:	:																
	CRI		CAL:				RE	DUNDA	NC	CY	SCRE	ENS	3			CIL ITEN	ſ	
	I		LIGH! V/FUI				A			В			С					
NASA IOA	[	2	/ /1R	]		[	P	]	[	F	]	[	P	]		[	]	*
COMPARE	ſ	N	/N	]		[	N	]	[	N	]	[	N	1		[	]	
RECOMME	NDA'	TI	ons:		(If	d:	if1	ferent	t :	fro	om NA	SA	)					
	[		/	]		[		3	ξ		]	[		] (	ΑD	[  D/D	] E <b>L</b> I	ETE)
* CIL R	ETE	NT:	ION	RAI	'ION	AL	E:	(If	ap)	pl:	icabl			DEQUATE DEQUATE		[	]	

REMARKS:

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/ETU	<del>-</del> 3529		SA DATA: SELINE [ NEW [	]
SUBSYSTEM: MDAC ID: ITEM:	MECH/ETU 3529 RESISTOR	·	MCA LOGIC	SWITCH	
LEAD ANALYST:	J. BACHE	R			
ASSESSMENT:					
CRITICAL: FLIGHT		REDUNDANCY	SCREENS	CIL	
HDW/FUN		A B	С	ITE	M
NASA [ / IOA [ 2 /1R	] [ ]	] [ P ] [ F	] [ ] ]	[	] *
COMPARE [ N /N	] [ 1	и] [и	] [ N ]	[	]
RECOMMENDATIONS:	(If di	fferent fr	om NASA)		
[ /	] [	] [	] [ ]	[ (ADD/DI	] ELETE)
* CIL RETENTION R	ATIONALE:	: (If appl:	ADE	QUATE [	]
AFTER COMPARISON,	THERE WE	ERE NO DISC	CREPANCIES 1	FOUND THAT	WERE NOT

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSME	ASSESSMENT DATE: 2/17/88 ASSESSMENT ID: MECH/KBD-4101 NASA FMEA #:										ATA: LINE NEW	[	]		
SUBSYSTE MDAC ID:				410	CH/KBI 01 [LLOT]		RESSUR	E C	ARTRI	DGE					
LEAD ANA	LYS	T:	:	н.3	J. LOV	VERY									
ASSESSME	NT:	3													
	CRI					REDU	NDANCY	SC	REENS			CIL			
FLIGHT HDW/FUNC A B C															
NASA IOA	[	1	/1	]	[	]	[	]				[	]	*	
COMPARE	[	N	/N	3	C	]	[	1	[	]		(	]		
RECOMMEN	IDA'	TI	ONS:	:	(If d	iffer	ent fr	om	NASA)						
	ſ		/	)	[	1	[	]	[	]	(A	[ .DD/E	] ELE	ETE)	
* CIL RI	ETE	NT	ION	RAT	IONAL	E: (I	f appl	Lica	able) Il	ADEQU IADEQU	ATE	[	]		
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ASSESSM ASSESSM NASA FM	ENT	ID:	2/17/ MECH/		4102				NASA [ BASEI		[	]	
SUBSYST MDAC ID ITEM:			MECH/ 4102 GUILI		E/PRI	ESSUI	RE CA	RTRI	DGE				
LEAD AN	ALYS'	r:	H.J.	LOWE	RY								
ASSESSMENT:													
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT TTEM													
FLIGHT ITEM HDW/FUNC A B C													
NASA IOA	[ 2	2 /2	]	[	]	[	]	[	]		[	] *	
COMPARE	[ ]	1 /N	]	[	]	[	]	ľ	]		[	]	
RECOMMEN	IDATI	ons:	(If	dif	feren	t fr	om N	ASA)					
	[	/	]	[	]	[	]	[	]	(ADI	( D/DE	] :LETE	)
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REMARKS:									DEQUA'		[	]	
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REPORT DATE 22 JULY 1988 C.10-290

ASSESSMEN ASSESSMEN NASA FMEA	T	ID	TE:	2/1 MEC	.7/88 :H/KBC	-410	3		1	IASA I BASEI		[		
SUBSYSTEM MDAC ID:				410	CH/KBI 03 C/BREI									
LEAD ANA	LYS	T:		н.	. LOV	VERY								
ASSESSME	n <b>T</b> :													
•	CRI					REDU	NDANCY	sc	REENS			CIL		
	H		JIGH V/FU	INC		A	В			С				
NASA IOA	[	1	/1	]	[ [	]	[	]	]	]		[	] <b>*</b>	
COMPARE	[	N	/N	]	[	]	(	]	ί	1		(	]	
RECOMMEN	DA!	ri	ONS	:	(If d	iffer	cent fr	om	NASA)					
	[		/	]	C	3	[	]	[	1	(A		] DELETE	)
* CIL RE	TE	NT	ION	RAT	IONAL	Æ: (	If appl	.ica		ADEQU JADEQU	JATE JATE	[	]	
REMARKS: AFTER CO ALREADY ATTRIBUT WITHDRAW	OMP. ID TED	EN T	TIF O D	IED IFFE	BY NA RENCE	CA.	THE RE	1A LI	NING .		, ,,,,,,,			NOT

ASSESSM ASSESSM NASA FM	ENT	I	ATE D:	: 2/1 ME	17/88 CH/KBI	0-4104	1			NASA BASE	DATA LINE NEW	[	]	
SUBSYST MDAC ID ITEM:				410	CH/KBI 04 C/BREE									
LEAD AN	ALYS	ST	:	H.J	. LOW	ERY								
ASSESSM	ENT:	:												
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT TITEM														
FLIGHT HDW/FUNC A B C												ITE	M	
NASA IOA	[	1	/ /1	]	]	]	]	]	[	]		[	] *	
COMPARE	[	N	/N	]	[	]	[	]	[	]		[	]	
RECOMMEN	TADN	'IC	ons:	• (	If di	ffere	nt fi	om N	ASA)					
	(		/	]	[	]	ί	]	[	]	(AD	[ DD/DI	] ELETE	E)
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REMARKS:										ADEQUA ADEQUA			]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/KBD-		NASA DATA: BASELINE NEW	[ ]		
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4105 INPUT/OUT	PUT SHAF	T - HOUS	ING		
LEAD ANALYST:	H.J. LOWE	RY				
ASSESSMENT:						
	ITY R	EDUNDANC	Y SCREEN	S	CIL ITEM	
FLIGH HDW/FU			В	С		
NASA [ / IOA [ 2 /1R	] [ ] [ F	] [	] [ P ] [	p ]	[ ]	*
COMPARE [ N /N	] [ ]	<b>i</b> ] [	и][	n ]	[ ]	
RECOMMENDATIONS:	(If di	fferent 1	from NASA	7)		
[ /	] [	] [	] [	(A)	[ ] DD/DEI	
* CIL RETENTION	RATIONALE	: (If app		ADEQUATE NADEQUATE	[ ]	
REMARKS: AFTER COMPARISON ALREADY IDENTIFY ATTRIBUTED TO D	TED BY NAS:	A THE R	ISCREPANG	CIES FOUND ISSUES MAY	THAT V	VERE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/KBD-	4106	NASA DATA BASELINE NEW	-	
	MECH/KBD 4106 INPUT/OUT	PUT SHAFT - HOUS	SING		
LEAD ANALYST:	H.J. LOWE	RY			
ASSESSMENT:					
CRITICALI FLIGHT		EDUNDANCY SCREEN	rs	CIL	
HDW/FU		В	С	ITEM	
NASA [ / IOA [ 2 /1R	] [ ] [ P	] [ ] [ ] [ P ]	P ]	[ ]	*
COMPARE [ N /N	] [ и	] [N][	и ]	[ ]	
RECOMMENDATIONS:	(If dif	ferent from NASA	)		
[ /	] [	] [ ] [	] (AD	[ ] DD/DELE	TE)
* CIL RETENTION R	ATIONALE:				
REMARKS:		I	ADEQUATE NADEQUATE	[ ]	
AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF	FERENCES I	THE REMAINING	TCCIIPC MAV	מם	RE NOT

REPORT DATE 22 JULY 1988 C.10-294

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		1107	NASA DATA: BASELINE NEW	[	]
	MECH/KBD 4107 STOW LIMIT	r switches (S1 &	2) ACTUATO	)R	
LEAD ANALYST:	H.J. LOWER	RY			
ASSESSMENT:					
CRITICAL FLIGH		EDUNDANCY SCREEN	ıs	CIL	
	NC A	В	С		
NASA [ / IOA [ 3 /1R	] [ p	] [ ] [ ] [ P ]	[ ] P ]	[	] <b>*</b>
COMPARE [ N /N	] [ N	] [ n ] (	[ N ]	[	]
RECOMMENDATIONS:	(If dif	ferent from NASA	A)		
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* CIL RETENTION	RATIONALE:	(If applicable)	) ADEQUATE INADEQUATE	[	]
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ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	TE: 2/17/8: : MECH/K	8 BD-4108		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	4108		CHES (S1	& 2) ACTUATO	OR
LEAD ANALYST:	H.J. L	OWERY			
ASSESSMENT:					
	CALITY IGHT	REDUNDA	NCY SCREE	NS	CIL ITEM
HDW,	FUNC	A	В	С	IIEM
NASA [ /	/ ] [	]	[ ] [ ]	[ ]	[ ] *
COMPARE [ N /	/ <b>N</b> ] [	]	[ ]	[ ]	[ ]
RECOMMENDATION	NS: (If d	lifferent	from NAS	A)	
[ /	' ] [	]	[ ]	[ ] ] <b>A</b> )	[ ] DD/DELETE)
* CIL RETENTIO	N RATIONAL	E: (If a)	pplicable		
REMARKS:			:	ADEQUATE INADEQUATE	[ ]
THE ISSUE AROS FMEA/CIL INTER ISSUE IS WITHD	RPRETATION	AND IMPLE	ES BETWEEN EMENTATION	N THE NASA A N OF NSTS 22	ND IOA 206. THE

ASSESSMEN ASSESSMEN NASA FMEA	T I	D:	MECH/KBD-4109									SA DATA SASELINE NEW		]			
SUBSYSTEM MDAC ID: ITEM:			41	CH/K 09 PLOY			IT S	riv	CF	IES	(S5	&	6)				
LEAD ANAI	LYSI	r:	н.	J. L	OW	ER	Y.										
ASSESSMEN	T:																
C		rical				RE	DUND	ANC	CY	SCI	REENS	;		CIL	1		
	_	FLIGH DW/FU				Α			В			С			-		
NASA IOA	[ :	/ 2 /1R	]		[	P	]	[	P	]	[	P	]	[	]	*	
COMPARE	[ ]	N /N	]		[	N	]	[	N	]	Ţ	N	]	[	]		
RECOMMEN	DAT:	ions:		(If	di	ff	eren	t :	fr	om 1	NASA)	)					
	[	/	1		[		]	[		]	ĺ		] (A	] .DD/D1	] ELF	ETE)	
* CIL RE	TEN	TION	RAT	IONA	LE	Ē:	(If	ap	pl	ica		A An	DEQUATE DEQUATE	[	]		
REMARKS: AFTER CO ALREADY ATTRIBUT WITHDRAW	IDE ED	NTIFI TO DI	ED FFE	BY 1 ERENC	JAS	SA.	. THE	R	ĿΜ	ALN	ING .	T2	SUES MAI	DE		ERE	TON

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/KBD-4110	NASA DATA BASELINE NEW	[ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4110 DEPLOY LIMIT SWITCHES	(S5 & 6)	
LEAD ANALYST:	H.J. LOWERY		
ASSESSMENT:			
CRITICALI FLIGHT		REENS	CIL
HDW/FUN		С	ITEM
NASA [ / IOA [ 2 /1R	] [ ] [ ] [ ] ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [и] [и]	[ N ]	[ ]
RECOMMENDATIONS:	(If different from )	NASA)	
[ /	] [ ] [ ]	[ ] (A)	[ ] DD/DELETE)
* CIL RETENTION R	ATIONALE: (If applicat	•	
REMARKS:		ADEQUATE INADEQUATE	[ ]
AFTER COMPARISON, ALREADY IDENTIFIE	THERE WERE NO DISCREIN THE REMAIN THE REMAIN THE REMAIN RUINGER IN GROUND RUING MDAC.	ING ISSUES MAY	BE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/KBD-	4111	NASA DATA: BASELINE NEW	[ ]
	MECH/KBD 4111 GEAR TRAI	N ASSEMBLY		
LEAD ANALYST:	H.J. LOWE	RY		
ASSESSMENT:				
		EDUNDANCY SC	REENS	CIL ITEM
FLIGH HDW/FU	NC A	В	С	
NASA [ / IOA [ 2 /1R	] [ F	[ P ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [ N	[и] [и]	[ N ]	[ ]
RECOMMENDATIONS:	(If dif	ferent from	NASA)	
[ /	] [	] [ ]	[ ] (A)	[ ] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If applica	able) ADEQUATE INADEQUATE	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY ION	ED BY NAS? FFERENCES	A. THE REMAIN	NING ISSUES MAY	DE

ASSESSME	SSESSMENT DATE: 2/17/88 SSESSMENT ID: MECH/KBD-4112 ASA FMEA #: UBSYSTEM: MECH/KBD												ASA DAT BASELIN NE	Œ	[	]	
SUBSYSTE MDAC ID:				411	2		n a	SSEMI	BĽ	Y							
LEAD ANA	LY	ST	:	H.J	. L	OWE	RY										
ASSESSMENT:																	
CRITICALITY REDUNDANCY SCREENS CIL																	
											ITE	M					
NASA IOA	]	2	/ /1R	]	[	P	]	[	P	]	[	P	]		[	]	*
COMPARE	[	N	/N	]	[	N	]	[	N	]	[	N	]		[	]	
RECOMMEN	DA'	ri	ons:	(	If d	lif	fere	ent f	ro	om N	IASA)						
	[		/	]	[		]	[		]	[			AD	[ D/DI	] ELE	TE)
* CIL RE	TEI	T.	ION I	RATI	IANC	E:	(11	f app	1 i	.cab	ole)						
REMARKS:																	
AFTER COL	ER COMPARISON, THERE WERE NO DI EADY IDENTIFIED BY NASA, THE RE									REP INI	ANCI NG I	ES	FOUND UES MA	T Y	HAT BE	WE:	RE NOT

ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

ASSESSME ASSESSME NASA FME	NΤ	II	TE:	2/1 MEC	7/88 H/KBD-4	113		NASA DATA: BASELINE NEW				_	]	
SUBSYSTEMDAC ID:	M:			411	MECH/KBD 4113 ALL ITEMS NOT SHOWN ON MDAC ID 4101 -					-	4112			
LEAD ANA	LYS	ST	;	H.J	H.J. LOWERY									
ASSESSME	NT	:												
CRITICALITY REDUNDANCY SCREEN				REENS			CI	L EM						
	1		LIGH W/FU	NC	A		В		C					
NASA IOA	[	3	/	]	[	]	[	]	[	]		[	]	*
COMPARE	[	N	/N	]	[	]	[	]	[	]		[	]	
RECOMMEN	IDA	TI	ons:	(	(If dif	fere	ent fr	om 1	NASA)					
	נ		/	1	[	]	[	]	[	3	(A)		] OELE	TE)
* CIL RI	ETE	NT	ION	RAT	IONALE:	(I:	f appl	ica	P	DEQU DEQU			]	
THE ISSU	INADEQUATE [ ]  REMARKS:  THE ISSUE AROSE DUE TO DIFFERENCES BETWEEN THE NASA AND IOA  FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THE  ISSUE IS WITHDRAWN BY IOA/MDAC.													

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD-4500 05-6EH-56060-	6		TA: NE [ ] EW [ X ]
	MECH/KBD/EPD& 4500 +28V CONTACT			
LEAD ANALYST:	A.D. MONTGOME	RY		
ASSESSMENT:				
CRITICALI FLIGHT	3	DANCY SCRE	ENS	CIL ITEM
HDW/FUN	IC A	В	C	
NASA [ 2 /1R IOA [ 3 /3	] [ P ] ] [ ]	[ NA] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If differen	nt from NA	.SA)	
[ 3 /1R	] [P]	[ F ]		[ A ] (ADD/DELETE)
* CIL RETENTION R	ATIONALE: (If	applicabl	e) ADEQUATE INADEQUATE	<u> </u>
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA.	THE ISSU		•

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA DATA BASELINE 1 NEW	
MDAC ID:	MECH/KBD/EPD&C 4501 +28V CONTACT		
LEAD ANALYST:	A.D. MONTGOME	RY	
ASSESSMENT:			
CRITICAL FLIGH		DANCY SCREENS	CIL ITEM
HDW/FU	NC A	ВС	
NASA [ 2 /1R IOA [ 3 /3	] [ P ] ] [ ]	[ NA] [ P ] [ ] [ ]	[ X ] * [ X ]
COMPARE [ N /N	] [N]	[и] [и]	[ ]
RECOMMENDATIONS:	(If differe	nt from NASA)	
[ 3 /1R	] [ P ]		[ A ] ADD/DELETE)
* CIL RETENTION	RATIONALE: (If	applicable)  ADEQUATE  INADEQUATE	[ ]

#### REMARKS:

FAILURE OF A SINGLE SWITCH POLE/CONTACT SET OPEN WOULD NOT CAUSE LOSS OF VEHICLE/MISSION. FAILURE OF REDUNDANT HARDWARE COULD CAUSE LOSS OF VEHICLE/MISSION AND NOT CONSIDERED READILY APPARENT DURING FLIGHT.

ASSESSME ASSESSME NASA FME	NT I	D:	MECH/	KBD-	4501 060-	<b>A</b> 3				TA: NE [ ] EW [ X ]
SUBSYSTE MDAC ID: ITEM:			MECH/ 4501 +28V	•						
LEAD ANA	LYST	<b>':</b>	A.D.	MONT	GOME:	RY				
ASSESSME	NT:									
	F	LIGHT			EDUN	DANCY _				CIL ITEM
	HD	W/FUI	NC.	A		В		С		
NASA IOA	[ 2 [ 3	/1R /3	]	[ P	]	[ N	<b>A</b> ]	[ P	]	[ X ] * [ X ]
COMPARE	[ N	/N	]	[ 1	]	[ N	1	[ N	]	[ ]
RECOMMEN	DATI	ons:	(If	dif	fere	nt fr	om NA	ASA)		
	[ 3	/1R	]	[ P	]	[ F	]	[ P	]	[ A ] (ADD/DELETE)
* CIL RE	TENT	ION F	NOITAS	ALE:	(If	appl	icabl	A	DEQUAT DEQUAT	
REMARKS: IOA/AGRE	es W	י איריד	אם חשי	FΆ	THE	Teen	e te	WTMT		BV TOA/MDAC
++/					1116	1000	r. 1.3	70 1 1 19	IIRAWN	rv 1110/milo/'

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	-4502 6060-6		NASA DATA BASELINE NEW	
	MECH/KBD 4502 +28V CON		<b>!</b>		
LEAD ANALYST:	A.D. MON	ITGOMERY	!		
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREI	ens	CIL ITEM
HDW/FU		A	В	С	
NASA [ 2 /1R IOA [ 3 /3	] [	P ]	[ NA] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE [ N /N	_	и ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)	
[ 3 /1F	[ 5	P ]	[ F ]	[ P ]	[ A ] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	AWN BY

ASSESSM	ENT DATE: ENT ID: EA #:	MECH/KB	D-4503		NASA DATA BASELINE NEW	. •
SUBSYSTEMDAC ID:		MECH/KB 4503				
	ALYST:	+28V CO		_		
ASSESSMI		11.5. 110	NIGOREK	ı		
	CRITICALI		REDUND	ANCY SCRE	ens	CIL
	FLIGHT HDW/FUN		A	В	С	ITEM
NASA IOA	[ 2 /1R [ 3 /3	] [	P ]	[ NA] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE	[ N /N	] [	<b>n</b> ]	[ N ]	[ N ]	[ ]
RECOMMEN	DATIONS:	(If di	.fferent	from NAS	SA)	
	[ 3 /1R	) [	P ]	[ F ]	[ P ]	[ A ] DD/DELETE)
* CIL RE	TENTION R	ATIONALE	: (If a	pplicable	a)	r 1
REMARKS:					INADEQUATE	• ,
IOA/MDAC IOA/MDAC	AGREES W	ITH THE	FMEA.	THE ISSUE	IS WITHDRAW	N BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	-4503A 6060-3		NASA DATA: BASELINE NEW	
	MECH/KBD 4503 +28V CON				
LEAD ANALYST:	A.D. MON	ITGOMERY	•		
ASSESSMENT:					
CRITICAL: FLIGH		REDUNDA	NCY SCREE	ns	CIL ITEM
HDW/FU		A	В	С	
NASA [ 2 /1R IOA [ 3 /3	] [	P ]	[ NA] [ ]	[ P ] [ ]	[ X ] *
COMPARE [ N /N		N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	from NAS	5A)	
[ 3 /1R	[	P ]	[ F ]		[ A ] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSM ASSESSM NASA FM	ENT DATE: ENT ID: EA #:	2/03/88 MECH/KB 05-6EH-	D-4504 56060-6	5	nasa dat Baselin Ne	
SUBSYST MDAC ID ITEM:		MECH/KB 4504 +28V CO	-			
LEAD AN	ALYST:	A.D. MO	NTGOMER	RA		
ASSESSMI	ENT:					
	CRITICAL: FLIGHT	r	REDUND	ANCY SCRE	EENS	CIL ITEM
	HDW/FU	NC	A	В	С	
NASA IOA	[ 2 /1R [ 3 /3	] [	P ]	[ NA] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE	[ N /N		n j	[и]	[ N ]	[ ]
RECOMMEN	NDATIONS:	(If d	ifferen	t from NA	.SA)	
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* CIL RE	ETENTION F	RATIONALI	E: (If	applicabl	e) ADEQUATE INADEQUATE	L J
REMARKS: IOA/MDAC IOA/MDAC	AGREES W	ITH THE	FMEA.	THE ISSU	E IS WITHDR	. ,

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	-4505 66060-1		NASA DATA BASELINE NEW	
	MECH/KBD 4505 +28V CON				
LEAD ANALYST:	A.D. MON	ITGOMERY	•		
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 2 /1R IOA [ 3 /3	] [	P ]	[ NA] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	t from NAS	SA)	
[ 3 /1R	:][	P ]	[ F ]	[ P ]	[ A ] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If	applicable	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	AWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD-4505A 05-6EH-56060-3	NASA DATA: BASELINE [ ] NEW [ X ]
	MECH/KBD/EPD&C 4505 +28V CONTACT #3	
LEAD ANALYST:	· ·	
ASSESSMENT:		
CRITICAL: FLIGHT		CIL ITEM
HDW/FUN	NC A B	C
NASA [ 2 /1R IOA [ 3 /3	] [ P ] [ NA] [ ] [ ] [	P ] [ X ] * [ X ]
COMPARE [ N /N	] [и] [и] [	и ] [ ]
RECOMMENDATIONS:	(If different from NASA)	
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* CIL RETENTION R	RATIONALE: (If applicable)	ADEQUATE [ ]
REMARKS: IOA/MDAC AGREES W IOA/MDAC.		ADEQUATE [ j

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD- 05-6EH-56	-4506 5060-6		BASELINE NEW	
MDAC ID:	MECH/KBD/ 4506 +28V CON				
LEAD ANALYST:	A.D. MON	rgomery			
ASSESSMENT:					
CRITICAL		REDUNDAI	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU	_	A	В	С	
NASA [ 2 /1R IOA [ 3 /3	] [	P ]	[ NA ] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE [ N /N	] [	и ]	[и]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	fferent	from NAS	iA)	
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* CIL RETENTION	RATIONALE	: (If a	pplicable	ADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSUI	E IS WITHDRA	, ВУ

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD-4507 05-6EH-56060-1	L	NASA DATA BASELINE NEW	•
SUBSYSTEM: MDAC ID:	MECH/KBD/EPD&C 4507 +28V CONTACT	2		
LEAD ANALYST:	A.D. MONTGOMER	R <b>Y</b>		
ASSESSMENT:				
CRITICALI FLIGHT	7	ANCY SCREE	NS	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [ 2 /1R IOA [ 3 /3	] [ P ] ] [ ]	[ NA] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE [ N /N	] [и]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If differen	t from NAS	A)	
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* CIL RETENTION R	ATIONALE: (If	applicable	)	
REMARKS:			ADEQUATE INADEQUATE	į
IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA.	THE ISSUE	IS WITHDRAW	N BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD- 05-6EH-56	-4507A 6060-3		NASA DATA: BASELINE NEW	
	MECH/KBD, 4507 +28V CON				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDAI	NCY SCREE	ns	CIL ITEM
FLIGH' HDW/FU		A	В	С	<b></b>
NASA [ 2 /1R IOA [ 3 /3	] [	P ]	[ NA ] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE [ N /N	] [	ท ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	fferent	from NAS	A)	
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* CIL RETENTION	RATIONALE	: (If a	pplicable	adequate	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSUE	E IS WITHDRA	WN BY

ASSESSMI ASSESSMI NASA FMI	ENT DATE: ENT ID: EA #:	2/03/88 MECH/KBD- 05-6EH-56	-4508 5060-6		NASA DATA BASELINE NEW	
SUBSYSTI MDAC ID: ITEM:		MECH/KBD/ 4508				
	A T Mam	+28V CONT				
LEAD ANA	ALYST:	A.D. MONT	GOMERY			
ASSESSMI	ENT:					
	CRITICALI FLIGHT	_	EDUNDAN	CY SCREEN	is	CIL ITEM
	HDW/FUN	IC A	•	В	С	TICM
NASA IOA	[ 2 /1R [ 3 /2R	] [ P	] [	NA] [F]	P ] P ]	[ X ] *
COMPARE	[ N /N	] [	] [	и][	J	[ ]
RECOMMEN	DATIONS:	(If dif	ferent 1	from NASA	)	
	[ 3 /1R	] [ P	] [	F ] [		[ A ] DD/DELETE)
* CIL RE	TENTION R	ATIONALE:	(If app	•	ADEQUATE	[ ]
REMARKS: IOA/MDAC IOA/MDAC	AGREES W	ITH THE F	MEA. TH		NADEQUATE IS WITHDRAW	- ,

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD-450 05-6EH-56060	BASELINE NEW	[ x ]	
MDAC ID:	MECH/KBD/EPI 4509 +28V CONTACT			
LEAD ANALYST:	A.D. MONTGO	MERY		
ASSESSMENT:				
CRITICAL: FLIGHT		UNDANCY SCREEN	_	CIL ITEM
HDW/FU		В	С	
NASA [ 2 /1R IOA [ 3 /1R	] [ P ]	[ NA] [ [ F ] [	P ] P ]	[ X ] * [ X ]
COMPARE [ N /	] [ ]	[и] [	]	[ ]
RECOMMENDATIONS:	(If diffe	erent from NASA	)	
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* CIL RETENTION	RATIONALE: (		ADEQUATE NADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FME	EA. THE ISSUE	IS WITHDRAW	NN BY

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	MECH,	2/03/88 NASA DATA: MECH/KBD-4509A BASELINE 05-6EH-56060-3 NEW						]
SUBSYSTE MDAC ID:				MECH, 4509 +28V	·						
LEAD ANA	LY	ST	:	A.D.	MON'	TGOM	ERY				
ASSESSME	NT	:									
CRITICALITY REDUNDANCY SCREENS FLIGHT						CIL [TEM					
	1	יעה	w/ FUI	NC.	1	A	В	С			
NASA IOA	]	2 3	/1R /1R	]	[ ]	P ]	[ NA] [ F ]	[ P ] [ P ]	[	X	] <b>*</b>
COMPARE	[	N	/	]	[	]	[ N ]	[ ]	(	• ·	]
RECOMMEN	'DA'I	rio	ONS:	(If	di	ffer	ent from	NASA)			
	[	3	/1R	]	[ ]	? ]	[ F ]	[ P ]		A D/DE	] LETE)
* CIL RE	TEN	T	ON F	RATION	ALE:	(I:	f applica	able)			
REMARKS:								ADEQ INADEQ	UATE [		] ]
IOA/MDAC IOA/MDAC	AG •	RI	ees w	VITH T	HE F	MEA.	. THE IS	SUE IS WI	THDRAWN	BY	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD- 05-6EH-50	-4510 6060-6		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD, 4510 +28V CON				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREE		CIL ITEM
HDW/FU	NC .	A	В	С	
NASA [ 2 /1R IOA [ 3 /2R	] [	P ] P ]	[ NA] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	1	[ N ]	[ ]	[ ]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
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* CIL RETENTION	RATIONALE	: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD-4511 05-6EH-56060-1	NASA DATA: BASELINE [ ] NEW [ X ]
	MECH/KBD/EPD&C 4511	
ITEM:	+28V CONTACT #2	
LEAD ANALYST:	A.D. MONTGOMERY	
ASSESSMENT:		
CRITICALI FLIGHT		CREENS CIL
HDW/FUN	IC A B	C
NASA [ 2 /1R IOA [ 3 /1R	] [ P ] [ NA] ] [ P ] [ F ]	[ P ] [ X ] * [ X ]
COMPARE [ N /	] [] [и]	[ ] [ ]
RECOMMENDATIONS:	(If different from	NASA)
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* CIL RETENTION R	ATIONALE: (If applica	
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REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA. THE IS	SUE IS WITHDRAWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	-4511A 6060-3		NASA DATA: BASELINE NEW	
	MECH/KBD 4511 +28V CON				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREE		CIL ITEM
HDW/FU	NC	A	В	С	
NASA [ 2 /1R IOA [ 3 /1R	] [	P ] P ]	[ NA] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /		]	[ N ]	[ ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
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* CIL RETENTION	RATIONAL	E: (If a	applicable	ADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSUE	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD-4512 05-6EH-56060-	: [		
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD& 4512 +28V CONTACT			
LEAD ANALYST:	A.D. MONTGOME	RY		
ASSESSMENT:				
CRITICALI FLIGHT		DANCY SCREE	NS	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [ 2 /1R IOA [ 3 /2R	] [ P ] ] [ P ]	[ NA] [ F ]	[ P ] [ P ]	[ X ] *
COMPARE [ N /N	] [ ]	[ N ]	[ ]	[ ]
RECOMMENDATIONS:	(If differe	nt from NAS	A)	
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* CIL RETENTION R	ATIONALE: (If	applicable	ADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA.		INADEQUATE	[ ]

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	-4513 66060-1		NASA DATA: BASELINE NEW	
	MECH/KBD 4513 +28V CON				
LEAD ANALYST:	A.D. MON	ITGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	1121
NASA [ 2 /1R IOA [ 3 /1R	] [	P ] P ]	[ NA] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /	] [	1	[ N ]	[ ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
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* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD-4513A 05-6EH-56060-3		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD&C 4513 +28V CONTACT #			
LEAD ANALYST:	A.D. MONTGOMER	Y		
ASSESSMENT:				
CRITICAL: FLIGHT		ANCY SCREENS	5	CIL ITEM
HDW/FUI	NC A	В	С	11211
NASA [ 2 /1R IOA [ 3 /1R	] [ P ] ] [ P ]	[ NA] [ [ F ] [	P ] P ]	[ X ] * [ X ]
COMPARE [ N /	] [ ]	[ N ]	]	[ ]
RECOMMENDATIONS:	(If differen	t from NASA)		
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* CIL RETENTION F	RATIONALE: (If		ADEQUATE ADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA.	THE ISSUE I	s withdraw	N BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/KBD	-4514 6060-6		NASA DATA: BASELINE NEW	
MDAC ID:	MECH/KBD 4514 +28V CON				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	С	222
NASA [ 2 /1R IOA [ 3 /2R	] [	P ] P ]	[ NA] [ F ]	[ P ] [ P ]	[ X ] *
COMPARE [ N /N		]	[ N ]	[ ]	[ ]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
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* CIL RETENTION	RATIONALI	E: (If a	applicable	adequate	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	-4515 6060-1		nasa da Baseli N	TA: NE [ ] EW [ X ]
	MECH/KBD 4515 +28V CON				
LEAD ANALYST:	A.D. MON	rgomery	-		
ASSESSMENT:					
CRITICAL FLIGH HDW/FU			NCY SCRE	ENS C	CIL ITEM
NASA [ 2 /1R IOA [ 3 /1R	] [1	9]	[ NA] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /	] [	] [	[и]	[ ]	[ ]
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)	
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* CIL RETENTION	RATIONALE:	(If ap	plicable	e) ADEQUATI INADEQUATI	
REMARKS: IOA/MDAC AGREES   IOA/MDAC.	WITH THE F	MEA. I	THE ISSUE		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	-4515A 6060-3		NASA DATA: BASELINE NEW	
	MECH/KBD 4515 +28V CON				
LEAD ANALYST:	A.D. MON	ITGOMERY	•		
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 2 /1R IOA [ 3 /1R	] [	P ] P ]	[ NA] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /	] [	1	[ N ]	[ ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)	
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* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT ID: NASA FMEA #:	MECH/KBD-4516	MECH/KBD-4516 BASELIN				
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD& 4516 +28V CONTACT					
LEAD ANALYST:	A.D. MONTGOME					
ASSESSMENT:						
CRITICAL: FLIGHT	r	DANCY SCRE	EENS	CIL ITEM		
HDW/FU	NC A	В	С	<b></b> -		
NASA [ 2 /1R IOA [ 3 /1R	] [ P ] ] [ P ]	[ P ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]		
COMPARE [ N /	] [ ]	[ N ]	[ ]	[ ]		
RECOMMENDATIONS:	(If differer	nt from NA	SA)			
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* CIL RETENTION R	ATIONALE: (If	applicabl	e) ADEQUATE INADEQUATE			
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA.	THE ISSU	_	- ,		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD 05-6EH-5	)-4517 i6000-1		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4517 +28V CON				
LEAD ANALYST:	A.D. MON	NTGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SC	REENS	CIL ITEM
FLIGH HDW/FU	_	A	В	С	
NASA [ 2 /1R IOA [ 3 /2R	] [	P ] P ]	[ P ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /N	] [	]	[ N ]	[ ]	[ ]
RECOMMENDATIONS:	(If d	ifferen	t from	NASA)	
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* CIL RETENTION	RATIONAL	E: (If	applica	able) ADEQUAT INADEQUAT	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE IS	SSUE IS WITHD	RAWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD-4517A 05-6EH-56000-3			: [ ] [ X ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD&C 4517 +28V CONTACT #3			
LEAD ANALYST:	A.D. MONTGOMER	¥		
ASSESSMENT:				
CRITICAL) FLIGHT		ANCY SCREENS	1	CIL ITEM
HDW/FUN	IC A	В	С	
NASA [ 2 /1R IOA [ 3 /2R	] [ P ] ] [ P ]	[ P ] [ [ F ] [	P ] P ]	[ X ] *
COMPARE [ N /N	] [ ]	[ N ]	1	[ ]
RECOMMENDATIONS:	(If different	: from NASA)		
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* CIL RETENTION R	ATIONALE: (If a		ADEQUATE ADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FMEA.	THE ISSUE I	S WITHDRAW	N BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD-4 05-6EH-560	1518 000-4		NASA DATA: BASELINE NEW	
<del>-</del>	MECH/KBD/F 4518 +28V CONTA				
LEAD ANALYST:	A.D. MONTO	GOMERY			
ASSESSMENT:					
CRITICAL		EDUNDANC'	SCREEN	3	CIL ITEM
FLIGH HDW/FU		1	3	С	2.2
NASA [ 2 /1R IOA [ 3 /1R	] [ P	] [ ]	P ] ( F ] (	P ] P ]	[ X ] *
COMPARE [ N /	] [	] [ ]	и ] [	]	[ ]
RECOMMENDATIONS:	(If dif:	ferent f	rom NASA	)	
[ 3 /1R	] [ P	] [	P ] [	P ] (A)	[ ] DD/DELETE)
* CIL RETENTION	RATIONALE:	(If app		ADEQUATE NADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE F	MEA. TH	E ISSUE	IS WITHDRA	WN BY

ASSESSME ASSESSME NASA FME	ENT ENT EA	D I #:	ATE: D:	2/04, MECH, 05-6	/88 /KBD- EH-56	4519 000	9 -1		NA B	SA DATA ASELINE NEW	
SUBSYSTE MDAC ID:				MECH, 4519 +28V							
LEAD ANA	LY	ST	:								
ASSESSME	'nТ	:									
	CR		ICAL:	ITY F	R	EDUI	NDANC	y so	CREENS		CIL ITEM
	1	HD	W/FUI	NC	A			В	С		
NASA IOA	[	2	/1R /2R	]	[ P	]	[	P ] F ]	[ P [ P	] ]	[ X ] * [ X ]
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RECOMMEN	DA!	ri(	ons:	(I:	f dif	fere	ent f	rom	NASA)		
	[	3	/1R	]	[ P	]	[ :	P ]	[ P		[ ] DD/DELETE)
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REMARKS: IOA/MDAC IOA/MDAC		GR	EES V	VITH 7	THE F	MEA.	TH	E IS		~	. ,

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD 05-6EH-5	-4519A 6000-3		NASA DATA: BASELINE NEW	
	MECH/KBD 4519 +28V CON		:		
LEAD ANALYST:	A.D. MON	TGOMERY	?		
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 2 /1R IOA [ 3 /2R	] [	P ] P ]	[ P ] [ F ]	[ P ] [ P ]	[ X ] *
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ASSESSMENT : ASSESSMENT : NASA FMEA #	ID:	MECH/KI	MECH/KBD-4520 BASELIN										
SUBSYSTEM: MDAC ID: ITEM:		MECH/KH 4520 +28V CO											
LEAD ANALYS	r:	A.D. MC	OTIC	GOMER	Y								
ASSESSMENT:													
CRITICALITY RED FLIGHT				EDUNDANCY SCREENS					CIL				
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/KBD	-4521 6000-1		NASA DATA BASELINE NEW	
	MECH/KBI 4521 +28V CON		ı		
LEAD ANALYST:	A.D. MON	ITGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	22400
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REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHDRA	AWN BY

ASSESSMENT ID: NASA FMEA #:	MECH/KBI 05-6EH-	D-4521A 56000-3	NASA DA' BASELII NI	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4521 +28V CON			
LEAD ANALYST:	A.D. MON	NTGOMERY		
ASSESSMENT:				
CRITIC: FLIC		SCREENS	CIL	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	-4522 6000 <b>-4</b>		NASA DAT BASELIN NE	
	MECH/KBD 4522 +28V CON				
LEAD ANALYST:	A.D. MON	TGOMERY	•		
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCR	EENS	CIL ITEM
FLIGH HDW/FU		A	В	С	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBI 05-6EH-	D-4523 56000-1			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4523 +28V COI	,	4			
LEAD ANALYST:	A.D. MOI	NTGOMER'	Y			
ASSESSMENT:						
CRITICALI FLIGHT		REDUNDA	ANCY	SCREE	าร	CIL ITEM
HDW/FU	1C	A	В		С	11211
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SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4523 +28V COI		<b>L</b>		
LEAD ANALYST:	A.D. MO	NTGOMER'	Z .		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCREE	ens	CIL ITEM
FLIGH HDW/FU		A	В	C	
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ASSESSMENT ASSESSMENT NASA FMEA #	ID: MECH/	KBD-4524		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	4524	KBD/EPD&C			
ITEM:	+28V	CONTACT #	1		
LEAD ANALYS	T: A.D.	MONTGOMER	Y		
ASSESSMENT:					
	TICALITY FLIGHT	REDUND	ANCY SCRE	ENS	CIL ITEM
H	DW/FUNC	A	В	C	
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SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4525 +28V CON		L			
LEAD ANALYST:	A.D. MON	ITGOMERY	Z			
ASSESSMENT:						
CRITICAL		REDUNDA	ANCY	SCREENS	5	CIL ITEM
FLIGH HDW/FU		A	В		С	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	0-4526 66000-4		1	NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4526 +28V CON						
LEAD ANALYST:	A.D. MOI	ITGOMER	Y				
ASSESSMENT:							
CRITICAL		REDUND	ANCY S	SCREENS		CIL	1
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	MECH/KBI 4527 +28V CON		2		
LEAD ANALYST:	A.D. MON	TGOMERY	•		
ASSESSMENT:					
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	•	D-4527A 56000-3			NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4527 +28V COI		2			
LEAD ANALYST:	A.D. MOI	NTGOMERY	Z			
ASSESSMENT:						
CRITICAL		REDUNDA	ANCY	SCREENS	3	CIL ITEM
FLIGH HDW/FU		A	В		С	11111
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD 05-6EH-5	-4529 6000-1		NASA DATA: BASELINE NEW	
MDAC TD:	MECH/KBD 4529 +28V CON				
LEAD ANALYST:	A.D. MON	ITGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	ens	CIL ITEM
FLIGH HDW/FU	_	A	В	С	
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SUBSYSTEM: MDAC ID: ITEM:	MECH/KE 4530 +28V CC	BD/EPD&C ONTACT #4	<b>L</b>		
LEAD ANALYST:	A.D. MC	NTGOMERY	Z .		
ASSESSMENT:					
CRITIC FLI		REDUNDA	ANCY SCREE	ens	CIL ITEM
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SUBSYST: MDAC ID ITEM:	EM:			MECH, 4531 +28V															
LEAD AN	ALY	ST	:	A.D.	MO	NT	GOMI	ERY											
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		F	LIGH'					<b>IDA</b>	NC	CY	SCRE	EN	s			C]	[L [E]		
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD-453 05-6EH-56000	1A -3	NASA DATA: BASELINE NEW	
MDAC ID:	MECH/KBD/EPD 4531 +28V CONTACT			
LEAD ANALYST:	A.D. MONTGOM	ERY		
ASSESSMENT:				
CRITICAL		NDANCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		В	С	112.1
NASA [ 2 /1R IOA [ 3 /2R	] [ P ] ] [ P ]	[ P ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD-4532 05-6EH-56000-4	NASA DA BASELI N	
	MECH/KBD/EPD&C 4532 +28V CONTACT #1		
LEAD ANALYST:	A.D. MONTGOMERY		
ASSESSMENT:			
CRITICAL: FLIGH		CY SCREENS	CIL ITEM
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	MECH/KBD 4533 +28V CON				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	
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ITEM:				+28V	CO	NT.	ACT	#1											
LEAD AN	ALY	ST	:	A.D.	MOI	T	GOMI	ERY											
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		34 )-4	NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD 4534 +28V CONTACT			
LEAD ANALYST:	A.D. MONTGOM	MERY		
ASSESSMENT:				
CRITICAL		UNDANCY SCREEN	5	CIL ITEM
FLIGH HDW/FU	_	В	С	11111
NASA [ 2 /1R IOA [ 3 /2R	] [ P ] ] [ P ]	[ P ] [ [ F ] [	P ] P ]	[ X ] *
COMPARE [ N /N	] [ ]	[ N ]	]	[ ]
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* CIL RETENTION	RATIONALE: (		ADEQUATE NADEQUATE	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FME.	A. THE ISSUE	IS WITHDRA	WN BY

ASSESSMI ASSESSMI NASA FMI	ENT ENT EA	D #:	ATE: D:	2/04/ MECH/ 05-6B	/88 /KBD EH-5	<del>-</del> 4 60	535 00-	1					ASA D BASEL		[		]		
SUBSYSTI MDAC ID: ITEM:				MECH/ 4535 +28V	•														
LEAD AND	ALY	ST	:	A.D.	MON	TG	OME	RY											
ASSESSMI	ENT	:																	
	CR		ICAL:	TY	1	RE	DUN	DAN	CY	sc	REENS	5			CI		-		
	1			1C	į	A			В			С			1.1	EM	L		
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REMARKS: IOA/MDAC IOA/MDAC	: A(	GR	EES W	TTH T	HE I	FMI	EA.	T	HE	ISS	SUE 1	S	WITH	DRAW	īN	вч			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD 05-6EH-5	-4535A 6000-3		NASA DAT BASELIN NE	
	MECH/KBD 4535 +28V CON		2		
LEAD ANALYST:	A.D. MON	TGOMER!	ď		
ASSESSMENT:					
CRITICAL		REDUND	ANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 2 /1R IOA [ 3 /1R		P ] P ]	[ P ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /	] [	]	[ N ]	[ ]	[ ]
RECOMMENDATIONS:	(If d	ifferen	t from NA	ASA)	
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* CIL RETENTION	RATIONAL	E: (If	applicab	le) ADEQUATI INADEQUATI	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISS	UE IS WITHD	RAWN BY

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SUBSYSTI MDAC ID: ITEM:				45	CH/KB 36 8V CO										
LEAD AND	ALY	ST	:	<b>A.</b> 1	D. MOI	NTO	GOME	ERY							
ASSESSMI	ENT	:													
	CR		ICAL LIGH			RI	EDUN	IDAN	CY	sc	CREENS		CI:		
	1	HD	W/FUI	NC		A			В		C			er.	
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COMPARE	[	N	/N	]	C		]	[	N	]	[ ]		[	]	
RECOMMEN	IDA!	ri	ons:	(	(If di	Lff	ere	nt f	fro	m	NASA)				
	(	3	/1R	]	[	P	]	[	P	]	[ P ]		[ D/I	] DELI	ETE)
* CIL RE	TEI	T.	CON F	ITAS	ONALE	E :	(If	app	ol i	ca	•				
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IOA/MDAC	AC	GRI	EES W	ITH	THE	FM	EA.	TH	Œ	IS	SUE IS W	ITHDRAW	N E	BY	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	•		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD&C 4537 +28V CONTACT #			
LEAD ANALYST:	A.D. MONTGOMER	Y.		
ASSESSMENT:				
CRITICAL	<del>-</del>	ANCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		В	С	
NASA [ 2 /1R IOA [ 3 /1R	[ P ] [ P ]	[ P ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /	] [ ]	[ N ]	[ ]	[ ]
RECOMMENDATIONS:	(If differen	nt from NAS	SA)	
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* CIL RETENTION	RATIONALE: (If	applicable	adequate	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FMEA.	THE ISSUE	E IS WITHDRA	WN BY

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	MECH,	/KBI	)-4 560	4537 000-	7 <b>A</b> -3							DATA LINE NEW	[		]	
SUBSYST: MDAC ID ITEM:	EM:			MECH, 4537 +28V															
LEAD AN	ALY	ST	:	A.D.	MON	T	GOME	ERY											
ASSESSMI	ENT	:																	
	CR		ICALI LIGHT	TY		RI	EDUN	IDAI	1C	Y	SCRE	ENS	3				[L	_	
	1		W/FUN			A				В			С			1'	CEN	1	
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RECOMMEN	NDA	ric	ons:	(If	đi	fí	fere	ent	f	rc	m NA	SA)	ı						
	[	3	/1R	]	[	P	]	[		P	]	[	P	]	(AI	[ \dc	'DE	] :LE	TE)
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/03/88 MECH/KBD 05-6EH-5	-4538 6000-4			SA DATA: ASELINE NEW		]
MDAC ID:	MECH/KBD 4538 +28V CON		ļ				
LEAD ANALYST:	A.D. MON	TGOMER	Z .				
ASSESSMENT:							
CRITICAL FLIGH		REDUNDA	ANCY S	CREENS		CIL ITEM	[
HDW/FU		A	В	С			
NASA [ 2 /1R IOA [ 3 /2R	] [	P ] P ]	[ P ] [ F ]	[ P [ P	]	[ X [ X	] <b>*</b>
COMPARE [ N /N	] [	1	[ N ]	[	]	[	]
RECOMMENDATIONS:	(If d	ifferen	t from	NASA)			
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* CIL RETENTION	RATIONAL	E: (If	applic	AL	EQUATE EQUATE	[	]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE I	SSUE IS	WITHDRAW	IN BY	ľ

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD- 05-6EH-56	-4539 5000 <b>-</b> 1	NASA DA BASELI N	ATA: NE[] EW[X]
	MECH/KBD/ 4539 +28V CONT			
LEAD ANALYST:	A.D. MONT	GOMERY		
ASSESSMENT:				
CRITICAL FLIGH	ITY R	EDUNDANCY	SCREENS	CIL
HDW/FU	_	В	С	ITEM
NASA [ 2 /1R IOA [ 3 /1R	[ P	[ P	] [ P ] ] [ P ]	[ X ] * [ X ]
COMPARE [ N /	] [	] [ N	] [ ]	[ ]
RECOMMENDATIONS:	(If dif	ferent fro	m NASA)	
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* CIL RETENTION	RATIONALE:	(If appli	cable) ADEQUATI INADEQUATI	
REMARKS: IOA/MDAC AGREES ' IOA/MDAC.	WITH THE F	MEA. THE	ISSUE IS WITHDI	RAWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD 05-6EH-5	-4539A 66000-3			SA DATA: ASELINE [ NEW [				
	MECH/KBI 4539 +28V CON		ŀ						
LEAD ANALYST:	A.D. MON	TGOMERY	?						
ASSESSMENT:									
CRITICAL		REDUNDA	ANCY SO	REENS	TTEM  C  P ] [ X ] *  P ] [ X ]				
FLIGH HDW/FU		A	В	С	<b>.</b>				
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COMPARE [ N /	] [	1	[ N ]	[	] [	1			
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* CIL RETENTION	RATIONAL	E: (If	applica	AD	EQUATE [	]			
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD-4540 05-6EH-56000-1	1	NASA DATA BASELINE NEW						
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD&C 4540 TALKBACK	2							
LEAD ANALYST:	A.D. MONTGOMER	RY							
ASSESSMENT:									
CRITICALI FLIGHT	ָרָי	DANCY SCREI	ens	CIL ITEM					
HDW/FUN	IC A	В	С						
NASA [ 2 /1R IOA [ 3 /3	] [ P ] ] [ ]	[ P ] [ ]	[ P ] [ ]	[ X ] *					
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ ]					
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBI 05-6EH-5	0-4540 <b>A</b> 56000-3		NASA DATA BASELINE NEW	
	MECH/KBI 4540 TALKBACI				
LEAD ANALYST:	A.D. MOI	NTGOMER	Y		
ASSESSMENT:					
CRITICAL		REDUND	ANCY SCRE	ENS	CIL ITEM
FLIGH HDW/FU		A	В	С	2200
NASA [ 2 /1R IOA [ 3 /3	] [	P ]	[ P ] [ ]	[ P ] [ ]	[ X ] * [ X ]
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* CIL RETENTION	RATIONAL	E: (If	applicab	le) ADEQUATE INADEQUATE	[ ]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KB 05-6EH-	D-4541 56000-1		NASA DAT BASELIN NE	
SUBSYSTEM:	MECH/KB 4541 TALKBAC	D/EPD&C			
LEAD ANALYST:	A.D. MO	NTGOMER	Y		
ASSESSMENT:					
CRITICAL FLIGH	T	REDUNDA	ANCY SCRE	ENS	CIL ITEM
HDW/FU	NC	A	В	С	
NASA [ 2 /1R IOA [ 3 /3	] (	P ]	[ P ] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)	
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REMARKS:				ADEQUATE INADEQUATE	
IOA/MDAC AGREES VIOA/MDAC.	VITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KB 05-6EH-	D-4541A 56000-3		NASA DAT BASELII NI				
SUBSYSTEM: MDAC ID: ITEM:	MECH/KB 4541 TALKBAC							
LEAD ANALYST:	A.D. MO	NTGOMER	Y					
ASSESSMENT:								
CRITICAL		REDUND	ANCY SCR	SCREENS CIL ITEM				
FLIGH HDW/FU	- <del>-</del>	A	В	С	11011			
NASA [ 2 /1F IOA [ 3 /3		P ]	[ P ] [ ]	[ P ] [ ]	[ X ] * [ X ]			
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ ]			
RECOMMENDATIONS	: (If d	ifferer	t from N	ASA)				
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* CIL RETENTION	RATIONAL	Æ: (If	applicab	le) ADEQUAT INADEQUAT	-			
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISS	UE IS WITHD	RAWN BY			

ASSESSM ASSESSM NASA FM	ENT	, I	D:	MECH	/04/88 ECH/KBD-4542 5-6EH-56000-1 ECH/KBD/EPD&C									ASA BASE		[		]		
SUBSYST MDAC ID ITEM:				MECH, 4542 TALK		•	EPD	&C												
LEAD AN	ALY	ST	:	A.D.	MON	TC	GOME	ERY	7											
ASSESSM	ENT	:																		
	CRITICALITY FLIGHT						EDUN	NDA	M	CY	SCR	EEN	S				ΙL	_		
		_	W/FUI	_		A				В			С			1'	ΓEN	1		
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	[	3	/1R	]	[	P	]		[	P	]	[	P	]	(Al		'DE	] :LE	TE)	
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REMARKS:	•											Iì		DEQU <i>I</i> DEQU <i>I</i>		[ [		]		
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD 05-6EH-5	0-4542A 66000-3		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4542 TALKBACH				
LEAD ANALYST:	A.D. MON	ITGOMERY	?		
ASSESSMENT:					
CRITICAL		REDUNDA	ANCY SCREE	ns	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 2 /1R IOA [ 3 /3	] [	P ]	[ P ] [ ]	[ P ] [ ]	[ X ] * [ X ]
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferen	t from NAS	SA)	
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* CIL RETENTION	RATIONAL	E: (If	applicable	adequate inadequate	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY

ASSESSMI ASSESSMI NASA FMI	ENT	I	D:	: 2 M 0	MECH/KBD-4543 05-6EH-56021-2										DATA LINE NEW	E [		]		
SUBSYSTI MDAC ID: ITEM:	EM:			4	ECH/KBD/EPD&C 543 ND GATE #1															
LEAD ANA	LY	LYST: A.D. MONTGOMERY																		
ASSESSMENT:																				
CRITICALITY FLIGHT						R	EDUN	NDA	N	CY	SCR	EEN	s				IL FEI	ď		
		HD	W/Ft	JNC			A				В			C			-		1	
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REMARKS: IOA/MDAC IOA/MDAC	INADEQUATE [ ]  EMARKS:  OA/MDAC AGREES WITH THE FMEA. THE ISSUE IS WITHDRAWN BY																			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		1544		NASA DATA: BASELINE NEW	
MDAC ID:	MECH/KBD/1 4544 AND GATE				
LEAD ANALYST:	A.D. MONTO	GOMERY			
ASSESSMENT:					
	ITY R	EDUNDANG	CY SCREE	ns	CIL ITEM
FLIGH HDW/FU	NC A		В	С	
NASA [ / IOA [ 3 /1R	] [ ] [ P	] [	F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [ N	] [	N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)	
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* CIL RETENTION	RATIONALE:	(If ap	plicable	ADEQUATE	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NASA FFERENCES	. THE R	EMAINING	CIES FOUND	THAT WERE NOT BE

ASSESSMENT DA' ASSESSMENT ID NASA FMEA #:	E: 2/04/88 MECH/KE 05-6EH-	8 BD-4545 -56021-2			NASA DATA BASELINE NEW	•		
SUBSYSTEM: MDAC ID: ITEM:	MECH/KE 4545 AND GAT	-						
LEAD ANALYST: A.D. MONTGOMERY								
ASSESSMENT:								
CRITIC FL:	CIL							
	FUNC	A	В		С	ITEM		
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COMPARE [ N /	<b>N</b> ] [	]	[	] [	]	[ ]		
RECOMMENDATION	S: (If d	ifferent	fro	m NASA)	•			
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REMARKS: IOA/MDAC AGREE IOA/MDAC.	S WITH THE	FMEA.	THE			_		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		-4546		NASA DATA BASELINE NEW		]		
MDAC ID:	MECH/KBD 4546 AND GATE							
LEAD ANALYST:	A.D. MON	TGOMERY	?					
ASSESSMENT:								
CRITICAL FLIGH		REDUNDA	NCY SCR	EENS	CIL ITEM			
	NC	A	В	С	-	_		
NASA [ / IOA [ 3 /1R	] [	P ]	[ F ]	[ ] [ P ]	[	] *		
COMPARE [ N /N	] [	и ]	[ N ]	[и]	[	]		
RECOMMENDATIONS:	(If d	ifferent	t from N	ASA)				
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* CIL RETENTION	RATIONAL	E: (If a	applicab	ole) ADEQUATE INADEQUATE	[	]		
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	THAT							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KB	D-4548		NASA DATA BASELINE NEW	_						
SUBSYSTEM: MDAC ID: ITEM:	MECH/KB 4548 AND GAT	·									
LEAD ANALYST:	A.D. MOI	NTGOMERY	•								
ASSESSMENT:											
CRITICAL FLIGH		REDUNDA	NCY SCREE	ns	CIL						
HDW/FU	_	A	В	С	ITEM						
NASA [ / IOA [ 3 /2R	] [	p ]	[	[ ] [ P ]	[ ] *						
COMPARE [ N /N	] [	и ј	[ N ]	[ N ]	[ ]						
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)							
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DEWARYG.				ADEQUATE INADEQUATE							
AFTER COMPARISON ALREADY IDENTIFIE	EMARKS: FTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT LREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE TTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS										

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-4550	NA. B.	SA DATA: ASELINE [ ] NEW [ ]								
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD& 4550 AND GATE #2	С									
LEAD ANALYST:	A.D. MONTGOME	RY									
ASSESSMENT:	ASSESSMENT:										
		DANCY SCREENS	CIL								
FLIGH HDW/FU		в с	ITEM								
NASA [ / IOA [ 3 /2R	] [ ] ] ]	[ ] [ [ F ] [ P	] [ ] *								
COMPARE [ N /N	] [ N ]	[ N ] [ N	] [ ]								
RECOMMENDATIONS:	(If differe	nt from NASA)									
[ /	] [ ]	[ ] [	] [ ] (ADD/DELETE)								
* CIL RETENTION	RATIONALE: (If	AD	EQUATE [ ]								
ALREADY IDENTIFI ATTRIBUTED TO DI	INADEQUATE [ ] REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.										

ASSESSME ASSESSME NASA FME	NT NT A #	D! II :	ATE:	2/04/ MECH/ 05-6E	551 21-2						SA DATA BASELINE NEW	[	x	]			
SUBSYSTEMDAC ID:				MECH/ 4551 AMP #		/ E	PD&C										
LEAD ANA	LYS	T	:	A.D.	MON	ΤG	OMER	Y									
ASSESSME	NT:	;															
1	CRI		[CAL]	TY		RE	DUND	AN.	CY	SCREE	ns	;		C:	IL PEM	r	
	ŀ			iC		A			В			С			LL	•	
NASA IOA	[	2	/1R /2R	]	[	P P	]	[	F F	]	[	P P	]	[	x x	]	*
COMPARE	[	N	/N	]	[		]	[		]	[		]	[		]	
RECOMMEN	DA'I	rio	ons:	(If	di	ff	eren	t	fro	om NAS	A)						
	[	3	/1R	]	[	P	]	[	F	1	[	P	] (A		A /DE		TE)
* CIL RE	TEI	VT:	ION F	RATION	ALE	:	(If	ap	pl:	icable		AC IAC	EQUATE EQUATE	[		]	
REMARKS: IOA/MDAC IOA/MDAC		3RI	EES V	VITH T	HE	FM	ŒA.	T	HE	ISSUE							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBI	) <del>-</del> 4552		NASA DATA BASELINE NEW	: [ [	]					
	MECH/KBI 4552 AMP #1	O/EPD&C									
LEAD ANALYST:	A.D. MON	TGOMERY	?								
ASSESSMENT:											
CRITICAL FLIGH		REDUNDA	NCY SCREE	ens	CIL	f					
	NC	A	В	С		-					
NASA [ / IOA [ 3 /1R	] [	P ]	[	[ ] [ P ]	[	] * ]					
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[	1					
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)							
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* CIL RETENTION	* CIL RETENTION RATIONALE: (If applicable)  ADEQUATE [ ]  INADEQUATE [ ]										
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NA	SA, THE	REMAINING	NCIES FOUND G ISSUES MAY	THAT BE						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD 05-6EH-5	-4553 6021-2		NASA DATA: BASELINE [ ] NEW [ X ]							
	MECH/KBD 4553 AMP #2	P/EPD&C									
LEAD ANALYST:	A.D. MON	TGOMERY									
ASSESSMENT:											
FLIGHT	ITY r NC		NCY SCRE	ENS C	CIL ITEM						
•											
NASA [ 2 /1R IOA [ 3 /2R	] [	P ]	[ F ]	[ P ]	[ X ] *						
COMPARE [ N /N	] [	1	[ ]	[ ]	[ ]						
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)							
[ 3 /1R	] [	P ]	[ F ]		[ A ] DD/DELETE)						
* CIL RETENTION I	RATIONALE	: (If a	pplicable	≥) ADEQUATE INADEQUATE	[ ]						
REMARKS: IOA/MDAC AGREES V IOA/MDAC.	VITH THE	FMEA.	THE ISSUI		-						

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SUBSYSTEMDAC ID:				455	H/K 4 #2		/E	PD	šС												
LEAD ANA	LYS	r:		A.E	). M	ON	TG	OM	ERY												
ASSESSME	NT:																				
			CAL				RE	DU	NDA	NC	Y:	SCF	REEN	ıs				CIL ITEM			
			IGHT /FUN				A				В				С						
NASA IOA	[	3	/ /1R	]		[	P	]		[	F	]		[ [	P	]		[	]	*	
COMPARE	ί	N	/N	]		[	N	]		[	N	]		(	N	]		[	]		
RECOMMEN	IDAT	'IC	ns:		(If	<b>d</b> :	if	fer	ent	: 1	fro	om l	NAS	A)							
	[		/	)		[		]		[		]		[		1 (2	ΑI	[ DD/DI		ETE)	
* CIL RI	ETEN	T	ON	RAT	ION	AL	E:	(1	f a	<b>p</b>	<b>p1</b> :	ical			AI IAI	DEQUATE DEQUATE		[	]		
REMARKS: AFTER CO ALREADY ATTRIBUT WITHDRAN	OMPA IDE TED	INE T	rifi O Di	ED FFE	BY I	א זא	C A	• • • • • • • • • • • • • • • • • • • •	וא איו	ĸ	H.M	AIN	LNG		LO	SULU FIR			W]	ERE	гои

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KB			NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4556 AMP #1	D/EPD&C			
LEAD ANALYST:	A.D. MOI	NTGOMER'	Y		
ASSESSMENT:					
CRITICALI FLIGHT		REDUNDA	ANCY SCRE	ens	CIL
HDW/FUN		A	В	С	ITEM
NASA [ / IOA [ 3 /2R	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [	n j	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
[ /	] [	]	[ ]	[ ] (AD	[ ] DD/DELETE)
* CIL RETENTION R	ATIONALE	: (If a	pplicable	ADEQUATE	[ ]
REMARKS:				INADEQUATE	[ ]

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	-4558		NASA DATA BASELINE NEW		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/ 4558 AMP #2	ÆPD&C				
LEAD ANALYST:	A.D. MONT	GOMERY				
ASSESSMENT:						
CRITICAL FLIGH	ITY I	NCY SCREE	ens	CIL	ſ	
	NC 2	A	В	С	222	-
NASA [ / IOA [ 3 /2R	] [ 1	] { P ] {	[ ] [ <b>F</b> ]		_	-
COMPARE [ N /N	] [1	4 ]	[ N ]	[ N ]	(	]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)		
[ /	] [	]	[ ]	[ ] (A	[ DD/DI	] ELETE)
* CIL RETENTION	RATIONALE	: (If a	pplicable	adequate Inadequate	]	]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NASA FFERENCES	A, THE I	REMAINING	NCIES FOUND G ISSUES MAY	THAT BE	_

ASSESSMI ASSESSMI NASA FMI	ASSESSMENT DATE: 2/04/88 ASSESSMENT ID: MECH/KBD-4559 IASA FMEA #: 05-6EH-56021-2													SA D BASEL		_	x	]	
SUBSYSTIMDAC ID:	EM:			MECH/ 4559 K14	/KBC	)/I	EPD&	С											
LEAD AND	ALYS	ST	:	A.D.	MON	TC	OME	RY											
ASSESSMI	ENT:	:																	
		F	LIGH	ITY I IC			EDUNI	DAI	YCY B		CREE		c				IL FEN		
NASA IOA	]	2	/1R /2R	]	[	P P	]	ļ	F ]	]		[	P P	]		[	X	]	*
COMPARE	[	N	/N	]	[		]	l	[	]		[		]		[		]	
RECOMME	NDAT	rio	ons:	(II)	f di	.f1	fere	nt	fr	om	NAS	A)							
	[	3	/1R	]	[	P	]	ļ	[ <b>F</b>	]		[	P	]					ETE)
* CIL RI	ETEN	NT:	ION 1	RATION	VALE	:	(If	ap	ppl	ica		•	AI AI	EQUA EQUA	TE TE	[		]	
REMARKS: IOA/MDAG IOA/MDAG	C AC	3RI	EES 1	VITH 1	CHE	FN	ÆA.	7	CHE	IS									

ASSESSME ASSESSME NASA FME	NΤ	ID	TE:	2/0 ME	/04/88 ECH/KBD-4560							NASA DATA: BASELINE [ ] NEW [ ]								
SUBSYSTE MDAC ID:	M:			ME( 45) K1		BD	)/E	PD8	йC											
LEAD ANA	LYS	T:		Α.	D. M	ON	ΙΤG	IMO	ERY											
ASSESSMENT:																				
CRITICALITY REDUNDA FLIGHT								NDA	NC	Y	SC	REE	NS	}			CII			
	F		JIGH V/FUI				A				В				С					
NASA IOA	[	3	/ /1R	]		[	P	]		[ [	F	]		[	P	]		[	]	*
COMPARE	[	N	/N	]		[	N	]		[	N	]		[	N	]		[	]	
RECOMMEN	IDA'	ΓI	SNC:		(If	<b>d</b> :	if:	fer	ent	: :	fro	om	NAS	SA)	)					
	[		/	]		[		]		(		]		[		]	(A	[ .DD/1	DELI	ETE)
* CIL R	ete	NT	ION	RAT	MOI	ΑL	E:	(1	f a	ıp	pl.	ica	able				IATE IATE	[	]	

REMARKS:
AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMIANING ISSUES BY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DAY ASSESSMENT ID NASA FMEA #:			2	nasa da Baseli 1	
SUBSYSTEM: MDAC ID: ITEM:	MECH/K 4561 K68	BD/EPD&	C		
LEAD ANALYST:	A.D. M	ONTGOME	RY		
ASSESSMENT:					
	ALITY GHT	REDUNI	DANCY SCR	EENS	CIL
	FUNC	A	В	С	ITEM
NASA [ 2 / IOA [ 3 /	1R ]   2R ]	[ P ] P ]	[ F ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /	и ] [	]	[ ]	[ ]	[ ]
RECOMMENDATION	S: (If d	lifferen	t from N	ASA)	
[ 3 /	1R ] [	Pj	[ F ]		[ A ] (ADD/DELETE)
* CIL RETENTIO	N RATIONAL	E: (If	applicab:	le) ADEQUAT INADEQUAT	
REMARKS: IOA/MDAC AGREE IOA/MDAC.	S WITH THE	FMEA.	THE ISSU		

ASSESSMENT D ASSESSMENT I NASA FMEA #:	ATE:	2/04/88 MECH/K	8 BD-4	562				1		DATA: ELINE NEW	[	]		
SUBSYSTEM: MDAC ID: ITEM:		MECH/K 4562 K68	BD/E	PD&C										
LEAD ANALYST	! <b>:</b> .	A.D. M	ONTG	OMER	Y									
ASSESSMENT:														
	'ICALI 'LIGHT		RE	DUND	ANC	CY	SCREE	ens			CIL			
	W/FUN		A			В		ı	С			-		
NASA [ IOA [ 3	/ 1/1R	]	[ [ P	]	[	F	]	[	P ]		[	]	*	
COMPARE [ N	/N	1	[ N	1	[	N	]	[	N ]		[	]		
RECOMMENDATI	ons:	(If	difi	eren	t :	fro	om NAS	SA)						
(	/	]	[	]	[		1	[	]	(A)	[ DD/DI		TE)	
* CIL RETENT	rion R	RATIONA	LE:	(If	apı	pl:	icable			UATE UATE		]		
ALREADY IDEN	REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.													

ASSESSMEN ASSESSMEN NASA FMEA	T ID:	2/05/88 MECH/KB		564			NASA DATA: BASELINE [ ] NEW [ ]						
SUBSYSTEM MDAC ID: ITEM:	<b>!:</b>	MECH/KB 4564 K72	D/E	PD&C									
LEAD ANAI	YST:	A.D. MO	NTG	DMERY									
ASSESSMEN	T:												
c	RITICALI FLIGHT		REI	OUNDAN	CY	SCREI	ENS	3		CIL			
	HDW/FUN		A		В			С		ITEM	1		
NASA IOA	[ / [ 3 /2R	] [	P	] [	F	]	[	P	]	[	] *		
COMPARE	[ N /N	] [	N	1 [	N	]	[	N	]	[	]		
RECOMMEND	ATIONS:	(If d	iffe	erent :	fro	m NAS	SA)						
	[ /	] [	]	Ι [		]	[			[ DD/DE	] :LETE)		
* CIL RET	ENTION F	RATIONAL	E: (	(If app	pli	.cable	-		EQUATE	[	]		
REMARKS:													

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	4566		NASA DATA: BASELINE NEW	[	]		
	MECH/KBD/ 4566 K70	EPD&C						
LEAD ANALYST:	A.D. MONT	.D. MONTGOMERY						
ASSESSMENT:								
CRITICAL FLIGH	ITY F	REDUNDANC	CY SCREEN	S	CIL			
HDW/FU		4	В	С				
NASA [ / IOA [ 3 /2R	] [ ]	] [	] [ F ] [	P ]	[	] <b>*</b> ]		
COMPARE [ N /N	] [ ]	4 ] [	N ] [	N ]	[	]		
RECOMMENDATIONS:	(If di	fferent :	from NASA	)				
[ /	] [	] [	] [	] (A)	[ DD/DE	] ELETE)		
* CIL RETENTION	RATIONALE	: (If ap	plicable) I	ADEQUATE NADEQUATE	<b>[</b> [	]		
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY TOA/MDAC.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/KBD-	4567 021-2		NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/ 4567 STOW MICR		#1		
LEAD ANALYST:	A.D. MONT	GOMERY			
ASSESSMENT:					
CRITICAL: FLIGHT		EDUNDANG	CY SCRE	ENS	CIL
HDW/FU			В	С	ITEM
NASA [ 2 /1R IOA [ 3 /1R	] [ P	] [	F ] F ]	[ P ] [ P ]	[ X ] * [ X ]
COMPARE [ N /	] [	] [	]	[ ]	[ ]
RECOMMENDATIONS:	(If dif	ferent f	from NA	SA)	
[ 3 /1R	] [ P	] [	F ]	[ P ]	[ A ] ADD/DELETE
* CIL RETENTION F	RATIONALE:	(If app	olicable	ADEQUATE	
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE F	MEA. TH	E ISSUI	~	. ,

ASSESSMENT DATI ASSESSMENT ID: NASA FMEA #:	E: 2/04/88 MECH/KBD	-4568		1	BASELI	INE ( NEW (	]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4568 STOW MIC		CH #1				
LEAD ANALYST:	A.D. MON	.D. MONTGOMERY					
ASSESSMENT:							
CRITIC. FLI	ALITY	REDUND.	ANCY S	CREENS		CIL	
<del>-</del>	FUNC	A	В	(	С	<del></del> = =	
NASA [ / IOA [ 3 /	] [	]	[ ]	[ [	]	[	] *
COMPARE [ N /	и ] [	1	[ ]	[	1	[	1
RECOMMENDATION	s: (If di	fferen	t from	NASA)			
[ /	] [	1	[ ]	[	]		] DELETE)
* CIL RETENTIO	N RATIONALE	: (If	applic		ADEQUA ADEQUA	TE [ TE [	]
REMARKS: THE ISSUE AROS FMEA/CIL INTER ISSUE IS WITHE	PRETATION A	ND IMP	LEMENT	TWEEN	THE NA	SA AND	IOA

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	2: 2/05/88 MECH/KB	D-4570			NASA DATA BASELINE NEW	[	]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KB 4570 DEPLOY						
LEAD ANALYST:	A.D. MO	.D. MONTGOMERY					
ASSESSMENT:							
CRITICA FLIG	LITY	REDUND	ANCY	SCREEN	S	CIL ITEN	<b>.</b>
	UNC	A	В		С	LTEI	1
NASA [ / IOA [ 3 /3	] [	]	[	] [	]	[	] *
COMPARE [ N /N	] [	]	[	] [	]	[	]
RECOMMENDATIONS	: (If d:	ifferen	t fro	m NASA	)		
[ /	] [	]	[	] [	] (A	[ DD/DE	] ELETE)
* CIL RETENTION REMARKS:	RATIONALI	E: (If	appli	-	ADEQUATE NADEQUATE	[	]
THE ISSUE AROSE FMEA/CIL INTERP ISSUE IS WITHDR	RETATION A	MD IMP	CES B LEMEN	ETWEEN TATION	THE NASA 2	AND I 2206.	OA THE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/KBD	0-4571 66021-2		NASA DATA: BASELINE [ NEW [				
	MECH/KBI 4571 AND GATE							
LEAD ANALYST:	A.D. MOI	NTGOMER'S	Z .					
ASSESSMENT:								
CRITICAL	REDUNDA	ANCY SCRE	ENS	CIL ITEM				
FLIGH HDW/FU		A	В	С				
NASA [ 2 /1R IOA [ 3 /2R	[	P ] P ]	[ F ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]			
COMPARE [ N /N	] [	1	[ ]	[ ]	[ ]			
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)				
[ 3 /1F	١ [	P ]	[ F ]	[ P ]	[ A ] ADD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If	applicabl	.e) ADEQUATE INADEQUATE				
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHDR	AWN BY			

2/04/88 MECH/KBI	D-4572		NASA DATA BASELINE NEW	[ ]			
4572							
LEAD ANALYST: A.D. MONTGOMERY							
ASSESSMENT:							
TTY T	REDUNDA	NCY SCRE	ens	CIL ITEM			
1C	A	В	С				
] [	P ]	[ ] [ F ]	[ ] [ P ]	[ ] *			
] [	N ]	[ N ]	[ N ]	[ ]			
(If di	fferent	from NAS	SA)				
] [	]	[ ]	[ ] (AE	[ ] DD/DELETE)			
ATIONALE	: (If a	oplicable		f 1			
Milene er			INADEQUATE				
	MECH/KBI MECH/KBI 4572 AND GATI A.D. MOD  TTY T IC  I [  I [  I [  CATIONALE	MECH/KBD-4572  MECH/KBD/EPD&C 4572 AND GATE #1  A.D. MONTGOMERY  TY REDUNDA  TO A  [	MECH/KBD-4572  MECH/KBD/EPD&C 4572 AND GATE #1  A.D. MONTGOMERY  TY REDUNDANCY SCREIN  IC A B  I P   F   I N   N   I Gifferent from NAS I   I   I   I ATIONALE: (If applicable	MECH/KBD-4572  BASELINE NEW  MECH/KBD/EPD&C 4572 AND GATE #1  A.D. MONTGOMERY  TY REDUNDANCY SCREENS NC A B C  [			

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NO ALREADY IDENTIFIED BY NASA, THE REMAINIG ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUES IS WITHDRAWN BY IOA/MDAC.

ASSESSMEN ASSESSMEN NASA FMEA	T I T ] A #:	DATE [D:	: 2 N	2/04/8 MECH/K 05-6EH	/04/88 ECH/KBD-4573 5-6EH-56021-2						SA DATA: ASELINE NEW	[		]				
SUBSYSTEM MDAC ID:			4	4573	ND GATE #2													
LEAD ANAI	LYS	r:	2	A.D. M	.D. MONTGOMERY													
ASSESSMENT:																		
C		rica Flic		ΤΥ		RE	DUNDA	NC	CY	SCREE	ENS	5			IL PEM			
	-			С		A			В			С						
NASA IOA	[ :	2 /1 3 /2	R R	]	[	P P	]	[	F F	]	]	P P	]	[	X X	]	*	
COMPARE	[ ]	N /N	1	]	[		]	[		1	[		]	[		]		
RECOMMEN	DAT	IONS	S:	(If	di	ff	erent	: 1	fro	om NAS	SA)	)						
	[	3 /1	LR	]	ι	P	]	[	F	]	[	P	] (A		A /DI		ETE)	
* CIL RE	TEN	TIO	1 R	ATION?	LE	2:	(If a	ap)	pl:	icable			DEQUATE DEQUATE			]		
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.																		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/KBD-4	573 <b>A</b> 21-2	NASA DATA: BASELINE [ ] NEW [ X ]				
	MECH/KBD/E 4573 AND GATE #						
LEAD ANALYST:	A.D. MONTGOMERY						
ASSESSMENT:							
CRITICALI FLIGHT		DUNDANCY	SCREENS		CIL		
HDW/FUN		В	С		ITEM		
NASA [ 2 /1R IOA [ 3 /1R	] [ P ]	] [ F ] [ F	] [ P	]	[ X ] *		
COMPARE [ N /	1 (	) [	] [	1	[ ]		
RECOMMENDATIONS:	(If diffe	erent fro	m NASA)				
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* CIL RETENTION F	RATIONALE:	(If appli					
DEMI DEC.				DEQUATE DEQUATE	[ ]		
REMARKS: IOA/MDAC AGREES W IOA/MDAC.	ITH THE FM	EA. THE	ISSUE IS	WITHDRAW	N BY		

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4576		NASA DATA: BASELINE NEW		]		
MDAC ID:	MECH/KBD 4576 AND GATE							
LEAD ANALYST:	A.D. MON	TGOMERY						
ASSESSMENT:								
CRITICAL: FLIGH		REDUNDA	NCY SCREE	ens	CIL	Ī.		
	NC	A	В	С				
NASA [ / IOA [ 3 /2R	] [	P ]	[ ] [ F ]	[ ] [ P ]	[	] <b>*</b>		
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[	]		
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)				
[ /	] [	]	[ ]	[ ] (A)	[ DD/DI	] ELETE)		
* CIL RETENTION	RATIONALI	E: (If a	applicable	ADEQUATE	[	]		
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.								

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:		3D-4578		NASA DATA BASELINE NEW	[ ]			
SUBSYSTEM: MDAC ID: ITEM:	MECH/KE 4578 AND GAT	BD/EPD&C E #2						
LEAD ANALYST:	A.D. MO	A.D. MONTGOMERY						
ASSESSMENT:								
CRITICA FLIG		ANCY SCRE	ENS	CIL				
HDW/F		A	В	С	ITEM			
NASA [ / IOA [ 3 /2]	] [	P ]	[ ] [ F ]	[ ] [ P ]	[ ] *			
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ ]			
RECOMMENDATIONS	(If d	ifferen	t from NA	SA)				
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* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	[ ]			
REMARKS:				~	<b>-</b>			

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD 05-6EH-5	-4579 6021-2		NASA DATA: BASELINE NEW				
MDAC ID:	MECH/KBD 4579 AMP #1	/EPD&C						
LEAD ANALYST:	A.D. MON	D. MONTGOMERY						
ASSESSMENT:								
CRITICAL	REDUNDA	ANCY SCRE	ens	CIL ITEM				
FLIGH' HDW/FU		A	В	С				
NASA [ 2 /1R IOA [ 3 /2R	] [	P ] P ]	[ F ] [ F ]	[ P ] [ P ]	[ X ] * [ X ]			
COMPARE [ N /N	] [	]	[ ]	[ ]	[ ]			
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)				
[ 3 /1R	. ] [	P ]	[ F ]	[ P ]	[ A ] ADD/DELETE)			
* CIL RETENTION	RATIONAL	E: (If	applicabl	e) ADEQUATE INADEQUATE				
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	E IS WITHDRA	WN BY			

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:		D <b>-</b> 4580	N.	]				
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4580 AMP #1	D/EPD&C						
LEAD ANALYST:	A.D. MON	ITGOMERY						
ASSESSMENT:								
CRITIC FLI	ALITY SHT	REDUNDANCY	SCREENS	CI				
		A E	c	IT	EM			
NASA [ / IOA [ 3 /	LR ] [	P ] [ F	] [ P	] [	] <b>*</b> ]			
COMPARE [ N /	4 ] [	и] [и	] [ N	] [	1			
RECOMMENDATION	: (If di	fferent fr	om NASA)					
[ /	] [	] [	] [		] DELETE)			
* CIL RETENTIO	RATIONALE	: (If appl						
REMARKS:			INAC	EQUATE [	]			
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS								

WITHDRAWN BY IOA/MDAC.

ASSESSMEN ASSESSMEN NASA FMEA	T ID:	2/04/88 MECH/KH 05-6EH-	5U-4	581 21 <b>-</b> 2			N		DATA: LINE NEW				
SUBSYSTEM MDAC ID: ITEM:		MECH/KI 4581 AMP #2	3D/E	PD&C									
LEAD ANAI	YST:	A.D. M	ONTG	OMER	Z								
ASSESSMEN	T:												
C	CRITICAL		RE	DUND	ANCY	SCR	REENS			CI IT	L EM		
	FLIGH HDW/FU		A		E	3	(	С					
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COMPARE	[ N /N	]	[	1	[	]	ί	]		[		]	
RECOMMEN	DATIONS:	(If	dif:	feren	t f	com l	(ASA						
		₹ ]	[ P	]	[ :	F ]	(	P ]	(A		A /DE		ETE)
* CIL RE	TENTION	RATION	ALE:	(If	app	lica			UATE ETAU	[		]	
REMARKS: IOA/MDAC	AGREES	WITH T	HE F	MEA.	TH	E IS	SUE 1	[S W]	THDRA	.WN	B	Ÿ	

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SUBSYST MDAC ID ITEM:				45	ECH/KE 582 IP #2	D/	EPD	&C										
LEAD AN	ALY	ST	:	A.	D. MO	NT	GOM	ERY										
ASSESSM	ENT	:																
	CR		ICAL LIGH			R	EDUI	NDAN	CY	SC	REENS	3			CIL			
			W/FU			A			В			С			ITE	M		
NASA IOA	[	3	/ /1R	]	[	P	]	[	F	]	[	P	]		[	]	*	
COMPARE	ξ	N	/N	]	[	N	]	[	N	J	[	N	]		[	]		
RECOMMEN	IDA:	ric	ons:		(If d	ifi	fere	nt f	rc	m l	NASA)							
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* CIL RE	TEN	T]	ON F	(TAS	CONALE	:	(If	app	li	cab	ole)				-		•	
REMARKS:		ı									IN	AD	EQUATE EQUATE	i		]		
AFTER CO	MPA IDE	RI NT	SON,	TH D F	IERE W	ER	E N	O DI	SC	REP	ANCI	ES	FOUND	TI	IAT	WE	RE	NOT

ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MY BE ATTRIBUTED

TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY

IOA/MDAC.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:		D-4584		NASA DATA BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KB 4584 AMP #1	D/EPD&C			
LEAD ANALYST:	A.D. MO	NTGOMERY	Y		
ASSESSMENT:					
- ·		REDUNDA	ANCY SCREI	ens	CIL ITEM
FLIG HDW/F		A	В	С	IIIM
NASA [ / IOA [ 3 /2	] [	p ]	[ ] [ <b>F</b> ]	[	[ ] *
COMPARE [ N /N	] [	<b>N</b> ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS	: (If d	ifferen	t from NAS	SA)	
[ /	] [	1	[ ]	[ ] (A	[ ] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	applicablo	e) ADEQUATE INADEQUATE	[ ]
REMARKS: AFTER COMPARISO ALREADY IDENTIF TO DIFFERENCES IOA/MDAC.	IED BY NA	SA, THE	REMAINING	NCIES FOUND G ISSUES MY	THAT WERE NOT BE ATTRIBUTED

ASSESSME ASSESSME NASA FME	NT I		2/05/ MECH/		4586				ASA DATA BASELINE NEW	[	]
SUBSYSTE MDAC ID:			MECH/: 4586 AMP #:	·	EPD&	С					
LEAD ANA	LYST	:	A.D. 1	TNOM	GOME	RY					
ASSESSME	NT:										
	CRIT	ICAL: LIGH		R	EDUN	DANCY	SCRE	ENS		CIL	w
		W/FU	_	A		В		С		115	<b></b>
NASA IOA	[ 3	/ /2R	]	[ [ <b>P</b>	]	[ [ <b>F</b>	]	[ [ P	]	[	] * ]
COMPARE	[ 1	/N	]	[ N	1	[ N	]	[ N	]	ι	1
RECOMMEN	DATI	ons:	(If	dif	fere	nt fro	m NA:	SA)			
	[	/	]	[	]	[	]	[	] (A	[ DD/D1	] ELETE)
* CIL RE	TENT	ION 1	RATION	ALE:	(If	appli	.cabl	A	DEQUATE DEQUATE	[	]

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

REPORT DATE 22 JULY 1988 C.10-400

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD 05-6EH-5	-4587 6021-2				SA DATA: ASELINE NEW			]	
	MECH/KBD 4587 K25	/EPD&C								
LEAD ANALYST:	A.D. MON	ITGOMERY	•							
ASSESSMENT:										
CRITICAL		REDUNDA	NCY	SCREEN	S		CI	L EM	į	
FLIGHT HDW/FU		A	В		C					
NASA [ 2 /1R IOA [ 3 /2R	] [	P ] P ]	[ F	] [	P P	]	[	X X	]	*
COMPARE [ N /N	] [	]	[	] [		]	[		]	
RECOMMENDATIONS:	(If d	ifferent	t fro	om NASA	.)					
[ 3 /1R	. ] [	P ]	[ F	] [	P	] (A	[ DD/	A /DE	] ELE	ETE)
* CIL RETENTION	RATIONAL	E: (If a	appli		AL	EQUATE	[		]	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE	ISSUE	ıs	WITHDRA	WN	B	¥	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KBD-4588	NASA DATA: BASELINE NEW	[ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD&C 4588 K25		
LEAD ANALYST:	A.D. MONTGOMER	Y	
ASSESSMENT:			
CRITICAL FLIGH		ANCY SCREENS	CIL
HDW/FU	_	В С	ITEM
NASA [ / IOA [ 3 /1R	] [ ] ] ]	[ ] [ ] [ F ] [ P ]	[ ] *
COMPARE [ N /N	] [ N ]	[ N ] [ N ]	[ ]
RECOMMENDATIONS:	(If different	: from NASA)	
( /	] [ ]		[ ] D/DELETE)
* CIL RETENTION I	RATIONALE: (If a	applicable)	
REMARKS:		ADEQUATE INADEQUATE	[ ] [ ]
AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIE	D BY NASA, THE	DISCREPANCIES FOUND THE REMAINING ISSUES MAY HOUND RULES. THE ISSUE	BE

REPORT DATE 22 JULY 1988 C.10-402

WITHDRAWN BY IOA/MDAC.

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ASSESSMEN ASSESSMEN NASA FMEA	T	ID	TE:	2/04/ MECH, 05-61	/KBD	-4 60	589 21 <b>-</b> 2	}					SA DA ASELI				]	
SUBSYSTEM MDAC ID:	ī:			MECH, 4589 K2	/KBD	/E	PD&C	2										
LEAD ANAI	LYS	T:		A.D.	MON	ΙΤG	OMER	ξ¥										
ASSESSME	T:																	
(	CRI		CAL			RE	DUNI	AC	ICY	sc	REEN	S			CI	L EM	[	
	F		V/FU			A			В			С						
NASA IOA	[	2	/1R /2R	]	[	P P	]	1	F	]	]	P P	]		[	X	]	*
COMPARE	[	N	/N	]	[		]	1	[	]	[		]		(		ļ	
RECOMMEN	DA'	rI	ons:	(1	f d	if:	fere	nt	fr	om	NASA	)						
	[	3	/1R	1	[	P	]		[ F	' ]	(	P	]	(A		A /DI		ETE)
* CIL RE	TE	NT	ION	RATIO	NAL	E:	(If	a	ppl	ica		A	DEQUA DEQUA	ATE ATE	[		]	
REMARKS: IOA/MDAC	: A	GR	EES	WITH	THE	F	MEA.		THE	E IS	SSUE	IS	WITH	IDRA	WN	В	Y	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/04/88 MECH/KB	D-4591		NASA DATA BASELINE NEW	[ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4591 K2	D/EPD&C			
LEAD ANALYST:	A.D. MOI	NTGOMERY	•		
ASSESSMENT:					
CRITICAL FLIGH	<del></del>	REDUNDA	NCY SCREE	ens	CIL ITEM
HDW/FU	NC	A	В	С	1154
NASA [ / IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [	N ]	[и]	[и]	[ ]
RECOMMENDATIONS:	(If di	fferent	from NAS	A)	
[ /	] [	]	[ ]	[ ] (AI	[ ] DD/DELETE)
* CIL RETENTION I	RATIONALE	: (If a		) ADEQUATE INADEQUATE	[ ]

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4593		NASA DATA: BASELINE NEW	
	MECH/KBD 4593 K27	/EPD&C			
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL FLIGH	ITY T	REDUNDAN	CY SCREE	NS	CIL ITEM
HDW/FU		A	В	С	
NASA [ / IOA [ 3 /2R	] [	] [ P ] [	F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [	и][	N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
[ /	] [	] [	1	[ ] (A	[ ] .DD/DELETE)
* CIL RETENTION	RATIONALI	E: (If ap	plicable	adequate	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI	ED BY NAS FFERENCES	ZA THE K	PIMALNINU	NCIES FOUND	THAT WERE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-459!	5		TA: NE [ ] EW [ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD8 4595 K37	\$C		
LEAD ANALYST:	A.D. MONTGOME	ERY		
ASSESSMENT:				
CRITICALI FLIGHT	TY REDUN	IDANCY SCR	EENS	CIL
	IC A	В	С	ITEM
NASA [ / IOA [ 3 /2R	] [ ] ] ]	[ ] [ F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [ N ]	[ <b>N</b> ]	[ N ]	[ ]
RECOMMENDATIONS:	(If differe	ent from NA	ASA)	
[ /	] [ ]	[ ]		[ ] (ADD/DELETE)
* CIL RETENTION R	ATIONALE: (If	applicabl		
REMARKS: AFTER COMPARISON, ALREADY IDENTIFIE	THERE WERE N	O DISCREPA	ADEQUATE INADEQUATE NCIES FOUND	THAT WERE NOT
ATTRIBUTED TO DIF WITHDRAWN BY IOA/	FERENCES IN G	ROUND RULE	S. THE ISS	UE IS

ASSESSMEN ASSESSMEN NASA FME	T	ID	:	2/04/ MECH/ 05-61	/KBD	-4 60	596 21 <b>-</b> 2						SA DA' ASELII N		[	x	]	
SUBSYSTEM MDAC ID:				MECH/ 4596 STOW					#2	<b>,</b>								
LEAD ANA	LYS	T:		A.D.	MON	ΙΤG	OMER	Y										
ASSESSME	NT:																	
	CR1		CAL	LTY P		RE	DUNE	AN	CY	SCRE	ENS	3			CI	L EM	1	
	F			NC		A			В			С						
NASA IOA	[	2	/1R /1R	]	£ [	P P	]	[	F F	]	[	P P	]		[	X X	]	*
COMPARE	[	N	/	]	[		]	[		]	[		]		[		]	
RECOMMEN	DA:	ric	ons:	(I	f d	if	ferer	nt	fr	om NA	SA	)						
	[	3	/1R	]	[	P	]	[	F	]	[	P	1			A /DI		ETE)
* CIL RE	TE	N <b>T</b> ]	ION	RATIO	NAL	E:	(If	ap	pl	icabl			DEQUAT DEQUAT				]	
REMARKS: IOA/MDAC	: A	GRI	EES	WITH	THE	F	MEA.	r	ΉE	ISSU	E	IS	WITH	ORA	WN	B	Y	

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SUBSYSTI MDAC ID: ITEM:				MECH, 4597 STOW				‡2				
LEAD ANA	ALY:	ST	:	A.D.	MONT	GOME	RY					
ASSESSME	ENT	:										
	CR		ICAL LIGH	ITY T	R	EDUN	DANCY	SCR	REENS		CII	
	I	HDI	W/FU	NC	A		F	3	(	2		
NASA IOA	]	3	/3	]	[ [	]	]	]	[	]	[	] * ]
COMPARE	[	N	/N	]	[	]	[	]	[	1	[	]
RECOMMEN	[AGI	ric	ons:	(If	dif	fere	nt fr	om N	ASA)			
	C		/	]	[	]	[	]	[		[	] ELETE)
* CIL RE		T	ION I	RATION	ALE:	(If	appl	icab	A	DEQUATE		]
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ASSESSMEN' ASSESSMEN' NASA FMEA	r I	ID:		2/05 MECE	5/88 H/KBD-4	599			]	NASA DAT BASELII NI	NE	[	]	
SUBSYSTEM MDAC ID: ITEM:				4599	H/KBD/E 9 LOY MIC		ITCH	#2						
LEAD ANAL	YS'	T:		A.D	. MONTG	OMER	Y							
ASSESSMEN	T:													
CRITICALITY REDUNDANCY SCREENS FLIGHT											CIL			
				NC	A		В			C				
NASA IOA	[	3 ,	/ /3	]	[	]	[	]	[	]		[	]	*
COMPARE	[	N .	/N	]	[	]	[	]	(	1		[	]	
RECOMMENI	TAC	'IO	NS:	(	If diff	feren	t fr	om N	IASA)					
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* CIL RET	ren	TI	ON	RATI	ONALE:	(If	appl	icab	ole) Il	PAUQEDA PAUQEDAN	TE TE	[	]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-4	600	NASA DATA BASELINE NEW	[ ]						
SUBSYSTEM: MDAC ID: ITEM:	4600	ECH/KBD/EPD&C 600 28V CONTACT #1								
LEAD ANALYST: A.D. MONTGOMERY										
ASSESSMENT:										
CRITICAL: FLIGHT		DUNDANCY SCREE	ens	CIL						
HDW/FUN	=	В	С	ITEM						
NASA [ / IOA [ 3 /1R	] [ P	] [ ] ] [ <b>F</b> ]	[ ] [ P ]	[ ] *						
COMPARE [ N /N	] [ N ]	] [N]	[ <b>N</b> ]	[ ]						
RECOMMENDATIONS:	(If diffe	erent from NAS	SA)							
[ /	] [ :	] [ ]	[ ] (AE	[ DD/DELETE)						
* CIL RETENTION F	ATIONALE:	(If applicable	ADEQUATE	[ ]						

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUE MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-4	601		NASA DATA: BASELINE NEW	[	]				
	MECH/KBD/E 4601 +28V CONTA									
LEAD ANALYST:	A.D. MONTO	OMERY								
ASSESSMENT:										
CRITICAL		EDUNDANC	CY SCREE	ns	CIL ITEM					
FLIGH HDW/FU			В	С						
NASA [ / IOA [ 3 /1R	] [ ] [ P	] [	F ]	[ ] [ P ]	[	] <b>*</b>				
COMPARE [ N /N	] [ N	] [	N ]	[ N ]	C	]				
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)						
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* CIL RETENTION	RATIONALE:	(If ap	plicable	adequate	[	]				
TODUMITU	REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUE MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY									

IOA/MDAC.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-46	02	NASA DATA BASELINE NEW	[ ]					
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPI 4602 +28V CONTACT								
LEAD ANALYST:	A.D. MONTGON	MERY							
ASSESSMENT:									
CRITICA FLIC	CIL								
	UNC A	В	С	ITEM					
NASA [ / IOA [ 3 /1	R ] [ ]	[ ] [ F ]	[ ] [ P ]	[ ] *					
COMPARE [ N /N	] [N]	[ N ]	[ N ]	[ ]					
RECOMMENDATIONS	: (If differ	ent from NAS	SA)						
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* CIL RETENTION	RATIONALE: (I	f applicable	ADEQUATE	r 1					
REMARKS:			INADEQUATE	i i					
FTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT LREADY IDENTIFIED BY NASA, THE REMAINING ISSUE MAY BE ATTRIBUTED O DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY OA/MDAC.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	-4603	NASA DATA: BASELINE NEW	[ ]						
MDAC ID:	MECH/KBD/ 4603 +28V CONT									
LEAD ANALYST:	A.D. MON	rgomery								
ASSESSMENT:										
CRITICAL		REDUNDAN	CY SCREENS	5	CIL ITEM					
FLIGH HDW/FU		A	В	С						
NASA [ / IOA [ 3 /1R	] [	] [ P ] [	] [ F ] [	P ]	[ ] *					
COMPARE [ N /N	] [	N ] [	и ] [	N ]	[ ]					
RECOMMENDATIONS:	(If di	fferent	from NASA	)						
[ /	] [	] [	] [	] (A)	[ ] DD/DELETE)					
* CIL RETENTION	RATIONALE	: (If ap		ADEQUATE NADEQUATE	[ ]					
ATDEADY TORNOTES	EMARKS: FTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT LREADY IDENTIFIED BY NASA, THE REMAINING ISSUE MAY BE ATTRIBUTED D DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY									

IOA/MDAC.

ASSESSM ASSESSM NASA FM	ENT	ID		2/0 MEC	/05/88 ECH/KBD-4604												DATA LINE NEW	[	]	
SUBSYST MDAC ID ITEM:				460	ECH/KBD/EPD&C 604 28V CONTACT #3															
LEAD AN	ALYS	T:		A.D	). ]	MO	NT	GOM	ERY											
ASSESSM	ENT:																			
CRITICALITY REDUNDANCY SCREENS FLIGHT									CIL											
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NASA IOA	[ [	3 /	/ /1R	]		]	P	]	!		F	]	:	[	P	]		[	]	*
COMPARE	[	N /	'N	]		[	N	]	1	-	N	]	i	[	N	]		[	]	
RECOMME	TADN	ION	is:	(	Ιf	di	Lfi	fer	ent	f	rc	m	NASZ	¥)						
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IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-4605	5	NASA DATA: BASELINE NEW	[ ]
MDAC ID:	MECH/KBD/EPD8 4605 +28V CONTACT			
LEAD ANALYST:	A.D. MONTGOM	ERY		
ASSESSMENT:				
CRITICAL: FLIGH	CIL ITEM			
HDW/FU	NC A	В	С	
NASA [ / IOA [ 3 /1R	] [ p ]	[ ] [F]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If differ	ent from NAS	SA)	
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* CIL RETENTION	RATIONALE: (I	f applicable	ADEQUATE	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI TO DIFFERENCES I IOA/MDAC.	TO BY NASA. I	HE REMAINING	2 TOOGE LIVE	DE WIINIDOIDE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4606		NASA DATA BASELINE NEW	[ ]				
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/ 4606 +28V CONT								
LEAD ANALYST:	A.D. MONT	rgomery							
ASSESSMENT:									
CRITICALI FLIGHT	CIL								
HDW/FU	_		В	С	ITEM				
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RECOMMENDATIONS:	(If dif	ferent f	rom NASA	)					
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* CIL RETENTION F	RATIONALE:	(If app	licable)	ADEOUATE					
ADEQUATE [ ] INADEQUATE [ ]									
AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUE MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY TOA/MDAC.									

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SUBSYSTE MDAC ID:				46	07			PD&C									
LEAD ANALYST: A.D. MONTGOMERY																	
ASSESSME	ENT	:															
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AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUE MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSM ASSESSM NASA FM	ENT	I		2/05 MECH	/88 /KBD-	A DATA SELINE NEW	: [ [	]				
SUBSYST MDAC ID ITEM:				MECH, 4608 +28V	/KBD/ CONT							
LEAD AN	ALY	ST	:	A.D.	MONT	GOME	RY					
ASSESSM	ENT	:										
TIT T GIVE											CIL	
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RECOMME	NDA!	ΓI	ONS:	(Ii	f dif	fere	nt fr	om N	IASA)			
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SUBSYSTEMDAC ID:				460	9	D/EPI NTACI									
LEAD ANA	ALYS	ST:	:	A.I	). MO	NTGO	MERY								
ASSESSMI	ENT:	:													
CRITICALITY REDUNDANCY SCREENS FLIGHT													CIL	M	
	I			INC		A		В			С				
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-4610	)	NASA DATA BASELINI NEV	A: E [ ] W [ ]
	4610			
ITEM:	+28V CONTACT	#2		
LEAD ANALYST:	A.D. MONTGOME	ERY		
ASSESSMENT:				
CRITICALI FLIGHT	TY REDUN	IDANCY SCR	EENS	CIL ITEM
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NASA [ / IOA [ 3 /3	] [ ]	[ ]	[ ]	[ ] *
COMPARE [ N /N	] [ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS:	(If differe	nt from N	ASA)	
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* CIL RETENTION R	ATIONALE: (If	applicabl	le) ADEQUATE INADEQUATE	[ ]
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SUBSYSTEMDAC ID:				461	H/KBD/E l V CONTA									
LEAD AND	ALYS	ST:	:	A.D	. MONTG	OMER	Y							
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	CR				RE	DUND	ANCY	SCI	REENS			CIL		
	1		LIGH W/FU	NC	A		В			С				
NASA IOA	[	3	/	]	[	]	[	]	[	]		[		*
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ASSESSME ASSESSME NASA FME	'nТ	I	ATE: D:	2/05, MECH,	/88 /KBD-	4612				NASA DAT BASELIN NE		]	
SUBSYSTE MDAC ID: ITEM:	M:			MECH, 4612 +28V									
LEAD ANA	LY	ST	:	A.D.	MONT	GOME	RY						
ASSESSME	NT	:											
	CR:	IT:	ICAL LIGH	ITY T	R	EDUN	DANCY	SCR	EENS		CII		
	1			NC	A		В		(	С	TIE	.PI	
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* CIL RET	ren	T	ION 1	RATION	ALE:	(If	appli	.cab	P	ADEQUATE ADEQUATE	[	]	
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ASSESSMI ASSESSMI NASA FMI	I		2/05/ MECH/					NASA DAT BASELIN NE		_		
SUBSYSTIMDAC ID:				MECH/ 4613 +28V								
LEAD ANA	ALYS	ST	:	A.D.	MONTO	GOME	RY					
ASSESSMI	ENT	:										
	CR			ITY	RI	EDUN	DANCY	SCR	REENS		CII	
	FLIGHT HDW/FUNC A									С	111	11.7
NASA IOA	[	3	/	]	[	]	[	]	[	]	[	] <b>*</b>
COMPARE	(	N	/N	]	[	]	[	]	£	]	[	]
RECOMME	NDA'	ΤΙ	ons:	(II	f dif	fere	nt fr	om N	IASA)			
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* CIL RI		NT:	ION	RATIO	NALE:	(If	appl	icab	•	ADEQUATE ADEQUATE		]
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ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSME ASSESSME NASA FME	ENT	ID:	2/05 MECH	5/88 I/KBD-	-4614			ľ	IASA I BASEI		ſ	]
SUBSYSTE MDAC ID:			4614									
LEAD ANA	LYS	T:	A.D.	MON	GOME	RY						
ASSESSME	ENT:											
				I	REDUN	DANCY	SCF	REENS			CII	
		FLIGH DW/FU	INC	1	A	В		(			111	.171
NASA IOA	[	3 /3	]	[	]	[	]	[	]		[	] * ]
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	Į	/	]	[	]	[	]	[	3	(A)	[ DD/I	] DELETE)
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ASSESSMENT DATE: 2/05/88 ASSESSMENT ID: MECH/KBD-4615 NASA FMEA #:									_ 1	NASA DATA BASELINE NEW	[	]	
SUBSYSTE MDAC ID: ITEM:				4615	KBD/E		4						
LEAD ANA	LYS	ST:	:	A.D.	MONTG	OMER	Y						
ASSESSME	ENT	:											
	CRI			ITY	RE	DUND	ANCY	SCRI	EENS		CIL ITE		
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NASA IOA	[	3	/	]	[ [	]	[	]	[ [	]	[	] <b>*</b>	
COMPARE	[	N	/N	]	[	1	[	]	[	1	[	1	
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REPORT DATE 22 JULY 1988 C.10-425

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-461	L <b>6</b>		ATA: INE [ ] VEW [ ]
MDAC ID:	MECH/KBD/EPD 4616			
ITEM:	+28V CONTACT	? #1		
LEAD ANALYST:	A.D. MONTGOM	IERY		
ASSESSMENT:				
CRITICALI FLIGHT	TY REDU	NDANCY SCRI	EENS	CIL
HDW/FUN		В	С	ITEM
NASA [ / IOA [ 3 /1R	] [ p ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ ] *
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RECOMMENDATIONS:	(If differ	ent from NA	SA)	
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CIL RETENTION R	ATIONALE: (I	f applicabl	e)	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBI	)-4617			NASA DATA: BASELINE NEW		]
	MECH/KBI 4617 +28V COM						
LEAD ANALYST:	A.D. MON	NTGOMERY	•				
ASSESSMENT:							
CRITICAL	CIL	ſ					
FLIGH HDW/FU		A	В		С		
NASA [ / IOA [ 3 /1R	] [	p ]	[ [ F	] [	p ]	[	] <b>*</b> ]
COMPARE [ N /N	] [	N ]	[ N	] [	N ]	[	]
RECOMMENDATIONS:	(If d	ifferent	: fro	om NASA	)		
[ /	] [	1	[	] [	] (A	[ DD/DE	] ELETE)
* CIL RETENTION	RATIONAL	E: (If a	appli		ADEQUATE NADEQUATE	[	]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NA FFERENCE	SA, THE	REMA	AINING :	ISSUES MAY	BE	WERE NOT

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	, ,	BD-4618		NASA DATA BASELINE NEW	[ ]
SUBSYSTEM: MDAC ID: ITEM:	4618	BD/EPD&C ONTACT #2	2		
LEAD ANALYST:	A.D. MO	NTGOMERY	Z .		
ASSESSMENT:					
CRITICA FLIG		REDUNDA	ANCY SCRE	ENS	CIL
HDW/F	_	A	В	С	ITEM
NASA [ / IOA [ 3 /1]	] [	p ]	[	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS	(If d	ifferent	from NAS	SA)	
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* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE	[ ]
REMARKS:				INADEQUATE	į j

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

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SUBSYSTE MDAC ID:	M:			46	CH/K 19 8V C													
LEAD ANA	LYS	T:	;	Α.	D. M	ON	TC	OME	RY									
ASSESSME	NT:	:																
	CR		CAL LIGH				RE	EDUNI	DAN	CY	SCI	REE	IS			CIL	M	
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AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-462	0	NASA DAT BASELIN NE	
	MECH/KBD/EPD 4620 +28V CONTACT			
LEAD ANALYST:	A.D. MONTGOM	ERY		
ASSESSMENT:				
CRITICALI FLIGHT		NDANCY SCRI	EENS	CIL
HDW/FUN		В	С	ITEM
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COMPARE [ N /N	] [ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS:	(If differe	ent from NA	ASA)	
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* CIL RETENTION R	ATIONALE: (I1	f applicabl	e) ADEQUATE INADEQUATE	
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ASSESSME ASSESSME NASA FME	ENT	ID:	E:	2/05, MECH,	/88 /KBD-4	621			1	NASA DAS BASELII N		[ [	]	
SUBSYSTE MDAC ID:				4621	/KBD/E									
LEAD ANA	ALYS	ST:		A.D.	MONTO	OMER	Y							
ASSESSMI	ENT:	:												
	CRI			ITY	RI	EDUNE	ANCY	SCRI	EENS			CIL		
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NASA IOA	[	3	/3	]	[	]	[	]	[	]	[	] * ]
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SUBSYSTE MDAC ID:				4623	KBD/E									
LEAD ANA	LYS	T:		A.D.	MONTG	OMER	Y							
ASSESSME	NT:													
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-46:	24	NASA DATA BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPH 4624 AND GATE #1	0&C			
LEAD ANALYST:	A.D. MONTGON	IERY			
ASSESSMENT:					
CRITICAL: FLIGHT		NDANCY SCRE	ENS	CIL	
HDW/FUI		В	С	ITEM	
NASA [ / IOA [ 3 /1R	] [ p ]	[ ] [ F ]	[ ] [ P ]	[ ] *	
COMPARE [ N /N	] [ n ]	[ N ]	[ N ]	[ ]	
RECOMMENDATIONS:	(If differ	ent from NA	SA)		
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* CIL RETENTION F	ATIONALE: (I	f applicable			
REMARKS:			ADEQUATE INADEQUATE	[ ]	
AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF	D BY NASA, T	HE REMAINING	TSSHES MAY	RF	NOT

WITHDRAWN BY IOA/MDAC.

ASSESSME ASSESSME NASA FME	NT :	ID			2/05/88 MECH/KBD-4625							1		SA DA ASEL		[	]		
SUBSYSTEMDAC ID:	M:			462	ECH/KBD/EPD&C 625 ND GATE #1														
LEAD ANALYST: A.D. MONTGOMERY																			
ASSESSME	NT:																		
			CALI				RE	EDUNI	DAI	NC	Y	SCR	REE	NS				CIL	
			/FUI				A				В				С				
NASA IOA	[	3	/ /1R	]		[	P	]		[ [	F	]		[ [	P	]		[	] <b>*</b>
COMPARE	[	N	/N	1		[	N	]		[	N	1		[	N	]		[	]
RECOMMEN	DAT	IC	NS:		(If	d:	ifi	fere	nt	f	r	om N	IAS	A)					
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AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	4626		NASA DATA BASELINE NEW				
	MECH/KBD/ 4626 AND GATE							
LEAD ANALYST:	A.D. MONT	GOMERY						
ASSESSMENT:								
CRITICALI FLIGHT	ITY R	EDUNDANO	CY SCREE	ens	CIL			
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NASA [ / IOA [ 3 /1R	] [ ] [ P	] [	<b>F</b> ]	[ ] [ P ]	[ ] *			
COMPARE [ N /N	] [ N	] [	N ]	[ <b>N</b> ]	[ ]			
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				ADEQUATE INADEQUATE				
ALREADY IDENTIFIE ATTRIBUTED TO DIE	MARKS: TER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT READY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE TRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS THDRAWN BY IOA/MDAC.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBI	D-4627		NASA DATA BASELINA NEV				
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4627 AND GATI	•						
LEAD ANALYST:	A.D. MO	NTGOMER						
ASSESSMENT:								
CRITICA FLIG	LITY	REDUNDA	ANCY SCR	EENS	CIL ITEM			
	INC	A	В	С				
NASA [ / IOA [ 3 /1]	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ ] *			
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ ]			
RECOMMENDATIONS	(If d	ifferen	t from N	ASA)				
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* CIL RETENTION	RATIONAL	E: (If a	applicab	le) ADEQUATE INADEQUATE	[ ]			
ALREADY IDENTIF	EMARKS: FTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT LREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE FTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS ITHDRAWN BY IOA/MDAC.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBI	2/05/88 MECH/KBD-4628				ASA DATA BASELINE NEW			
	4628	0 MS TIME DELAY							
LEAD ANALYST:	A.D. MOI	NTGOMERY							
ASSESSMENT:									
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM									
HDW/FU		A	В		С		IIEr	1	
NASA [ / IOA [ 3 /1R	] [	P ]	( ( <b>F</b>	] [	P	]	[	] * ]	
COMPARE [ N /N	] [	N ]	[ N	] [	N		[	]	
RECOMMENDATIONS:	(If d	ifferent	fro	om NASA	۲)				
[ /	] [	1	[	] [			[ DD/DI		E)
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4629		NASA DATA: BASELINE NEW		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4629 40 MS TI	/EPD&C ME DELAY				
LEAD ANALYST:	A.D. MON	TGOMERY				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDANC	Y SCREENS	5	CIL	Ī
	NC	A	В	С		
NASA [ / IOA [ 3 /1R	] [	] [ P ] [	F ] [	p ]	[	] <b>*</b> ]
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RECOMMENDATIONS:	(If di	fferent f	rom NASA	)		
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* CIL RETENTION	RATIONALE	: (If app	olicable) I	ADEQUATE NADEQUATE	[	]
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ASSESSME ASSESSME NASA FME	NT	II			/05/88 ECH/KBD-4630				NASA DATA BASELINI NEV					[	]		
SUBSYSTE MDAC ID: ITEM:				46	ECH/KBD/EPD&C 630 MP #1												
LEAD ANA	LYS	ST:	:	A.	.D. MONTGOMERY												
ASSESSME	NT	:															
	CR					1	RED	UNDAN	CY	sci	REENS	5			CIL	_	
	I		LIGH N/FU			ž	A		В			С			ITEN	1	
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COMPARE	[	N	/N	]		[ ]	N ]	[	N	]	[	N	]		[	]	
RECOMMEN	DAT	ric	ons:		(If	di:	ffe	rent	fr	om 1	NASA	)					
	•		/	]		[	]	[		]	[		]	(AI	[ DD/DI	] ELETE	)
* CIL RE	TEI	VT]	ION	RAT	'IONA	LE:	: (	If ap	pl:	ical	,		EQUAT EQUAT		[	]	
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ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

REPORT DATE 22 JULY 1988 C.10-440

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4631		BASELINE NEW		
MDAC ID:	MECH/KBI 4631 AMP #1	/EPD&C				
LEAD ANALYST:	A.D. MON	ITGOMERY				
ASSESSMENT:						
		REDUNDA	NCY SCREE	ens	CIL ITEM	
FLIGH HDW/FU		A	В	С		
NASA [ / IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[ ] *	
COMPARE [ N /N	] [	N ]	[ N ]	[ N ]	[ ]	
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)		
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* CIL RETENTION	RATIONAL	E: (If a	applicabl	e) ADEQUATE INADEQUATE	[ ]	
REMARKS: AFTER COMPARISON ALREADY IDENTIFE ATTRIBUTED TO DEMITHER BY ION	IED BY NA IFFERENCE	CA THE	Kr.MAININ	G TOOODO INTE		T

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KB	D-4632	NASA DATA BASELINE NEW	[ ]	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4632 AND GATI				
LEAD ANALYST:	A.D. MOI	NTGOMERY			
ASSESSMENT:					
CRITICAL: FLIGH		REDUNDANC	CY SCREENS	5	CIL
HDW/FUI	1C	A	В	С	ITEM
NASA [ / IOA [ 3 /1R	] [	P ] [	F ] [	P ]	[ ] *
COMPARE [ N /N	] [	и ] [	<b>N</b> ] [	N ]	[ ]
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* CIL RETENTION R	ATIONALE	: (If app			
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WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4633			NASA DATA: BASELINE NEW		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4633 AND GATE						
LEAD ANALYST:	A.D. MON	TGOMER					
ASSESSMENT:							
	ITY	REDUND	ANCY	SCREENS	5	CIL	Ī
FLIGH HDW/FU		A	В		С		
NASA [ / IOA [ 3 /1R	] [	p ]	[ [ F	] [	p ]	[	] *
COMPARE [ N /N	] [	N ]	[ N	] [	N ]	[	1
RECOMMENDATIONS:	(If di	fferen	t fro	om NASA	)		
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* CIL RETENTION	RATIONALE	E: (If	appl:	icable) I	ADEQUATE NADEQUATE	[	]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NAS FFERENCES	SA. THE	REM	AINING	ISSUES MAY	BE	WERE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	4634			SA DATA: ASELINE NEW	[	]
	MECH/KBD/ 4634 4 SECOND						
LEAD ANALYST:	A.D. MONT	GOMERY					
ASSESSMENT:							
CRITICAL: FLIGHT	ITY R	EDUNDANC	Y SCREE	ens		CIL ITEM	•
HDW/FUI	<del>-</del> '		В	С		TIEM	•
NASA [ / IOA [ 3 /1R	] [ ] [ P	] [	F ]	[ P ]	]	]	] *
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WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBI	<b>)-</b> 4635		NASA DATA: BASELINE NEW		]
	MECH/KBI 4635 4 SECONI	O/EPD&C O TIME DI	ELAY			
LEAD ANALYST:	A.D. MON	NTGOMERY				
ASSESSMENT:						
		REDUNDA	NCY SCREE	NS	CIL	r
FLIGH HDW/FU		A	В	С	1111	•
NASA [ / IOA [ 3 /1R	] [	p ]	[ ] [ F ]	[ ] [ P ]	[	] <b>*</b>
COMPARE [ N /N	] [	N ]	[и]	[ N ]	[	]
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)		
[ /	] [	]	[ ]	[ ] (A)	[ DD/DE	] :LETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicable	) ADEQUATE INADEQUATE	[ [	]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI	ED BY NA	SA, THE	DISCREPAN REMAINING	CIES FOUND '	THAT BE	

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:		0-4636			BASELINE NEW		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4636 AMP #3	D/EPD&C					
LEAD ANALYST:	A.D. MON	ITGOMERY					
ASSESSMENT:							
	ALITY GHT	REDUNDA	NCY	SCREEN	5	CIL	
	FUNC	A	В		С	ITEM	·
NASA [ / IOA [ 3 /	] [ 1R ] [	P ]	[ [ <b>F</b>	] [	P ]	[	] <b>*</b>
COMPARE [ N /	и ] [	и ]	[ N	] [	N ]	[	]
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* CIL RETENTIO	N RATIONALE	: (If a	ppli	•	ADEQUATE NADEQUATE	[	]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4637				ASA DATA BASELINE NEW		]	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4637 AMP #3	/EPD&C							
LEAD ANALYST:	A.D. MON	TGOMERY	ľ						
ASSESSMENT:									
	ITY	REDUNDA	ANCY	SCREE	NS		CIL		
FLIGH HDW/FU	NC	A	В		С		T T 101	<b>.</b>	
NASA [ / IOA [ 3 /1R	] [	] P ]	[ [ <b>F</b>	]	[ [ P	]	[	] <b>*</b>	
COMPARE [ N /N	] [	и ]	[ 11	1	( N	1	[	]	
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* CIL RETENTION	RATIONALE	: (If a	appli		· ΔΙ	DEQUATE DEQUATE	[	]	
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.									

ASSESSMENT DA ASSESSMENT II NASA FMEA #:	ATE: 2/05/8 D: MECH/F	88 KBD-4638			NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	4638	KBD/EPD&C	ATOR	₹		
LEAD ANALYST:	A.D. M	ONTGOMERY				
ASSESSMENT:						
	CALITY LIGHT	REDUNDA	NCY	SCREENS		CIL ITEM
	/FUNC	A	В		С	11211
NASA [ IOA [ 3	/ ] /1R ]	[ ] [ P ]	[ [ <b>F</b>	] [		[ ] *
COMPARE [ N	/N ]	[ N ]	[ N	] [	и ]	[ ]
RECOMMENDATIO	ons: (If	different	fro	om NASA)		
ί	/ ]	[ ]	[	1 (	] (AI	[ ] DD/DELETE)
* CIL RETENTI	ON RATIONA	LE: (If a	ppli		ADEQUATE ADEQUATE	[ ]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	-4639		BASELINE NEW		l 1
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD, 4639 EXPLOSIVE		ror			
LEAD ANALYST:	A.D. MON	TGOMERY				
ASSESSMENT:						
CRITICAL		REDUNDAN	CY SCREE	ns	CIL ITEM	
FLIGH HDW/FU		A	В	С		
NASA [ / IOA [ 3 /1R	] [	] [ P ] [	F ]	[ ] [ P ]	[	] * ]
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* CIL RETENTION	RATIONALE	E: (If ap	plicable	e) ADEQUATE INADEQUATE		]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	<b>)-4</b> 640		NASA DATA BASELINE NEW		]
	MECH/KBD 4640 EXPLOSIV		ror			
LEAD ANALYST:	A.D. MON	TGOMERY				
ASSESSMENT:						
CRITICAI FLIGH	ITY	REDUNDANC	CY SCREE	เร	CIL	
	NC .	A	В	С	ITE	M
NASA [ / IOA [ 3 /1R	] [:	P ] [	F ] [	] P ]	[	] <b>*</b> ]
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* CIL RETENTION	RATIONALE:	: (If app				
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	-4641	NASA DATA: BASELINE NEW	[ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/ 4641 EXPLOSIVE	E INITIATOR		
LEAD ANALYST:	A.D. MONT	GOMERY		
ASSESSMENT:				
CRITICAL FLIGH		REDUNDANCY S	CREENS	CIL ITEM
	NC A	А В	С	
NASA [ / IOA [ 3 /1R	] [ F	] [ ] P ] [ F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [ ]	и] [и]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	fferent from	NASA)	
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* CIL RETENTION	RATIONALE:	: (If applic	able) ADEQUATE INADEQUATE	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NASA FFERENCES	A, THE REMAI	NING ISSUES MAY	BE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KB	D-4642				]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KB 4642 AND GAT	•				
LEAD ANALYST:	A.D. MO	NTGOMERY				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDAN	CY SO	CREENS	CIL ITEM	
	NC	A	В	С	1154	
NASA [ / IOA [ 3 /1R	] [	P ] [	F ]	[ ] [ P ]		] <b>*</b> ]
COMPARE [ N /N	] [	иј	и ]	[ N ]	[ ]	]
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REMARKS:				ADEQUAT INADEQUAT	'E [ ]	] ]
AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NAS FFERENCES	SA, THE R	EMAIN	VING ISSUES M	AY BE	VERE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4643		NASA DATA BASELINE NEW		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4643 AND GATE					
LEAD ANALYST:	A.D. MON	ITGOMERY				
ASSESSMENT:	,					
CRITICAL		REDUNDA	NCY SCRE	ens	CIL ITEN	1
FLIGH HDW/FU		A	В	С		•
NASA [ / IOA [ 3 /1R	] [	P ]	[ ] [ F ]	[	[	] <b>*</b> ]
COMPARE [ N /N	] [	N ]	[ 14 ]	[ n ]	[	]
RECOMMENDATIONS:	(If d	ifferent	from NA	SA)		
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* CIL RETENTION	RATIONAL	E: (If a	pplicabl	e) ADEQUATE INADEQUATE		]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI	ED BY NA	SA. THE	REMAININ	G ISSUES MAY	BE	WERE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4644			ASA DATA BASELINE NEW	[	]
	MECH/KBD, 4644 AND GATE						
LEAD ANALYST:	A.D. MON	GOMERY					
ASSESSMENT:							
CRITICAL: FLIGHT		REDUNDAN	CY SCREE	ns		CIL	
HDW/FUN		<b>A</b>	В	С		ITEM	1
NASA [ / IOA [ 3 /1R	] [ I	) [	<b>F</b> ]	[ [ P	]	[	] *
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* CIL RETENTION F	RATIONALE:	(If app			EQUATE EQUATE	[	]
REMARKS: AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF	D BY NASA	, THE RE	SCREPAN EMAINING	CIES	FOUND TUES MAY	HAT BE	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		4645		NASA DATA BASELINE NEW		]
	MECH/KBD/ 4645 AND GATE					
LEAD ANALYST:	A.D. MONT	GOMERY				
ASSESSMENT:						
CRITICAL FLIGH	ITY R	EDUNDAN	ICY SCREE	ens	CIL ITEM	
	NC A		В	С		
NASA [ / IOA [ 3 /1R	] [ F	) [	[	[ ] [ P ]	[	] *
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RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)		
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* CIL RETENTION	RATIONALE:	: (If ag	pplicable	e) ADEQUATE INADEQUATE	[	]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NASA FFERENCES	A. THE I	REMAINING	G ISSUES MAY	BE	WERE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4646		NASA DATA BASELINE NEW	[ ]		
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD, 4646 40 MS TII						
LEAD ANALYST:	A.D. MON	<b>IGOMERY</b>					
ASSESSMENT:							
CRITICAL FLIGH	ITY 1	REDUNDANC	CY SCREEN	rs	CIL		
HDW/FU	_	A	В	С	ITEM		
NASA [ / IOA [ 3 /1R	] [1	] [	] [ F ] [	P ]	[ ] *		
COMPARE [ N /N	] [ 1	4 ] [	N ] [	N ]	[ ]		
RECOMMENDATIONS:		fferent f	from NASA	.)			
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* CIL RETENTION	RATIONALE:	(If app	olicable)				
			I	ADEQUATE NADEQUATE	[ ]		
INADEQUATE [ ] REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS							

REPORT DATE 22 JULY 1988 C.10-456

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	-4647		NASA DATA: BASELINE NEW	[ ]
	MECH/KBD/ 4647 40 MS TII				
LEAD ANALYST:	A.D. MON	<b>IGOMERY</b>			
ASSESSMENT:					
CRITICAL: FLIGH	ITY :	REDUNDAN	CY SCREE	NS	CIL ITEM
HDW/FU		A	В	С	
NASA [ / IOA [ 3 /1R	] [	] [ P ] [	F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [	N ] [	N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	fferent	from NAS	A)	
[ /	] [	] [	1	[ ] (A)	[ ] DD/DELETE)
* CIL RETENTION	RATIONALE	: (If ap	plicable	e) ADEQUATE INADEQUATE	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NAS FFERENCES	A. THE R	ISCREPAN EMAINING	ICIES FOUND	THAT WERE NOT BE

ASSESSME ASSESSME NASA FME	NT I		2/05/ MECH/		-4648	3			ASA DATA BASELINI NEV	] 2	]	
SUBSYSTE MDAC ID: ITEM:	M:		MECH/ 4648 AMP #		/EPD	iC						
LEAD ANA	LYST	:	A.D. 1	MON	TGOME	ERY						
ASSESSME	NT:											
•		ICAL:		:	REDUN	IDANCY	SCR	EENS		CIL		
		LIGHT W/FUN		2	A	В		С		ITEM		
NASA IOA	[ 3	/ /1R	]	[	] P ]	[ [ <b>F</b>	]	[ [ P	]	[	] *	
COMPARE	[ 14	/N	1	[ ]	и ]	[ 14	]	[ 14		[	1	
RECOMMENI	DATI	ons:	(If	di	ffere	nt fro	om Ni	ASA)				
	[	/	]	[	]	[	]	[		[ DD/DI	] ELETE)	
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AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4649			ASA DATA: BASELINE NEW		]
MDAC ID:	MECH/KBD 4649 AMP #1	)/EPD&C					
LEAD ANALYST:	A.D. MON	ITGOMERY	•				
ASSESSMENT:							
CRITICAL: FLIGHT		REDUNDA	MCY S	CREENS		CIL	[
HDW/FU		A	В	С			
NASA [ / IOA [ 3 /1R	] [	P ]	[	[   [ P	]	[	] *
COMPARE [ N /N	] [	N ]	[ N ]	и] [и	]	[	]
RECOMMENDATIONS:	(If d	ifferent	from	n NASA)			
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SUBSYSTE MDAC ID:		MECH/K 4650 AND GA	•									
LEAD ANA	LYST:	A.D. M	ONT	GOMER	Y							
ASSESSME	ENT:											
	CRITICAL FLIGH		R	EDUND	ANC	Y	SCRE	ENS	S		CIL	
	HDW/FU		A			В			С		ITE	M
NASA IOA	[ / [ 3 /1R	]	] [ ] [ ] ] [ P ] [ F ] [ P ]									] *
COMPARE	[ N /N	]	[ N	]	[	N	]	[	N	]	[	]
RECOMMEN	DATIONS:	(If	dif	ferent	: f	rc	m NA	SA)	)			
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* CIL RE	TENTION 1	RATIONA:	LE:	(If a	app	li	.cable	e)				
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ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

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SUBSYSTE MDAC ID:	M:			46	CH/K 51 D GA		-		kС									
LEAD ANA	LYS	T:		<b>A.</b>	D. M	10	)T	SOME	ERY									
ASSESSME	NT:																	
							RI	EDUN	NDAN	CY	SCI	REENS	3			CIL		
			IGHT /FUI	_			A			В			С			11EM		
NASA IOA	[	3	/ /1R	]												[	] <b>*</b>	
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REMARKS: AFTER CO	MPA	RI	SON	, T	HERE		VEI	RE N	10 E	IS	CRE	PANC:	IES	FOU	JND	THAT	WERE	ИО

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	-4652	NASA DATA: BASELINE [ ] NEW [ ]								
	MECH/KBD/ 4652 4 SECOND	/EPD&C TIME DELAY	Y								
LEAD ANALYST:	A.D. MONT	<b>IGOMERY</b>									
ASSESSMENT:											
CRITICAL FLIGH		REDUNDANCY	SCREENS	CIL ITEM							
	NC A	A B	С								
NASA [ / IOA [ 3 /1R	] [	] [ P ] [ F	] [ ] ] ]	[ ] *							
COMPARE [ N /N	] [1	N ] [ N	] [N]	[ ]							
RECOMMENDATIONS:	(If di	fferent fro	om NASA)								
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* CIL RETENTION	RATIONALE	: (If appl:	icable) ADEQUATE INADEQUATE	[ ]							
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NASA FFERENCES	A, THE REM	AINING ISSUES MA	Y BE							

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:	TE:	2/05/ MECH/	88 KBD	-4	653						SA DATA BASELINI NEV		[	]	
SUBSYSTEM: MDAC ID: ITEM:		MECH/ 4653 4 SEC					ΑY								
LEAD ANALYST:		A.D.	1OM	ITG	OMER	Y									
ASSESSMENT:															
	CAL LIGH	ITY		RE	DUND	ANC	Y:	SCR	EENS	5			CIL	Ī	
		NC		A			В			С					
NASA [ IOA [ 3	/ /1R	]	[	P	]	[	F	]	[	P	]		[	] * ]	
COMPARE [ N	/N	1	[	N	]	[	N	]	[	N	]		[	]	
RECOMMENDATIO	ons:	(11	đ	if	ferer	nt i	fr	a mc	NASA	)					
ſ	/	]	[		]	[		]	[		]	(AI	[ [D\DC	] ELETE)	)
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SUBSYSTI MDAC ID ITEM:				4	ECH/ 654 MP#		D/	EPD&	iC											
LEAD AND	ALY	ST	:	A	.D.	MO	NT	GOME	ERY											
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	CR		ICAL LIGH		ľ		R	EDUN	DAN	CY	S	CREE	NS	3			CIL			
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REPORT DATE 22 JULY 1988 C.10-464

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	4655		NASA DATA: BASELINE NEW		]
	MECH/KBD/ 4655 AMP #3	EPD&C				
LEAD ANALYST:	A.D. MONT	GOMERY				
ASSESSMENT:						
	ITY R	EDUNDAN	CY SCREE	INS	CIL	Į.
FLIGH HDW/FU	NC A	<b>L</b>	В	С		
NASA [ / IOA [ 3 /1R	] [ E	] [	F ]	[ ] [ P ]	[	
COMPARE [ N /N	] [ ]	1 ] [	N ]	[ N ]	[	1
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)		
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ASSESSM ASSESSM NASA FM	ENT	'I			/88 /KBI	<b>)</b> –	4656						ASA DATA BASELINE NEW		]		
SUBSYSTI MDAC ID ITEM:				MECH, 4656 EXPL					TO:	R							
LEAD AND	ALY	ST	:	A.D.	MON	T	GOME	RY									
ASSESSMI	ENT	:															
	CR		ICAL LIGH	ITY		RI	EDUNI	AN	CY	sc	REEN	5		CIL			
	:			NC		A		В С						ITEM			
NASA IOA	[ [	3	/ /1R	]	[ [	P	]	[	F	]	[	P	]	[	] *		
COMPARE	[	N	/N	]	[	N	]	[	N	]	[	N	]	[	]		
RECOMMEN	IDA!	ΓI	ONS:	(If	đi	fí	feren	it 1	fro	o <b>m</b>	NASA)						
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* CIL RE	TE	NT]	ON I	RATION	ALE	:	(If	app	oli	.ca	ble)						
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	MP	ARI ENI	SON,	, THER ED BY	e w Nas	ER A,	E NO THE	DI RE	SC	RE	PANCI ING I	ES	FOUND T	THAT BE	WERE NOT		

ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		-4657		NASA DATA BASELINE NEW		]
	MECH/KBD, 4657 EXPLOSIVE		ATOR			
LEAD ANALYST:	A.D. MON	<b>rgomery</b>				
ASSESSMENT:						
	ITY 1	REDUNDA	NCY SCRE	ENS	CIL ITEM	Ī
FLIGH HDW/FU	NC .	A	В	С		
NASA [ / IOA [ 3 /1R	] [	] P ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[	] <b>*</b> ]
COMPARE [ N /N	] [	N ]	[ N ]	[и]	[	]
RECOMMENDATIONS:	(If di	fferent	from NA	SA)		
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* CIL RETENTION	RATIONALE	: (If a	npplicabl	.e) ADEQUATE INADEQUATE	[	]
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ASSESSME ASSESSME NASA FME	NT II			2/05/88 MECH/KBD-4658								ASA DATA BASELIN NEV		]
SUBSYSTE MDAC ID: ITEM:			MECH/ 4658 EXPLO					OI	₹					
LEAD ANA	LYST	:	A.D.	MOI	NT	GOME	RY							
ASSESSME	NT:													
	CRITICALITY REDUNDANCY SCREENS CIL FLIGHT ITEM HDW/FUNC A B C													
	HDV	V/FUI	1C		A			В			С			
NASA IOA	[ 3	/ /1R	]	[	P	]	[	F	]	[	P	]	[	] *
COMPARE	[ N	/N	]	[	N	]	[	N	]	[	N	]	[	]
RECOMMEN	DATIC	ons:	(If	đ:	ifi	fere	nt f	rc	om N	ASA)				
	[	/	]	[		]	[		]	[		] (2	[ ADD/1	] DELETE)
* CIL RE	TENTI	ON F	RATION	ALI	€:	(If	app	li	.cab	·		EQUATE	]	]

#### **REMARKS:**

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4659		NASA DATA: BASELINE NEW	[ ]		
SUBSYSTEM: MDAC ID: ITEM:	4659	ECH/KBD/EPD&C 659 XPLOSIVE INITIATOR					
LEAD ANALYST:	A.D. MON	.D. MONTGOMERY					
ASSESSMENT:							
CRITICAL FLIGH		REDUNDAN	CY SCREEN	S	CIL ITEM		
	NC	A	В	С			
NASA [ / IOA [ 3 /1R	] [	] [ P] [	] [ F ] [	p ]	[	) * ]	
COMPARE [ N /N	] [	и ] [	и][	и ]	[	]	
RECOMMENDATIONS:	(If di	fferent	from NASA	.)			
[ /	] [	] [	] [	] (A	[ DD/DE	] LETE)	
* CIL RETENTION	RATIONALI	E: (If ap	plicable) I	ADEQUATE NADEQUATE	[	]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		<b>)-4</b> 660		NASA DATA BASELINE NEW	[ ]		
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4660 AMP #2	)/EPD&C					
LEAD ANALYST: A.D. MONTGOMERY							
ASSESSMENT:							
CRITICALITY REDUNDANCY SCREENS CIL FLIGHT							
HDW/FUN		A E	3	c	ITEM		
NASA [ / IOA [ 3 /1R	] [ 1	] [ P ] [ <b>F</b>	] [	] P ]	[ ] *		
COMPARE [ N /N	] [ 1	N ] [ N	[]	<b>4</b> ]	[ ]		
RECOMMENDATIONS:	(If di	fferent fr	om NASA)				
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* CIL RETENTION R REMARKS: AFTER COMPARISON			INA	ADEQUATE ADEQUATE	[ ]		

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSME ASSESSME NASA FME	NT I		2/05 MECH	/88 :/KBI	)-4	661				1	-	SA DATA SELINE NEW	[	]	
SUBSYSTEMDAC ID:	M:		MECH 4661 AMP	•	)/E	PD&	С								
LEAD ANA	LYST	<b>?:</b>	A.D.	MOI	VTC	OME	RY								
ASSESSME	NT:														
			YTI		RI	EDUN	DAN	CY	SCR	EENS			CIL ITEN	4	
	-	LIGH W/FU			A			В			С			-	
NASA IOA	[ 3	/ 3 /1R	]	[	P	]	[ [	F	]	[	P	]	[ [	] <b>*</b> ]	
COMPARE	[ ]	1 /N	]	[	N	]	[	N	]	(	N	]	[	]	
RECOMMEN	IDAT]	cons:	(3	[f d	if	fere	nt :	fr	om N	IASA)					
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* CIL RE	TENT	rion	RATI(	ONAL	E:	(If	ap	pl	icak	ole) IN	AD AD	EQUATE EQUATE	[	]	
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AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KB	D-4662		NASA DATA BASELINE NEW	[ ]
	MECH/KB 4662 AMP #2	D/EPD&C			
LEAD ANALYST:	A.D. MOI	NTGOMERY	Z.		
ASSESSMENT:					
FLIGHT	r	REDUNDA	NCY SCRE	ENS	CIL ITEM
HDW/FU	4C	A	В	С	
NASA [ / IOA [ 3 /1R	] [	P ]	[	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [	N ]	[ N ]		[ ]
RECOMMENDATIONS:	(If di	fferent	from NAS	SA)	
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* CIL RETENTION F	RATIONALE	: (If a	pplicable	<b>2</b> )	
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AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF	ED BY NAS	A, THE	REMAINING	ISSUES MAY	BE

ASSESSMENT I ASSESSMENT I NASA FMEA #	ID:	2/05/88 MECH/KE		663				SA DATA: BASELINE NEW		]
SUBSYSTEM: MDAC ID: ITEM:		MECH/KE 4663 AMP #2								
LEAD ANALYS	T:	A.D. MC	NTG	OMERY	<u>C</u>					
ASSESSMENT:										
	TICALI		RE	DUNDA	ANCY	SCREE	NS		CIL	4
	FLIGHT DW/FUN		A		В		С			-
NASA [ IOA [	/ 3 /1R	]	[ [ <b>P</b>	]	[ [ F	]	[ [ P	1	[	] * ]
COMPARE [	n /n	1	[ N	]	[ N	]	[ 1	]	[	]
RECOMMENDAT	ions:	(If	diff	eren	t fr	om NAS	SA)			
ί	/	]	[	]	[	]	[	] (A	[ DD/D:	] ELETE)
* CIL RETEN	TION I	RATIONA	LE:	(If	appl	icable	A.	DEQUATE DEQUATE	-	]

REMARKS:

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-4664		SA DATA: ASELINE [ ] NEW [ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/EPD&C 4664 CONVERTER		
LEAD ANALYST:	A.D. MONTGOMERY	ď	
ASSESSMENT:			
CRITICAL FLIGH		ANCY SCREENS	CIL
HDW/FU		В С	ITEM
NASA [ / IOA [ 3 /1R	] [ ] ] ]	[ ] [ P ]	] [ ] *
COMPARE [ N /N	] [ N ]	[ N ] [ N ]	[ ] .
RECOMMENDATIONS:	(If different	from NASA)	
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* CIL RETENTION DEPARTMENT REMARKS:	RATIONALE: (If a	ADE	EQUATE [ ]
AFTER COMPARISON ALREADY IDENTIFII ATTRIBUTED TO DII WITHDRAWN BY IOA,	ED BY NASA, THE FFERENCES IN GRO	REMAINING ISSU	FOUND THAT WERE NOT SES MAY BE SE ISSUE IS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4665		NASA DATA: BASELINE NEW	[	]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4665 CONVERTE					
LEAD ANALYST:	A.D. MON	ITGOMERY				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDANG	CY SCREENS	S	CIL	ī
HDW/FU		A	В	С		
NASA [ / IOA [ 3 /1R	] [	P ] [	] [ F ] [	P ]	[	] <b>*</b> ]
COMPARE [ N /N	] [	N ] [	и ] [	N ]	[	]
RECOMMENDATIONS:	(If d	ifferent	from NASA	)		
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* CIL RETENTION	RATIONAL	E: (If ap		ADEQUATE NADEQUATE		]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-46	666	NASA DATA: BASELINE NEW	[ ]			
SUBSYSTEM: MDAC ID: ITEM:	4666	ECH/KBD/EPD&C 666 NVERTED AND GATE					
LEAD ANALYST:	A.D. MONTGO	MERY					
ASSESSMENT:							
CRITICAL		UNDANCY SCREE	NS	CIL			
FLIGHT HDW/FU		В	С	ITEM			
NASA [ / IOA [ 3 /1R	] [ p ]	[ ] [ F ]	[ ] [ P ]	[ ] *			
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* CIL RETENTION F			ADEQUATE INADEQUATE	[ ]			

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4667		NASA DATA: BASELINE NEW	[ ]
	MECH/KBD 4667 INVERTED		TE		
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL FLIGH		REDUNDA	NCY SCREE	INS	CIL ITEM
HDW/FU		A	В	С	
NASA [ / IOA [ 3 /1R	] [	P ]	[ ] [ F ]		[ ] *
COMPARE [ N /N	] [	и ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	ifferent	from NAS	SA)	
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* CIL RETENTION	RATIONAL	E: (If a	applicable	e) ADEQUATE INADEQUATE	
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NA	SA. THE	REMAINING	ISSUES MAY	BE

ASSESSME ASSESSME NASA FME	ENT	I		2/05/ MECH/	88 KB	D-4	4668						ASA DATA BASELINE NEW	-	]	
SUBSYSTE MDAC ID:				4668	MECH/KBD/EPD&C 1668 CAPACITOR BANK											
LEAD ANA	LYS	ST	:	A.D. 1	MO	NTO	GOMER'	Y								
ASSESSME	ENT:	:														
	CR		ICAL:	ΙΤΥ		RI	EDUND	AN	CY	SCRE	ENS	S		CIL	-	
	I			4C		A			В			С		ITEN	1	
NASA IOA	]	3	/ /1R	]	[	P	]	[	F	]	]	P	]	[	] * ]	
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RECOMMEN	[AD	ric	ONS:	(If	d:	if1	ferent	t 1	fro	om NA	SA)	)				
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* CIL RE		T]	ON F	RATION	ALI	Ξ:	(If a	app	<b>91</b> i	cabl	•	1A 1Al	EQUATE	[	]	
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ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		-4669		NASA DATA BASELINE NEW		]
	MECH/KBD/ 4669 CAPACITOR					
LEAD ANALYST:	A.D. MONT	GOMERY				
ASSESSMENT:						
	JITY I	REDUNDAN	CY SCRE	ENS	CIL ITE	
FLIGH HDW/FU	INC A	Ą	В	С	212.	•
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COMPARE [ N /N	] [1	4 ] [	N ]	[ N ]	[	]
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* CIL RETENTION	RATIONALE	: (If ap	plicabl	e) ADEQUATE INADEQUATE		]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-	4670		NASA D BASEL		]	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD/ 4670 AND GATE						
LEAD ANALYST:	A.D. MONT	GOMERY					
ASSESSMENT:							
CRITICAL: FLIGHT		EDUNDANG	CY SCREE	ens	CIL ITE	ď	
HDW/FU	<del>_</del>		В	С	116	4	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		-4671			NASA DATA BASELINE NEW		]			
	MECH/KBI 4671 AND GATE									
LEAD ANALYST:	A.D. MON	NTGOMERY	Ž.							
ASSESSMENT:	SSESSMENT:									
CRITICAL FLIGH	ITY	REDUNDA	ANCY	SCREEN	'S	CIL ITEM	1			
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* CIL RETENTION	RATIONAL	E: (If	appli		ADEQUATE NADEQUATE		]			
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.										

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-		NASA D BASEL			
	MECH/KBD/ 4672 AMP	EPD&C				
LEAD ANALYST:	A.D. MONT	GOMERY				
ASSESSMENT:						
CRITICALI FLIGHT		EDUNDAN	CY SCRE	ENS	CIL	
HDW/FUN		•	В	С	ITEM	
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* CIL RETENTION R	RATIONALE:	(If ap	plicabl	e) ADEQUAT INADEQUAT		
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SUBSYST MDAC ID ITEM:				MECH 4673 AMP	I/KBD/E	PD&	С							
LEAD AN	ALY	ST	:	A.D.	MONTO	OME	RY							
ASSESSM	ENT	:												
	CR		ICAI LIGH		RE	EDUN	DANCY	SCF	REENS			CIL		
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* CIL I	RETE	NТ	ION	RATI	ONALE:	(If	appl	ical	ble) IN	ADEQUA'	re re	[	]	
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LEAD ANA	LYS	T:	: A.D. MONTGOMERY													
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CRITICALITY REDUNDANCY SCREENS FLIGHT									CI IT							
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SUBSYSTEM MDAC ID:	M:			46	ECH/KBD/EPD&C 675 EST LOGIC .D. MONTGOMERY														
LEAD ANA	LYS	T:	;	Α.	D. M	ON	TG	OMER	Υ										
ASSESSME	NT:	;																	
	CRI		CAL				RE	DUNI	OAN	CY	SCR	EEN	S			CIL [TEM	Į.		
	ŀ		LIGH W/FU		A								С						
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* CIL RE	ETE:	NT	ION	RAT	CION	ALI	€:	(If	ap	pl	ical	ole)	A NA	DEQUATE		[	]		
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LEAD ANA	LYS	T:		A.	<b>D.</b> 1	MO	NT	GOME	ERY									
ASSESSME	NT:																	
		FL	CALI		7			EDUN	IDAN(	CY	s	CREEN	s			CIL ITEN	ſ	
	Н	DW	/FUN	IC			A			В			С					
NASA IOA	[	3	/ /1R	]		[	P	]	[ [	F	]	[	P	]		[	] * ]	
COMPARE	[ ]	N	/N	]		[	N	]	[	N	]	[	N	3		[	]	
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AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	2: 2/05/88 MECH/KB	SD-4677		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KE 4677 CONVERT				
LEAD ANALYST:	A.D. MC	NTGOMERY			
ASSESSMENT:					
CRITIC: FLIC	ALITY	REDUNDA	NCY SCREE	ens	CIL ITEM
	FUNC	A	В	С	
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* CIL RETENTIO	N RATIONA	LE: (If a	applicable	e) ADEQUATE INADEQUATE	[ ]
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ASSESSMENT DAY ASSESSMENT ID NASA FMEA #:	E: 2/05/8: MECH/K	8 BD-4678		NASA DATA BASELINE NEW	[	]
SUBSYSTEM: MDAC ID: ITEM:	4678	BD/EPD&C ED AND GAT				
LEAD ANALYST:	A.D. MO	ONTGOMERY				
ASSESSMENT:						
CRITIC FL	NS	CIL ITEN				
	FUNC	A	В	С	TIEF	1
NASA [ / IOA [ 3 /	] [ 1R ] [	[ ]   [ P ]	[	[ ] [ P ]	[	] *
COMPARE [ N /	4 ] [	[и]	[ N ]	[ N ]	[	]
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WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	-4679		NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4679 INVERTED				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
		REDUNDA	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU	NC	A	В	С	
NASA [ / IOA [ 3 /1R	] [	P ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ ] *
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* CIL RETENTION	RATIONAL	E: (If a	applicable	adequate inadequate	[ ]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KB	D-4680		NASA DATA BASELINE NEW	[ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4680 CAPACITO				
LEAD ANALYST:	A.D. MOI	NTGOMERY			
ASSESSMENT:					
CRITICAL: FLIGHT	S	CIL			
HDW/FU		A	В	С	ITEM
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COMPARE [ N /N	] [	<b>n</b> ] [	<b>N</b> ] [	N ]	[ ]
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[ /	] [	] [	] [		[ ] DD/DELETE)
* CIL RETENTION F	RATIONALE	: (If app	plicable)		
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AFTER COMPARISON, ALREADY IDENTIFIE	D BY NAS	ERE NO DI	SCREPANCI	ES FOUND T	CHAT WERE NOT BE

ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-4	681	NASA DATA: BASELINE NEW	[	]				
	4681	APACITOR BANK							
LEAD ANALYST:	A.D. MONTO	SOMERY							
ASSESSMENT:									
	ITY RI	EDUNDANC	Y SCREEN	S	CIL ITEM				
FLIGH HDW/FU			В	С					
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COMPARE [ N /N	] [ N	] [	и ] [	N ]	[	]			
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* CIL RETENTION	RATIONALE:	(If app	olicable) I	ADEQUATE NADEQUATE	[	]			
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ASSESSMEI ASSESSMEI NASA FME	NT ID:	2/05/88 MECH/KE			NASA DATI BASELINI NEV	
SUBSYSTEM MDAC ID:	M:	MECH/KE 4682 AND GAT	,			
LEAD ANA	LYST:	A.D. MC	NTGOME	RY		
ASSESSMEN	NT:					
C	CRITICALI FLIGHT	ľ	REDUNI	DANCY SCR	EENS	CIL ITEM
	HDW/FUN	1C	A	В	С	
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AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		) <b>-</b> 4683		NASA DATA: BASELINE NEW		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBI 4683 AND GATI					
LEAD ANALYST:	A.D. MOI	NTGOMERY				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDA	NCY SCREE	ins	CIL ITEN	1
	NC	A	В	С		
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* CIL RETENTION	RATIONAL	E: (If&a	12808Happ	licable) ADEQUATE INADEQUATE		]
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SUBSYSTEM: MDAC ID: ITEM:		MECH/KI 4684 AMP	BD/E	PD&C								
LEAD ANALYS	ST:	A.D. M	ONTG	OMERY	•							
ASSESSMENT:	:											
CRI	TICALI FLIGHT	TY r	RE	DUNDA	NCY	SCREE	NS			CIL	r	
H	IDW/FU		A		В		C	2		IIEP.		
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* CIL RETEN	TION F	RATIONAI	LE:	(If a	ppli		A	DEQUAT		[	]	
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SUBSYSTE MDAC ID:				MECH 4685 AMP	/KBD/E	PD&C								
LEAD ANA	LYS	<b>T:</b>		A.D.	MONTG	OMER	Y							
ASSESSME	ENT:	3												
	CRI				RE	DUND	ANCY	SCR	EENS	}		CIL		
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD	) <b>-</b> 4686		NASA DATA BASELINI NEV	3 [ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/KBD 4686 TEST LOG				
LEAD ANALYST:	A.D. MON	TGOMERY			
ASSESSMENT:					
CRITICAL: FLIGHT		REDUNDAN	CY SCREI	ens	CIL
HDW/FUI		À	В	С	IIEM
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AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/05/88 MECH/KBD-468	7	NASA DATA: BASELINE NEW		]				
	MECH/KBD/EPD 4687 TEST LOGIC								
LEAD ANALYST:	A.D. MONTGOM	ERY							
ASSESSMENT:									
CRITICAL: FLIGH		NDANCY SCREEN	NS .	CIL	ſ				
HDW/FU		В	С						
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SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD 5103 CENTERLI		KHEAU	) LATCH	MOTOR CLU	тсн			
LEAD ANALYST:	J. BACHE	R							
ASSESSMENT:									
CRITICAL FLIGH		REDUNI	ANCY	SCREEN	S	CIL	vr		
HDW/FU		A	В		С	1111	••		
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SUBSYSTEM MDAC ID:				511	CH/PBD L6 NTERLINE	E/BUI	KHEA	D OI	PEN L	IMIT S	WIT	СН		
LEAD ANA	LYS	ST:	:	J.	BACHER									
ASSESSME	NT:	:												
	CR.		[CAL LIGH		RI	EDUNI	DANCY	SCI	REENS			CIL		
	Ī			NC	A		В	,		С				
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SUBSYSTEM MDAC ID:	<b>1:</b>		5117	ECH/PBD 117 ENTERLINE/BULKHEAD OPEN LIMIT SWITC								тсн			
LEAD ANAI	LYST	•	J. BA	. BACHER											
ASSESSMEN	NT:														
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RECOMMENI	OATIO	ons:	(If	d:	ifi	feren	ıt f	fro	om 1	NASA	)				
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* CIL RET	TENT]	ON F	RATION	ALI	₹:	(If	app	oli	cal	•		DEQUATE DEQUATE	-	]	

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT D ASSESSMENT I NASA FMEA #:	ATE: D:	2/17/8 MECH/P	8 BD-5	118			SA DAT ASELII NI	NE	<b>(</b> (	]	
SUBSYSTEM: MDAC ID: ITEM:		MECH/P 5118 CENTER		/BULI	KHEAI	cLos	ED I	TIMIL:	swi	тсн	
LEAD ANALYST	<b>!:</b>	J. BAC	HER								
ASSESSMENT:											
	ICAL		RE	DUND	ANCY	SCREE	NS			CIL ITEM	ī
_	FLIGH' OW/FU	NC L	A		В		С				
NASA [ IOA [	/ 3	]	[	]	[	]	[	]		[	] <b>*</b>
COMPARE [ ]	и /и	]	[	]	[	1	[	1		[	]
RECOMMENDAT:	ions:	(If	dif	feren	t fr	om NAS	SA)				
τ	/	]	[	]	[	]	[	)	(AI	[     	] ELETE)
* CIL RETEN	TION	RATION	ALE:	(If	appl	icable	А	DEQUAT DEQUAT	re re	[	]
REMARKS: THE ISSUE A FMEA/CIL IN ISSUE IS WI	TERPF	RETATIO	N AN	D IME	LEME	BETWE!	en t on o	HE NAS F NSTS	SA 2	AND 2206	IOA . THE

ASSESSMENT ASSESSMENT NASA FMEA	ID:		BD-5141		NASA DATA BASELINE NEW	[	]
SUBSYSTEM: MDAC ID: ITEM:		MECH/PE 5141 BULKHEA		R ASSEMBL	Y		
LEAD ANALYS	ST:	J. BACH	ER				
ASSESSMENT	:						
CR	TICALI FLIGHT		REDUNDA	NCY SCRE	ENS	CIL ITEM	r
I	HDW/FUN		A	В	С	1154	·
NASA [ IOA [	3 /3	] [	]	[ ]		[ {	] <b>*</b>
COMPARE [	N /N	] (	1	[ ]	[ ]	C	]
RECOMMENDAT	rions:	(If d	ifferent	from NA	SA)		
[	/	] [	1	[ ]	[ ]	( DD/DE	
* CIL RETEN	TION F	RATIONAL	E: (If a	pplicable	e) ADEQUATE INADEQUATE		]
THE ISSUE A	ITERPRE	TATION .	AND IMPL	ES BETWEI EMENTATIO	EN THE NASA A	AND IO 2206.	OA THE

ASSESSME ASSESSME NASA FME	TN	ID	TE:	2/1 MEC	.7/88 :H/PBD	-5142			1	NASA D BASEI		[	]	
SUBSYSTE MDAC ID:				514	CH/PBD 2 LKHEAD		clos	ED S	WITC	н				
LEAD ANA	\LYS	T:		J.	BACHE	R								
ASSESSMI	ENT:	:												
	CRI		CAL			REDUN	IDANCY	SCR	EENS			CIL		
	I		JIGH I/FU			A	E	3		С				
NASA IOA	[	3	/	]	[ [	]	[ [	]	[	]		[	]	*
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* CIL R	ETE	NT:	ION	RAT	IONAL	E: (I:	f app	lical		ADEQU IADEQU	ATE ATE	[	]	
REMARKS THE ISS FMEA/CI ISSUE I	UE L I	NT:	ERPF	RETA	TION A	AND I	MPLEM	BETI ENTA	WEEN	THE N	ASA	AND	IO	A THE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD-	-5143		NASA DATA BASELINE NEW	-
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD 5143 BULKHEAD	DOOR CL	OSED SWI	тсн	
LEAD ANALYST:	J. BACHER	t			
ASSESSMENT:					
CRITICAL: FLIGHT	_	EDUNDAN	CY SCREE	NS	CIL
HDW/FUI	_	•	В	С	ITEM
NASA [ / IOA [ 2 /1R	] [ P	] [	P ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [ N	. ] [	N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If dif	ferent :	from NAS	A)	
[ /	] [	] [	]		[ ] DD/DELETE)
* CIL RETENTION F	RATIONALE:	(If app	plicable		
REMARKS:			:	ADEQUATE INADEQUATE	[ ]
AFTER COMPARISON, ALREADY IDENTIFIE	THERE WE	RE NO DI	SCREPANG	CIES FOUND 1	THAT WERE NOT BE

ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

WITHDRAWN BY IOA/MDAC.

ASSESSMENT ASSESSMENT NASA FMEA	II					NASA DATA BASELINE NEV		]			
SUBSYSTEM: MDAC ID: ITEM:			MECH/F 5144 BULKHE		READY:	-TO-1	LATCH	sw	ITCH MODU	JLE	
LEAD ANALY	ST	:	J. BAC	HER							
ASSESSMENT	:										
CRITICALITY REDUNDANCY SCREENS FLIGHT										CIL	
			NC	A		В			С	110.	•
NASA [ IOA [	3	/ /3	]	[	]	[	]	[	]	[ [	] * ]
COMPARE [	N	/N	]	[	]	[	]	[	]	[	]
RECOMMENDA	TI	ons:	(If	dif	feren	t fr	om NAS	SA)			
ſ		/	]	[	]	[	]	[	] (2	[ ADD/D	] ELETE)
* CIL RETE	NT:	ION	RATIOAI	LE:	(If	appl	icable		ADEQUATE ADEQUATE	-	]
REMARKS: THE ISSUE FMEA/CIL I ISSUE IS W	NT.	ERPR	ETATION	NAN!	D IMP						

ASSESSMENT ASSESSMENT NASA FMEA	l I				5148			ASA DATA BASELINE NEW	-		
SUBSYSTEM: MDAC ID: ITEM:	:		MECH/F 5148 PAYLOA		СН						
LEAD ANALY	(ST:	:	J. BAC	HER							
ASSESSMENT	C:										
CRITICALITY REDUNDANCY SCREENS FLIGHT										CIL	
			1C	A		В		С		1111	1
NASA [	3	/	]	[	]	[	]	[	]	[	] <b>*</b>
COMPARE [	N	/N	]	[	]	[	]	[	]	[	]
RECOMMENDA	ATIC	ons:	(If	diff	eren	t fro	om NAS	A)			
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* CIL RETE	ENT	ION 1	RATIONA	LE:	(If	appl			DEQUATE DEQUATE	[ [	]
REMARKS: THE ISSUE FMEA/CIL I ISSUE IS V	ENTI	ERPR	ETATION	I ANI	) IMP		BETWEE	N T	HE NASA	AND :	IOA

ASSESSMENT DATE: 2/17/88 ASSESSMENT ID: MECH/PBD-5160 NASA FMEA #:									ì	NASA I BASEI		[	]	
SUBSYSTEM MDAC ID:				516	CH/PB 60 YLOAD		DOOR	DRIV	E SUP	PORT :	BEARI	NG .	ASSEM	IBLY
LEAD ANA	LYS	ST:	:	J.	BACH	ER								
ASSESSME	ит:	:												
CRITICALITY REDUNDANCY SCRE FLIGHT												CIL		
	I			INC		A		В						
NASA IOA	[ [	1	/1	]	<u>[</u>	]	( (	]	[ [	]		[	] * ]	
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RECOMMEN	IDA'	TI	ons:	:	(If d	liffe	rent	from	NASA)					
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* CIL RE	ETE.	ΝT	ION	RAT	IANOI	LE: (	If ap	plica		ADEQU ADEQU		-	]	
REMARKS: AFTER CO ALREADY ATTRIBUT WITHDRAW	OMP ID TED	EN T	TIF:	IED IFFE	BY NA RENCI	ASA.	THE F	REMAIN	IING I	SSUES	MAX	DL		E NOT

ASSESSM ASSESSM NASA FM	ENT	I		2/17/ MECH/	88 PBD-	5170				ASA DAT BASELIN NE		]
SUBSYST MDAC ID ITEM:				MECH/1 5170 PAYLO		AY DO	oor o	PEN L	IMIT	SWITCH		
LEAD AN	ALY	ST	:	J. BA	CHER							
ASSESSM	ENT	:										
	CR		ICAL: LIGH	ITY F	R	EDUNI	DANCY	SCRE	ENS		CIL ITE	
	1	HD	W/FU	NC	A		В		С			•
NASA IOA	[	3	/3	]	[	]	[ [	]	[	]	[	] *
COMPARE	[	N	/N	]	[	]	[	]	[	]	[	]
RECOMME	NDA'	ric	ons:	(If	dif	ferer	nt fr	om NA	SA)			
	[		/	]	[	]	[	]	[	] (.	[ ADD/DI	] ELETE)
RATIONALŒEL RI		T]	ON			(If	appl	icable	A	DEQUATE DEQUATE		]
REMARKS: THE ISSU FMEA/CII ISSUE IS	JE A	VTE	ERPRI	<b>IOITAT</b>	I ANI	O IMP	LEME	BETWEI NTATIO	en ti	HE NASA	AND 1	OA THE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD	-5171		NASA DATA: BASELINE NEW	[ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD 5171 PAYLOAD		OPEN LI	MIT SWITCH	
LEAD ANALYST:	J. BACH	:R			
ASSESSMENT:					
CRITICAL	ITY	REDUNDAN	CY SCREE	ns	CIL ITEM
FLIGH HDW/FU	nc nc	A	В	С	
NASA [ / IOA [ 3 /2R	] [	] [ P ] [	p ]	[ ] [ q ]	[ ] *
COMPARE [ N /N	] [	и] [	и ]	[ N ]	[ ]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
		] [		r )	[ ] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ag	oplicable	e) ADEQUATE INADEQUATE	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIF ATTRIBUTED TO D WITHDRAWN BY IO	IED BY NA IFFERENCE	SA THE	CULTATION	G 100000	

ASSESSM ASSESSM NASA FM	ENT	'I	D:		/17/88 ECH/PB		DATA ELINE NEW	[	]					
SUBSYSTEMDAC ID				51	CH/PB 72 YLOAD		DOOR	88 D	EGREE	S LII	MIT ST	#IT	СН	
LEAD AND	ALY	ST	:	J.	BACH	ER								
ASSESSMI	ENT	:												
	CR		ICA: LIGI	LITY HT		REDU	INDANC	CY SCI	REENS			CII		
	]			JNC			ITEM							
NASA IOA	[	3	/ /3	]	] [	]	[	]	[	]		[	]	*
COMPARE	(	N	/N	]	[	]	(	]	[	]		[	]	
RECOMMEN	DA'	ric	ons:		(If di	ffer	ent f	rom N	(ASA)					
	[		/	]	[	]	[	]	[	]	(AD	[ D/E	) DELE	TE)
* CIL RE	TEN	T	ГОИ	RAT:	IONALE	: (I	f app	licab	A	DEQU DEQU	ATE ATE	]	]	
THE ISSU FMEA/CIL	TV	LL	KPK	LTA.	LTON Y	ND II	MPLEM	BETW ENTAT	EEN T	HE N F NS	ASA A	ND 206	IOA	THE

ASSESSMENT DATE: 2/17/88 ASSESSMENT ID: MECH/PBD-5173 NASA FMEA #:										NASA DA BASELI		[	-	
SUBSYSTE MDAC ID: ITEM:				5173	H/PBD B LOAD B	r sv	VIT(	ЭН						
LEAD ANA	LYS	ST	:	J. 1	BACHER									
ASSESSME	NT	:												
CRITICALITY REDUNDANCY SCREENS FLIGHT												CII		
	]			NC	A		В	·		С		111	111	
NASA IOA	]	3	/3	]	[	]	[ [	]	[ [	]		[	]	*
COMPARE	[	N	/N	]	[	]	[	]	[	]		[	]	
RECOMMEN	DA'	TI	ons:	(	If dif	fere	ent fr	om 1	NASA)					
	(		/	]	[	]	[	]	[	3	(Al	[ DD/I	] DELE	TE)
* CIL RE	TE	NT:	ION	RATI	ONALE:	(II	f appl	icak		ADEQUA'				
REMARKS: THE ISSU FMEA/CII ISSUE IS	E.	NT:	ERPF	ETAT	ION AN	D II	<b>IPLEME</b>	BETV NTA	VEEN FION	THE NA	SA Z	AND 220	IOA 5.	THE

ASSESSME ASSESSME NASA FME	NT I		2/17/ MECH/		A: E [ V [	]					
SUBSYSTE MDAC ID:			MECH/ 5174 PAYLO								
LEAD ANA	LYST	:	J. BA	CHER							
ASSESSME	NT:										
3										CIL	ď
		LIGH' W/FU		A		В		С		LTE	1
NASA IOA	[ [ 1	/1	]	[	]	[	]	[	]	[	] *
COMPARE	[ N	/N	]	[	]	[	]	[	]	[	1
RECOMMEN	DATI	ons:	(If	dif	feren	t fr	om NA	SA)			
	[	/	]	[	3	[	]	[	] (2	[ ADD/DI	] ELETE)
* CIL RE	TENT	ION :	RATION	ALE:	(If	appl:	icabl	A	DEQUATE DEQUATE	[	]

#### REMARKS:

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD	-5175			BASELINE NEW		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD 5175 PAYLOAD						
LEAD ANALYST:	J. BACHE	ER					
ASSESSMENT:							
CRITICAL FLIGH		REDUNDA	NCY	SCREEN	is .	CIL ITEM	
HDW/FU		A	В		С		
NASA [ / IOA [ 1 /1	] [	]	[	] [	]	[	] *
COMPARE [ N /N	] [	]	[	]	]	[	]
RECOMMENDATIONS:	(If d	ifferen	t fr	om NAS	A)		
		1			r 1	[ ADD/D	] ELETE)
* CIL RETENTION	RATIONAL	E: (If	appl		) ADEQUATE INADEQUATE		]
REMARKS: AFTER COMPARISON ALREADY IDENTIF ATTRIBUTED TO D WITHDRAWN BY IO	IED BY NA IFFERENCE	WERE NO ASA, THE ES IN GR	DIS REM OUNI	CREPAN MAINING RULES	CIES FOUND ISSUES MA . THE ISS	THAT Y BE UE IS	WERE NOT

ASSESSMI ASSESSMI NASA FMI	ENT	'I	ATE: D:	2/ ME	2/17/88 MECH/PBD-5177								ì	NASA [ BASEI	INE		]		
SUBSYSTI MDAC ID: ITEM:				ME 51 PA	77			AY C	OOR	: <b>A</b> :	LIG	NME	1T	ROLLE	R G	UIDE	:		
LEAD ANA	ALY	ST	:	J.	BAC	HE	ER												
ASSESSME	ENT	:																	
		F)	ICAL LIGH	T			RI	EDUN	DAN	CY	SCI	REEN	ıs			CIL			
	]	HDI	/FU	NC			A			В			С				4.1		
NASA IOA	]	3	/ /1R	]		[ [	P	]	[	N.A	]	[	P	]		[	]	*	
COMPARE	[	N	/N	]		[	N	]	[	N	]	[	N	]		[	]		
RECOMMEN	'DA'I	CIC	NS:	(	If (	di	ff	ere	nt i	fro	m N	IASA	)						
	[		/	]		[		]	[		]	[		]	(AD	[ D/DI	] ELE	TE)	
* CIL RE	TEN	ΙΤΙ	ON I	TAS	ONA	LE	:	(If	app	oli	cab	le)						·	
REMARKS:												I	NAI	DEQUAT DEQUAT	E		]		
AFTER COL ALREADY : ATTRIBUTE WITHDRAW	ED	TO	DIF	FER	ENCE		4	. J. H. H		M A	TMT	XI/~	T ~ ~	77777A			WE	RE	NOT

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD-	5178			A DATA: SELINE NEW		]				
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD 5178 PAYLOAD B	5178 PAYLOAD BAY DOOR PASSIVE STOP									
LEAD ANALYST:	J. BACHER	Į.									
ASSESSMENT:											
CRITICAL FLIGH	ITY R	EDUNDA	NCY SCRI	EENS		CIL	<i>r</i>				
HDW/FU	· <del>-</del>	<b>.</b>	В	С		TIE	1				
NASA [ / IOA [ 3 /3	] [	]	[ ] [ ]	[ ]		[	] * ]				
COMPARE [ N /N	] [	]	[ ]	[ ]		[	]				
RECOMMENDATIONS:	(If dif	ferent	from NA	ASA)							
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* CIL RETENTION	RATIONALE:	(If a	pplicabl	•	QUATE QUATE	[	]				
REMARKS: THE ISSUE AROSE FMEA/CIL INTERPR ISSUE IS WITHDRA	ETATION AN	D IMPL		EN THE	NASA A	ND ]	OA				

REPORT DATE 22 JULY 1988 C.10-515

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/PBD	D-5501	BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD 5501 CONTROL	)/EPD&C BUS 1.2K RESISTO	OR .	
LEAD ANALYST:	J. BACHE	R		
ASSESSMENT:				
CRITICAL FLIGH		REDUNDANCY SCREE	ens	CIL ITEM
		<b>В</b>	С	
NASA [ / IOA [ 2 /1R	] [	P ] [ F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [	N ] [N]	[ N ]	[ ]
RECOMMENDATIONS:	(If di	ifferent from NA	SA)	
[ /	] [	] [ ]	[ ]	[ ] ADD/DELETE)
* CIL RETENTION	RATIONALE	E: (If applicable	e) ADEQUATE INADEQUATE	
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI	ED BY NAS	SA, THE REMAINING	NCIES FOUND G ISSUES MAY	THAT WERE NOT

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD-	-5503	1	NASA DATA: BASELINE NEW	[ ]	
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD, 5503 CONTROL	/EPD&C BUS 1.2K I	RESISTOR			
LEAD ANALYST:	J. BACHE	R				
ASSESSMENT:						
		REDUNDANC	Y SCREENS	}	CIL ITEM	
FLIGH HDW/FU		A	В	С		
NASA [ / IOA [ 2 /1R	] [	p ] [	] [ F ] [	P ]	[	] <b>*</b> ]
COMPARE [ N /N	] [	и][	и] [	N ]	[	]
RECOMMENDATIONS:	(If di	fferent f	rom NASA)	)		
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* CIL RETENTION	RATIONALI	E: (If app		ADEQUATE NADEQUATE	<b>[</b>	]
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBI	D <b>-</b> 5506		NASA DATA BASELINE NEW	=
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBI 5506 PAYLOAD		MECHANIC	CAL POWER ST	WITCH
LEAD ANALYST:	J. BACHE	ER			
ASSESSMENT:					
CRITICALI FLIGHT		REDUNDANC	CY SCREEN	'S	CIL
HDW/FUN		A	В	С	ITEM
NASA [ / IOA [ 2 /1R	] [	P ] [	P ] [	P ]	[ ] *
COMPARE [ N /N	] [	и ] [	N ] [	и ]	[ ]
RECOMMENDATIONS:	(If di	fferent f	rom NASA	)	
[ /	] [	] [	] [	] (AD	[ ] DD/DELETE)
* CIL RETENTION R	ATIONALE	: (If app	licable)		
REMARKS:			I	ADEQUATE NADEQUATE	[ ]
AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF WITHDRAWN BY IOA/	D BY NAS. FERENCES	A. THE RE	MATNTNG '	ISSHES MAV	DE

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SUBSYSTEMDAC ID				MEC 550 DIO		EPD&(	3							
LEAD AND	ALYS	ST	:	J.	BACHER									
ASSESSM	ENT	:												
	CR		ICAI LIGH		R	EDUNI	DANCY	SCF	REENS			CIL		
	1			INC	A		В	i	ı	С		111	M	
NASA IOA	[	3	/	]	[	]	[	]	[	]		[	]	*
COMPARE	[	N	/N	]	[	3	[	]	[	]		[	]	
RECOMME	NDA'	TI	SNC:	: (	If dif	fere	nt fr	om 1	IASA)					
	[		/	]	[	]	[	]	[	]	(AI	[ D/D	) ELE	TE)
* CIL R		NT:	ION	RATI	ONALE:	(If	appl	icak		ADEQUAT ADEQUAT	E E	[	]	
REMARKS THE ISS FMEA/CI ISSUE I	UE . L I	NT:	ERPI	RETAT	ION AN	D IM	PLEME							THE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	MECH/PBD	-5510				SA DATA BASELINE NEW	[	]
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD, 5510 DIODE	/EPD&C						
LEAD ANALYST:	J. BACHE	R						
ASSESSMENT:								
CRITICAL		REDUND	ANCY	SCREE	NS		CIL	•
FLIGHT HDW/FUI		A	В		С		ITEN	1
NASA [ / IOA [ 3 /3	] [	]	[	]	[	]	[	] *
COMPARE [ N /N	] [	1	C	1	[	]	[	]
RECOMMENDATIONS:	(If di	fferen	t fro	om NAS	A)			
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* CIL RETENTION 1	RATIONALE	: (If	appli		AL	EQUATE EQUATE		]
REMARKS: THE ISSUE AROSE I FMEA/CIL INTERPRI ISSUE IS WITHDRAY	ETATION A	ND IMP						

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD	-5511		BASELINE NEW	[ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD 5511 SWITCH R	/EPD&C ESISTOR,	1.2K 2W		
LEAD ANALYST:	J. BACHE	:R			
ASSESSMENT:					
		REDUNDANC	Y SCREEN	<b>1</b> S	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ / IOA [ 2 /1R	] [	p ] [	] F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N				( N )	[ ]
RECOMMENDATIONS:	(If d	ifferent i	from NAS	A)	
		] [	]	[ ]	[ ] DD/DELETE)
* CIL RETENTION	RATIONAL	E: (If ap	plicable	ADEQUATE	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIF ATTRIBUTED TO DOMINITHERAWN BY IO.	IED BY NA IFFERENCE	WERE NO D SA, THE R S IN GROU	ISCREPAN EMAINING ND RULES	ICIES FOUND S ISSUES MAY S. THE ISSU	THAT WERE NOT BE JE IS

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SUBSYST MDAC ID ITEM:	EM:			551				1.2K	2 <b>W</b>				
LEAD AN	ALY	SI	<b>':</b>	J.	BACHER	t							
ASSESSM	ENT	:											
	CR	IT F	ICA	LITY HT	R	EDUN	DANC'	y scr	REENS		CI		
				UNC	A	•	]	В	(	С	IT	EM	
NASA IOA	[	3	/ /3	]	[	]	[	]	[	]	[	] *	
COMPARE	[	N	/N	]	ĺ	]	[	]	[	]	[	]	
RECOMME	NDA'	ΤΙ	ONS	: (:	If dif	fere	nt fi	om N	'ASA)				
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* CIL RI	ETEI	T.	ION	RATIO	NALE:	(If	appl	icab	_				
REMARKS:	ľ								INA	DEQUATE DEQUATE	; [	]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD	) <b>-</b> 5513		NASA DATA: BASELINE NEW	[	] ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBI 5513 SWITCH I	O/EPD&C RESISTOR,	1.2K 2W			
LEAD ANALYST:	J. BACHI	ER				
ASSESSMENT:						
CRITICAL FLIGH		REDUNDANG	CY SCREEN	IS	CIL ITEM	Ī
HDW/FU	NC	A	В	С		
NASA [ / IOA [ 2 /1R	] [	] [ P ] [	]   F ]	[ ] [ P ]	[	] <b>*</b> ]
COMPARE [ N /N	] [	N ] [	N ]	[и]	(	]
RECOMMENDATIONS:	(If d	ifferent	from NAS	A)		
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* CIL RETENTION	RATIONAL	E: (If ap	plicable	) ADEQUATE INADEQUATE	[	]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY ION	[ED BY NA [FFERENCE	SA. THE R	EMAINING	1220F2 MVI	. pr	WERE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD-55	14	NASA DATA BASELINE NEW	[ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD/EP 5514 PAYLOAD BAY	D&C DOORS AC BUS	S RELAY	
LEAD ANALYST:	J. BACHER			
ASSESSMENT:				
CRITICAL: FLIGHT	r	UNDANCY SCREE	ens	CIL ITEM
HDW/FU	NC A	В	С	
NASA [ / IOA [ 2 /1R	] [ ]]	[ ] [ F ]	[ ] [ P ]	[ ] *
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RECOMMENDATIONS:	(If differ	cent from NAS	A)	
[ /	] [ ]	[ ]		[ ] DD/DELETE)
* CIL RETENTION F	ATIONALE: ()	[f applicable	)	
REMARKS:			ADEQUATE INADEQUATE	
AFTER COMPARISON, ALREADY IDENTIFIE	THERE WERE	NO DISCREPANC	CIES FOUND T	THAT WERE NOT BE

ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD-5515	NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD/EPD&C 5515 PAYLOAD BAY DOORS AC BUS	RELAY	
LEAD ANALYST:	J. BACHER		
ASSESSMENT:			
CRITICAL		NS	CIL ITEM
FLIGH HDW/FU		С	
NASA [ / IOA [ 2 /1F	] [ ] [ ] R ] [ P ] [ F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [N] [N]	[ N ]	[ ]
RECOMMENDATIONS	: (If different from NAS	SA)	
	] [ ] [ ]	r 1	[ ] DD/DELETE)
* CIL RETENTION	RATIONALE: (If applicable	a) ADEQUATE INADEQUATE	[ ]
	N, THERE WERE NO DISCREPANIED BY NASA, THE REMAINING IFFERENCES IN GROUND RULES		

WITHDRAWN BY IOA/MDAC.

ASSESSMENT I ASSESSMENT I NASA FMEA #:	D:	2/17/ MECH/	88 PBD-	·5516				NASA DAT BASELIN NE		]	
SUBSYSTEM: MDAC ID: ITEM:		MECH/1 5516 MCA AG				cui	BREAK	ER			
LEAD ANALYST	<b>':</b>	J. BAG	CHER								
ASSESSMENT:											
CRIT F	ICALI LIGHT	TY	R	EDUND	ANC	CY S	CREENS		CII ITE		
HD	W/FUN	C	A			В	(	C	ITE	M	
NASA [ IOA [ 2	/ /1R	]	[ [ P	]	[	] N <b>A</b> ]	[ ]	P ]	[	]	*
COMPARE [ N	/N	]	[ N	]	[	N ]	[ ]	1]	[	]	
RECOMMENDATIO	ons:	(If	difi	feren	t f	rom	NASA)				
[	/	]	[	]	[	]	[		[ ADD/D:	] ELE	TE)
* CIL RETENT	ON R	ATIONA	LE:	(If a	app	lic	able)				
REMARKS:							A INA	DEQUATE DEQUATE		]	
AFTER COMPARI ALREADY IDENT ATTRIBUTED TO WITHDRAWN BY	DIF	FERENC								WE	RE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD-55		NASA DATA: BASELINE NEW	-	]
MDAC ID:	MECH/PBD/EF 5517 MCA RELAY I	PD&C LOGIC POWER SWIT	сн		
LEAD ANALYST:	J. BACHER				
ASSESSMENT:					
CRITICALI FLIGHT		OUNDANCY SCREENS		CIL ITEM	
HDW/FUN		В	С		
NASA [ / IOA [ 2 /1R	] [ ] ]	[ ] [ ] [ P ] [	p ]	[	] * ]
COMPARE [ N /N	] [ N ]	] [и] [	N ]	[	]
RECOMMENDATIONS:	(If diffe	erent from NASA)			
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* CIL RETENTION F	RATIONALE:	· · · · · · · · · · · · · · · · · · ·	ADEQUATE IADEQUATE	[	]
REMARKS: AFTER COMPARTSON.	THERE WER	E NO DISCREPANCI	ES FOUND T	'TAH	WERE NO

AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.

ASSESSMENT ASSESSMENT NASA FMEA	ID:	MECH/PB					SASEL:	INE	[	]
SUBSYSTEM: MDAC ID: ITEM:		MECH/PB 5518 MCA REL	·	C POW	VER SW	ITCH	Ī			
LEAD ANALYS	ST:	J. BACH	ER							
ASSESSMENT:										
CRI	TICAL	TY.	REDUNDA	ANCY	SCREE	NS			CIL ITEM	•
H		1C	A	В		С			IIEP.	L
NASA [ IOA [	3 /3	] [	]	[	]	[ [	]		[	] <b>*</b> ]
COMPARE [	N /N	] [	]	[	]	[	]		[	]
RECOMMENDAT	cions:	(If d	ifferen	t fro	om NAS	A)				
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* CIL RETEN	ITION E	RATIONAL	E: (If a	appli		AD	EQUA:		[	]
THE ISSUE A FMEA/CIL IN ISSUE IS WI	ITERPRI	TATION	AND IMP							

NASA DATA:

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBD-0	6101	NASA DATA: BASELINE NEW	
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBD/ 5519 REMOTE PO	EPD&C WER CONTROLLER		
LEAD ANALYST:	J. BACHER			
ASSESSMENT:				
CRITICAL		EDUNDANCY SCREE	INS	CIL ITEM
FLIGH HDW/FU		В	С	
NASA [ / IOA [ 2 /1R	] [ F	) [ ] ) ] [ F ]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [ N	и] [и]	[ N ]	[ ]
RECOMMENDATIONS:	(If dif	fferent from NAS	5A)	
[ /	] [	] [ ]	[ ] (A	[ ] DD/DELETE)
* CIL RETENTION	RATIONALE	: (If applicable	e) ADEQUATE INADEQUATE	[ ]
REMARKS: AFTER COMPARISON ALREADY IDENTIFINATTRIBUTED TO DI	ED BY NAS. [FFERENCES			

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PB	D-6102			N	IASA DATA BASELINE NEW			
	MECH/PBI 6101 MOTOR	R							
LEAD ANALYST:	W.T. SL	AUGHTER							
ASSESSMENT:									
CRITICALI FLIGHT	TY T	REDUNDA	NCY	SCRE	ENS		CIL		
HDW/FUN		A	В		С		ITE	M	
NASA [ / IOA [ 3 /1R	] [	P ]	[ [ P	]	[ [ P	]	[	] <b>*</b>	
COMPARE [ N /N	] [	и ]	[ N	]	[ N	1	ĺ	]	
RECOMMENDATIONS:	(If di	fferent	fro	m NAS	SA)				
[ /	] [	J	[	]	[		[ DD/DI	] ELETE)	
* CIL RETENTION R	ATIONALE	: (If a	ppli	cable		DEQUATE	ſ	1	
REMARKS:					INA	DEQUATE	•	j	
AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF WITHDRAWN BY IOA/	D BY NAS. FERENCES	A. THE	REMA	TNTNC	TCC	TITE MAY	חם	WERE	NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/PBI	D-6103				ASA DATA BASELINE NEW	[	]	
	MECH/PBI 6102 MOTOR BI								
LEAD ANALYST:	W.T. SL	AUGHTER							
ASSESSMENT:						•			
CRITICAL FLIGH		REDUNDA	ANCY	SCRE	ENS		CIL		
HDW/FU		A	В		С		+121	•	
NASA [ / IOA [ 3 /3	] [	]	[	]	[	]	[	] * ]	
COMPARE [ N /N	] [	]	[	]	[	]	[	]	
RECOMMENDATIONS:	(If d	ifferen	t fr	om NAS	SA)				
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* CIL RETENTION	RATIONAL	E: (If	appl	icable	AI	DEQUATE DEQUATE	[	]	
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NA FFERENCE	SA, THE	REM	AINING	G ISS	SUES MAY	BE	WERE 1	TOP

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		NASA D BASEI	PATA: LINE [ ] NEW [ X ]
	MECH/PBR 6105 TORQUE LIMITER	ł	
LEAD ANALYST:	W.T. SLAUGHTER	<b>≀</b>	
ASSESSMENT:			
CRITICAL: FLIGHT	r	DANCY SCREENS	CIL ITEM
HDW/FU	NC A	ВС	
NASA [ 2 /1R IOA [ 3 /3	] [ F ] ] [ ]	[F] [P]	[ X ] *
COMPARE [ N /N	] [ N ]	[ N ] [ N ]	[ N ]
RECOMMENDATIONS:	(If differen	nt from NASA)	
[ 3 /3	] [ ]	[ ] [ ]	[ D ] (ADD/DELETE)
* CIL RETENTION I	RATIONALE: (If	ADEQUA	TE [ ]
REMARKS: IOA/MDAC AGREES VIOA/MDAC.	WITH THE FMEA.	THE ISSUE IS WITH	IDRAWN BY

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/PBR-	6106		NASA DATA: BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBR 6106 DIFFERENT	TIAL ASSE	MBLY			
LEAD ANALYST:	W.T. SLAU	JGHTER				
ASSESSMENT:						
CRITICAL		REDUNDANC	Y SCREEN	S	CIL ITEM	
FLIGH HDW/FU		A	В	С		
NASA [ / IOA [ 3 /1F	] [	] [ P] [	] [ P ] [	P ]	[	] <b>*</b> ]
COMPARE [ N /N					[	]
RECOMMENDATIONS:	(If di	fferent f	from NASA	7)		
	] [			1	[ .DD/DE	] LETE)
* CIL RETENTION	RATIONALE	: (If ap)		ADEQUATE NADEQUATE	[	]
REMARKS: AFTER COMPARISO ALREADY IDENTIF ATTRIBUTED TO D	IFFERENCES					WERE NOT

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SUBSYST MDAC ID ITEM:		1		610			ES, RE	CLEA:	SE (S	1),	(S3),	, (S	4)	
LEAD AN	ALY	ST	:											
ASSESSM	ENT	<b>':</b>												
		r	LIG	HT		REDU	NDANCY	SCI	REENS			CI:		
		HD	W/F	UNC	F	4	В		(	2		111	rw.	
NASA IOA	[	3	/ /3	]	]	]	[	]	[	]		[	]	*
COMPARE	[	N	/N	J	ſ	]	[	]	[	]		[	J	
RECOMMEN	NDA!	FIC	ONS	: (1	f dif	fere	ent fr	om N	ASA)					
	[			]	•		[			]	(A)	[ DD/D	] ELE	TE)
* CIL RE									A INA		ATE	•	]	
THE ISSU FMEA/CIL ISSUE IS			7/7 7/	TITI	ON AN	UIM	PIRMEN	BETW!  TAT:	EEN T	HE NA	ASA A TS 22	ND 206	IOA	THE

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/PE	R-6110		_	NASA DATA BASELINI NEV		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/PE 6110 LIMIT S		, LATC	н (S2)	, (S3),	(S4)	
LEAD ANALYST:	W.T. SI	aughter					
ASSESSMENT:							
CRITIC FLI	LITY HT	REDUND	ANCY S	CREENS		CIL ITEN	4
	FUNC	A	В	(	C		•
NASA [ / IOA [ 3 /	] [	]	[ ]	[	]	[	] * ]
COMPARE [ N /	1 ] [	]	[ ]	[	]	[	]
RECOMMENDATION	3: (If d	lifferen	t from	NASA)			
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* CIL RETENTIO	N RATIONAI	E: (If	applic		ADEQUATE ADEQUATE	[	]
REMARKS: THE ISSUE AROS FMEA/CIL INTER ISSUE IS WITHD	PRETATION	AND IMP		TWEEN '	THE NASA	AND :	IOA

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		2	NASA DATA BASELINE NEW	•
MDAC ID:	MECH/PBR 6112 LATCH ROTARY	ACTUATOR		
LEAD ANALYST:	W.T. SLAUGHT	ER		
ASSESSMENT:				
CRITICALI FLIGHT		NDANCY SCRE	ENS	CIL ITEM
HDW/FU	IC A	В	С	
NASA [ 2 /1R IOA [ 3 /3	] [ P ] ] [ ]	[ NA] [ ]	[ P ] [ ]	[ ] *
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[ ]
RECOMMENDATIONS:	(If differ	ent from NAS	SA)	
[ 3 /3	] [ ]	[ ]	[ ] (A	[ D ] DD/DELETE)
* CIL RETENTION F	RATIONALE: (I	f applicable	ADEQUATE	
REMARKS: IOA/MDAC AGREES V IOA/MDAC.	ITH THE FMEA	. THE ISSU	INADEQUATE E IS WITHDRA	

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		5112A -3		ASA DATA: BASELINE NEW	[	x ]	
SUBSYSTEM: MDAC ID: ITEM:	MECH/PBR 6112 LATCH ROTA	ARY ACTUAT	or				
LEAD ANALYST:	W.T. SLAUG	HTER					
ASSESSMENT:							
CRITICAL		EDUNDANCY	SCREENS		CI	L	
FLIGH HDW/FU		В	С		11	EM	
NASA [ 2 /1R IOA [ 3 /3		] [ <b>F</b>	] [ P	]	[	x ]	*
COMPARE [ N /N	] [ N	] [ N	] [ N	1	[	N ]	
RECOMMENDATIONS:	(If diff	ferent fro	om NASA)				
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* CIL RETENTION	RATIONALE:	(If appl:	A	DEQUATE DEQUATE	[	]	
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE FN	MEA. THE	ISSUE IS	WITHDRA	WN	вч	

ASSESSMENT DATI ASSESSMENT ID: NASA FMEA #:	E: 2/19/88 MECH/PB	R-6202			NASA DATA BASELINE NEW		]
SUBSYSTEM: MDAC ID: ITEM:	MECH/PB 6202 MOTOR B						
LEAD ANALYST:	W.T. SL	AUGHTEF	R				
ASSESSMENT:							
FLI				SCREEN		CIL	
HDW/	FUNC	A	В		С		
NASA [ / IOA [ 3 /	] [	] ]	[	] [	]	[ [	] <b>*</b>
COMPARE [ N /	N ] [	]	[	] [	]	ĵ.	]
RECOMMENDATION	s: (If d	ifferer	nt fro	om NASA	)		
[ /	] [	]	[	] [	]	[ ADD/D	] ELETE)
* CIL RETENTIO	N RATIONAL	E: (If	appli		ADEQUATE NADEQUATE	-	]
REMARKS: THE ISSUE AROS: FMEA/CIL INTER ISSUE IS WITHD	PRETATION	AND IME	PLEME				

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/PBR-6	206		ASA DATA: BASELINE NEW		]
	MECH/PBR 6206 DIFFERENTI	AL ASSEME	BLY			
LEAD ANALYST:	W.T. SLAUG	HTER				
ASSESSMENT:						
CRITICAL: FLIGH	ITY RE	EDUNDANCY	SCREENS		CIL ITEM	[
HDW/FU		В	С			
NASA [ / IOA [ 3 /1R	] [ ] [ P	] [ ] [ P	] [ ] [ P	]	[	] * ]
COMPARE [ N /N	] [ N	] [ N	] [ N	]	(	]
RECOMMENDATIONS:	(If dif	ferent fro	om NASA)			
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* CIL RETENTION	RATIONALE:	(If appl:	Δ	DEQUATE DEQUATE	[	]
REMARKS: AFTER COMPARISON ALREADY IDENTIFI ATTRIBUTED TO DI WITHDRAWN BY IOA	ED BY NASA FFERENCES	, THE REM	AINING IS	SUES MAY	BE	WERE NOT

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SUBSYSTE MDAC ID: ITEM:				MECH/ 6209 LIMIT		TCHES	S, DEI	PLOY (	(S1,	S2,	S4)		
LEAD ANA	LYS	T:	:	W.T.	SLAU	GHTEF	<b>R</b>						
ASSESSME	NT:	:											
	CRI		CAL LIGH	ITY T	R	EDUNI	ANCY	SCREE	ens			CIL	r
	H			NC	A		В		C			TIEM	ı
NASA IOA	[	3	/3	]	[	]	[	]	[	]		[	] *
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	(		/	]	[	]	[	]	[	]	(AD	[ D/DE	] LETE)
* CIL RE	TEN	ΙΤΙ	ON 1	RATION	ALE:	(If	appli	cable	΄ λ	DEQUA DEQUA	TE TE	[	]
REMARKS: THE ISSU FMEA/CIL ISSUE IS	IN	TE	RPR	ETATIO	N AN	D IMP	LEMEN		N T	HE NA	SA A	ND I	

ASSESSMENT ASSESSMENT NASA FMEA	r ]	[D	re:	2/1 MEC	9/88 H/PE	8R-62	ASA DAT BASELIN NE		]					
SUBSYSTEM MDAC ID: ITEM:				601	H/PE .0 KIT S		CHES,	, sto	W (S:	1, 5	52, S3)			
LEAD ANAL	YS	т:		w.T	r. si	LAUGI	HTER							
ASSESSMEN	T:													
C			CAL			RE	DUND	ANCY	SCRE	ENS		CII ITE		
			IGH /FU			A		В			С			
NASA IOA	[	3	/	]		[	]	[ [	]	[	]	[		k
COMPARE							1		]	[	1	[	]	
RECOMMENI	DA:	ri(	ONS:	;	(If	diff	eren	nt fr	om NA	ASA)				
			/						1			[ (ADD/	DELE	TE)
* CIL RE	TE:	NT	ION	RAT	TION	ALE:	(If	appl	icab]		PAUQADA PAUQADAN		]	
REMARKS: THE ISSU FMEA/CIL ISSUE IS	. т	NT	FRP	RET	AT.TO	N AN	D TH		BETW: NTAT	EEN ION	THE NAS	SA AND S 2220	IOA	THE

ASSESSMENT DATE: 2/19/88 ASSESSMENT ID: MECH/PBR-6213 NASA FMEA #: 02-4G-152-3										NASA D BASEL	
SUBSYST MDAC ID ITEM:				621	H/PBR 3 LOYME						
LEAD AN	ALY	SI	:	W.T	. SLA	UGHT	ER				
ASSESSMI	ENT	:									
		F	LIG		1	REDU	NDANC	( SCI	REENS		CIL
		HD	W/F	UNC	1	4	F	3	(	2	ITEM
NASA IOA	[	1	/1 /3	]	[ [	]	[	]	]	]	[ X ] *
COMPARE	[	N	/N	]	[	]	[	]	[	]	[ N ]
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* CIL RE	TEN	T]	ОИ	RATIO	NALE:	(If	appl	icab			
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/16/88 MECH/PH- 02-4A-59	A: E [ ] W [ X ]								
SUBSYSTEM: MDAC ID: ITEM:	MECH/PH 7100 PRESSURI	100 PRESSURE PORT								
LEAD ANALYST:	A.D. MOI	NTGOMERY	Z .							
ASSESSMENT:										
CRITICAL		REDUNDA	ANCY SCRE	ENS	CIL ITEM					
FLIGH HDW/FU		A	В	С						
NASA [ 3 /3 IOA [ 3 /1R	] [	] P ]	[ ] [ F ]	[ ] [ P ]	[ x ] *					
COMPARE [ /N	] [	N ]	[ N ]	[ N ]	[ N ]					
RECOMMENDATIONS:	(If d	ifferen	t from NA	SA)						
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REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	FMEA.	THE ISSU	JE IS WITHD	RAWN BY					

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LEAD ANA	ALYST:	A.D. MC	ONTGOMER	Y							
ASSESSME	ENT:										
	CRITICAL FLIGH		REDUND	ANCY	SCRE	ENS		CIL			
	HDW/FU		A	В		С		ITEM			
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RECOMMEN	DATIONS:	(If d	lifferen	t fro	om NAS	SA)					
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REMARKS: IOA/MDAC IOA/MDAC	AGREES	WITH THE	FMEA.	THE	ISSUE			• 1			

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	MECH/PH 7102 O RING	102 RING								
LEAD ANALYST: A.D. MONTGOMERY										
ASSESSMENT:										
CRITICAL		REDUNDA	NCY S	CREENS		CIL				
FLIGH HDW/FU	-	A	В	(	С	TIE	M			
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SUBSYSTE MDAC ID: ITEM:	M:		MECH/1 7103 O RING							
LEAD ANA	LYST	<b>':</b>	A.D. 1	TNON	GOMEF	RY				
ASSESSME	NT:									
		'ICALI	TTY T	R	EDUNI	DANCY	SCREEN	is		CIL ITEM
	_		iC	A		В		С		1111
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SUBSYSTEM MDAC ID:				710 VIE	ECH/PH 104 IEWPORT .D. MONTGOMERY																	
LEAD ANAI	LYS	т:		A.D	). M	ON	TG	OME	RY													
ASSESSMEN	1T :																	CI	т			
(	CRI	TI	CAL	YTI			RE	(UD	IDA:	NC	Y:	SCI	REEI	NS				IT				
	ŀ		JIGH I/FU				A				В				С							
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ASSESSMI ASSESSMI NASA FMI	•											N	IASA DA BASELI N	NE		]		
SUBSYSTE MDAC ID:				MECH 7105 VIEW												_		
LEAD ANA	YLY	ST	<b>':</b>	A.D.	МО	NT	GOME	RY										
ASSESSME	ENT	:																
		F	LIGH'			R	EDUN	DAN	CY	SCR	REEN	S			CIL			
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REMARKS:											IN	ΆD	EQUATE EQUATE	į	•	]		
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ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/12/88 MECH/PH- 02-4A-59	·7112 93202-3		NASA DATA: BASELINE NEW	_
SUBSYSTEM: MDAC ID: ITEM:	MECH/PH 7112 O RING				
LEAD ANALYST:	A.D. MOI	NTGOMERY			
ASSESSMENT:					
CRITICAL		REDUNDA	NCY SCREE	NS	CIL ITEM
FLIGH HDW/FU		A	В	С	
NASA [ 3 /2R IOA [ 3 /1R		P ]	[ ] [ <b>F</b> ]	[ ] [ P ]	[ X ] *
COMPARE [ /N	] [	N ]	[ N ]	[ N ]	[ N ]
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)	
[ 3 /11	R ] [	P ]	[ F ]	[ P ]	[ A ] ADD/DELETE)
* CIL RETENTION	RATIONAL	E: (If a	pplicable	e) ADEQUATE INADEQUATE	[ ]
REMARKS: IOA/MDAC AGREES IOA/MDAC.	WITH THE	E FMEA.	THE ISSU	E IS WITHDRA	AWN BY

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SUBSYST MDAC ID ITEM:				MECH 7113 O RI														
LEAD AN	ALY	ST	:	A.D.	MO	NT	GOME	ERY										
ASSESSM	ENT	:																
	CR	IT: F:	ICAL LIGH	ITY T		R	EDUN	IDAN	CY	SCRI	EEN	s				L	-	
	]			NC		A			В			С			11	rem	Ĺ	
NASA IOA	[	3	/2R /1R	]	[ [	P	]	[	F	]	[	P	]		[	x	]	*
COMPARE	[		/N	]	[	N	]	[	N	]	[	N	]		[	N	]	
RECOMMEN	VDA:	ric	ons:	(II	<b>d</b> :	ifi	fere	nt i	fro	om NA	SA)	)						
	[	3	/1R	]	[	P	]	[	F	]	(	P			[ )D/			TE)
* CIL RE		T	ON I	MOITAS	IALI	Ξ:	(If	app	) <b>1</b> i	cabl	-		DEQUATI		[		]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:		7114			NASA DATA: BASELINE NEW		]	
<b>-</b> :	MECH/PH 7114 VIEWPORT							
LEAD ANALYST:	A.D. MON	TGOMERY						
ASSESSMENT:								
CRITICAL FLIGH	ITY 1	REDUNDA	NCY S	CREENS	<b>;</b>	CIL	1	
	NC	A	В		С			
NASA [ / IOA [ 3 /1R	] [	] P ]	[ F	] [	P ]	[		
COMPARE [ N /N	] [	N ]	[ N ]	] [	<b>N</b> ]	[	]	
RECOMMENDATIONS:	(If di	fferent	fron	m NASA)	1			
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* CIL RETENTION	RATIONALE	: (If a	ppli		ADEQUATE NADEQUATE	[	]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/12/88 MECH/PH-711	5	NASA DATA: BASELINE NEW		]
	MECH/PH 7115 VIEWPORT				
LEAD ANALYST:	A.D. MONTGO	MERY			
ASSESSMENT:					
		UNDANCY SCREE	INS	CIL	_
FLIGHT HDW/FUN		В	С	ITEM	
NASA [ / IOA [ 3 /1R	] [ ] ]	[ ] [ P ]	[ ] [ P ]	[	] <b>*</b>
COMPARE [ N /N	] [ N ]	[ N ]	[ N ]	[	]
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REMARKS: AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF	D BY NASA, 1	THE REMAINING	ISSUES MAY	BE	WERE NOT

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/12/88 MECH/PH	/12/88 ECH/PH-7116					A DATA: SELINE NEW	[	]
SUBSYSTEM: MDAC ID: ITEM:		116 TEWPORT LATCH							
LEAD ANALYST:	A.D. MC	.D. MONTGOMERY							
ASSESSMENT:			~******	NCV	SCREE	NS		CIL	
CRITICAI FLIG	LITY HT	RE	DUNDA		00112-	С		ITE	1
HDW/F	UNC	A		В		_	1	r	լ *
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IOA [ 3 /3	-	[	]	[	1	[	1	[	]
TO THE TONS	3: (If	dif	feren	t fr	om NA	SA)			
RECOMMENDATIONS			3	_	3	[	] (	[ [ADD/I	) DELETE)
* CIL RETENTION	N RATION	ALE:	(If	app]	icabl	.e) INI	ADEQUATI	e ( e (	]
REMARKS: THE ISSUE AROSE DUE TO DIFFERENCES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THE ISSUE IS WITHDRAWN BY IOA/MDAC.									

ASSESSM ASSESSM NASA FM	IEN'	${f T}$	ID:	,	2/88 I/PH-	-7117	,			NASA BAS	A DATA: SELINE [ NEW [	]	
SUBSYST MDAC ID ITEM:	EM:	:		MECH 7117 VIEW		LAT	СН					1	
LEAD AN	ALY	(S)	r:	A.D.	MON	TGOM	ERY						
ASSESSMI	ENT	·:											
		F	'LIG		]	REDUI	NDANC	Y SC	REENS		CI	<b>ւ</b>	
		HD	W/F	JNC	1	A	1	В	(	2	ITI	EM	
NASA IOA	[	3	/3	]	[	]	[	]	[ [	]	[	] *	
COMPARE	[	N	/N	]	[	]	E	]	[	]	ĺ	]	
RECOMMEN	DAT	CIC	ONS:	(If	dif	fere	nt fr	om N	IASA)				
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REMARKS:									IA IANI	DEQUA	ATE i	]	
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ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/VDM	-8109		BASELINE NEW	[	]		
SUBSYSTEM: MDAC ID: ITEM:	MECH/VDM 8109 ALL ITEM		SHOWN	C ID 8100	- 81	.08		
LEAD ANALYST:	H.J. LOW	H.J. LOWERY						
ASSESSMENT:								
CRITICAL		REDUND	ANCY	SCREENS		CIL ITEN	1	
FLIGH HDW/FU		A	В		С			
NASA [ / IOA [ 3 /3	] [	]	[	] [	]	[	] * ]	
COMPARE [ N /N	] [	1	(	] [	]	C	1	
RECOMMENDATIONS:	(If d	ifferen	t fro	om NASA)	)			
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REMARKS: THE ISSUE AROSE DUE TO DIFFERENCES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THE ISSUE IS WITHDRAWN BY IOA/MDAC.								

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/VDM-8501	NASA I BASEI	DATA: LINE [ ] NEW [ ]
MDAC ID:	MECH/VDM/EPD&C 8501 ACTUATOR MOTOR		
LEAD ANALYST:	M. BRADWAY		
ASSESSMENT:			
CRITICALI FLIGHT		ANCY SCREENS	CIL ITEM
HDW/FUN	IC A	В С	1157
NASA [ / IOA [ 2 /1R	] [ ] ] ]	[ NA] [ P ]	[ ] *
COMPARE [ N /N	] [ N ]	[ N ] [ N ]	[ ]
RECOMMENDATIONS:	(If differen	t from NASA)	
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REMARKS:		ADEQUA: INADEQUA:	re [ j
AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF! WITHDRAWN BY IOA/!	FERENCES IN GRO	DISCREPANCIES FOUR REMAINING ISSUES NOT THE IS	ND THAT WERE NOT MAY BE SSUE IS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/VDM	1-8504		NASA DATA: BASELINE NEW					
SUBSYSTEM: MDAC ID: ITEM:	MECH/VDM 8504 MCA PURC	M/EPD&C GE SIGNAL							
LEAD ANALYST:	M. BRAD	I. BRADWAY							
ASSESSMENT:				_	CIL				
CRITICAL FLIGH		REDUNDANC	Y SCREEN	S ·	ITEM				
HDW/FU		A	В	С					
NASA [ / IOA [ 2 /1F	] [	] [ P] [	] [ NA] [	P ]	[ ] *				
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RECOMMENDATIONS	: (If d	lifferent	from NASA	7)					
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REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.									

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/VDM	-8505		NASA DATA BASELINI NEV	A: E [ V [	]	
	MECH/VDM 8505 MCA DC P		5			•	
LEAD ANALYST:	M. BRADWAY						
ASSESSMENT:							
CRITICALI FLIGHT	ITY ;	REDUNDAN	ICY SCRE	ENS	CIL		
HDW/FUN		A	В	С	ITE	M	
NASA [ / IOA [ 2 /1R	] [1	] [	NA]	[ ] [ P ]	[	] <b>*</b> ]	
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RECOMMENDATIONS:	(If di	ferent	from NAS	SA)			
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REMARKS:				ADEQUATE INADEQUATE	[	]	
AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.							

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/VDM	-8506		NASA DATA: BASELINE NEW	[	]		
	8506	MECH/VDM/EPD&C 3506 MCA AC POWER BUS						
LEAD ANALYST:	M. BRADW	. BRADWAY						
ASSESSMENT:								
	ITY	REDUNDANG	CY SCREE	ns	CIL ITEM	[		
FLIGH HDW/FU		A	В	С				
NASA [ / IOA [ 2 /1R	] [	] [ P ] [	NA]	[ ] [ P ]	[	] * ]		
COMPARE [ N /N	] [	и][	N ]	[и]	[	]		
RECOMMENDATIONS:	(If d	ifferent	from NAS	SA)				
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REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.								

ASSESSMENT DAT ASSESSMENT ID: NASA FMEA #:	E: 2/19/88 MECH/VDM	-8509		NASA DATA BASELINE NEW	[ ]		
SUBSYSTEM: MDAC ID: ITEM:	8509	ECH/VDM/EPD&C 509 LECTRICAL CONNECTORS/PINS					
LEAD ANALYST:	M. BRADW	AY					
ASSESSMENT:							
CRITIC. FLIC		REDUNDAN	CY SCREE	NS	CIL		
HDW/		A	В	С	ITEM		
NASA [ / IOA [ 2 /	.R ] [	] [	NA]	[ ] [ P ]	[ ] *		
COMPARE [ N /	1 [ 1	<b>1</b> ] [	N ] (	[ N ]	[ ]		
RECOMMENDATIONS	: (If di	ferent	from NAS	7)			
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* CIL RETENTION	RATIONALE:	(If ap	plicable)				
PEMARKS.			ı	ADEQUATE NADEQUATE	[ ]		
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE							

ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS

WITHDRAWN BY IOA/MDAC.

ASSESSMENT ASSESSMENT NASA FMEA	ID:	MECI	H/ V DM							SA DATA: ASELINE NEW	[	]		
SUBSYSTEM: MDAC ID: ITEM:		851	MECH/VDM/EPD&C 8510 CABLES/WIRING											
LEAD ANALY	ST:	М.	BRADW	ΑY										
ASSESSMENT	:										OTT			
CR	ITICAL			RE	DUND	ANC:	Y S	CREE	NS		CIL ITEN	1		
	FLIGH HDW/FU			A		1	В		С					
NASA ( IOA (	/ 2 /1F	]	[	P	]	[	NA]		[ [ P	]	[		*	
COMPARE [	N /N	1	[	N	]	[	N :	]	[ N	]	(	]		
RECOMMENDA	ATIONS	:	(If d	iff	ere	nt f	ro	m NAS	SA)					
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REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.														

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/VDM-85	14	NASA DAT BASELIN NE	
SUBSYSTEM: MDAC ID: ITEM:	MECH/VDM/EPI 8514 FUSE	D&C		•
LEAD ANALYST:	M. BRADWAY			
ASSESSMENT:				
CRITICAL: FLIGHT		NDANCY SCRE	ENS	CIL
HDW/FUN		В	С	ITEM
NASA [ / IOA [ 2 /1R	] [ ] ] ]	[ ] [ NA]	[ ] [ P ]	[ ] *
COMPARE [ N /N	] [и]	[ N ]		[ ]
RECOMMENDATIONS:	(If differ	ent from NA	SA)	
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REMARKS:			ADEQUATE INADEQUATE	į
AFTER COMPARISON, ALREADY IDENTIFIED ATTRIBUTED TO DIFT WITHDRAWN BY IOA/N	FERENCES IN G	O DISCREPAN E REMAINING ROUND RULES	CIES FOUND TO SISSUES MAY	THAT WERE NOT BE IS

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/19/88 MECH/VDM-	-8515	NASA DATA BASELINE NEW		] ]			
	MECH/VDM/ 8515 RESISTOR							
LEAD ANALYST:	M. BRADWA	AY						
ASSESSMENT:								
		REDUNDANCY	SCREENS	CIL ITEM				
FLIGH HDW/FU	NC A	A B	С					
NASA [ / IOA [ 2 /1R	] [	] [ P] [ NA	] [ ] A] [ P ]	[	] * ]			
COMPARE [ N /N	1 [	N ] [ N	] [ N ]	[	]			
RECOMMENDATIONS:	(If di	fferent fro	om NASA)					
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* CIL RETENTION	RATIONALE	: (If appl	icable) ADEQUATE INADEQUATE		]			
ATDEADY TORNUTE	[ED BY NAS [FFERENCES	A. THE REM	CREPANCIES FOUND AINING ISSUES MA RULES. THE ISS	X DE	WERE NOT			

ASSESSMENT DATE ASSESSMENT ID: NASA FMEA #:	: 2/19/88 MECH/VDM-8516						
SUBSYSTEM: MDAC ID: ITEM:	MECH/VDM/EPD&C 8516 RESISTOR	8516					
LEAD ANALYST:	M. BRADWAY	M. BRADWAY					
ASSESSMENT:							
CRITICALITY REDUNDANCY SCREENS CIL							
	JNC A	В С	ITEM				
NASA [ / IOA [ 2 /1H	] [ ] ? ] [ P ]	[ ] [ ] [ NA]	[ ] *				
COMPARE [ N /N	] [и]		[ ]				
RECOMMENDATIONS:	(If different	t from NASA)					
[ /	] [ ]		[ ] DD/DELETE)				
* CIL RETENTION	RATIONALE: (If a	·					
PEMARKS.		ADEQUATE INADEQUATE	[ ]				
REMARKS:  AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT  ALREADY IDENTIFIED BY NASA, THE REMAINING ISSUES MAY BE  ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS							

WITHDRAWN BY IOA/MDAC.

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/SDM-9		NASA DATA: BASELINE ( NEW (				
SUBSYSTEM: MDAC ID: ITEM:	MECH/SDM 9102 OPEN LIMIT	SWITCHES (S1 &	3) ACTUATO	R			
LEAD ANALYST:	H.J. LOWER	RY					
ASSESSMENT:							
CRITICAL		EDUNDANCY SCREENS	,	CIL ITEM			
FLIGH HDW/FU		В	С				
NASA [ / IOA [ 3 /1R	] [ [ P	] [ ] [ ] [ P ] [	] P ]	[ ] *			
COMPARE [ N /N	] [ N	] [N][	N ]	[ ]			
RECOMMENDATIONS:	(If dif	ferent from NASA	)				
		] [ ] [	1	[ ] DD/DELETE)			
* CIL RETENTION	RATIONALE:	(If applicable)	ADEQUATE NADEQUATE	[ ]			
REMARKS: AFTER COMPARISON, THERE WERE NO DISCREPANCIES FOUND THAT WERE NOT ALREADY IDENTIFIED BY NASSA, THE REMAINING ISSUES MAY BE ATTRIBUTED TO DIFFERENCES IN GROUND RULES. THE ISSUE IS WITHDRAWN BY IOA/MDAC.							

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SUBSYST MDAC ID ITEM:		•		910	H/SDM 3 W LIM		WITCH	ES (S	S1 &	3) AC	TUAT	'OR	•	
LEAD AN	ALY	SI	<b>!:</b>	H.J	. LOW	ERY								
ASSESSM	ENT	<b>:</b>												
CRITICALITY REDUNDANCY SCRI							REENS			CI				
		HD	W/FC	JNC	1	A	H	3		С		IT	EM	
NASA IOA	[	3	/3	]	[	]	[	]	[	]		[	]	*
COMPARE			/N			]			ξ			[	]	
RECOMMEN	IDA!	ri	ons:	(1	f dif	fere	nt fr	om N	ASA)					
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* CIL RE									A INA	DEQUA DEQUA	TE		J	
THE ISSU FMEA/CIL ISSUE IS								BETWI NTAT:	EEN T	HE NA F NST	SA A S 22	ND 206	AOI	гне

ASSESSMEI ASSESSMEI NASA FME	I TN	D:		2/ 1// 00							[ [	]	
SUBSYSTEM MDAC ID:	M:		9104	H/SDM 4 LOY LIM	IT S	WITC	HES	(S2 (	& 4)				
LEAD ANA	LYST	? <b>:</b>	н.ј	I.J. LOWERY									
ASSESSME	NT:												
CRITICALITY REDUNDANCY SCREENS							CIL ITE						
		FLIGH OW/FU		A		В			С			_	
NASA IOA	[ 3	3 /3	]	[	]	[ [	]	[	]		[ [	]	*
COMPARE	[ ]	N / N	]	[	]	E	]	[	]		[	]	
RECOMMEN	DAT	ions:	(	If diff	erer	nt fr	om N	ASA)					
	[	/	]	[	)	(	3	[	]	(AI	[ D/D		
* CIL RE		rion	RATI	ONALE:	(If	appl	icab		ADEQUAT ADEQUAT		[	]	
REMARKS: THE ISSUE AROSE DUE TO DIFFERENCES BETWEEN THE NASA AND IOA FMEA/CIL INTERPRETATION AND IMPLEMENTATION OF NSTS 22206. THI ISSUE IS WITHDRAWN BY IOA/MDAC.													

ASSESSMENT DA ASSESSMENT ID NASA FMEA #:		<b>M-</b> 9105		NASA DATA BASELINE NEW	: [ ]
SUBSYSTEM: MDAC ID: ITEM:	MECH/SD 9105 DEPLOY		ITCHES (S	2 & 4)	
LEAD ANALYST:	H.J. LO	WERY			
ASSESSMENT:					
	CALITY IGHT	REDUNDA	NCY SCREE	NS	CIL ITEM
HDW	/FUNC	A	В	С	
NASA [ IOA [ 3	/ ] [ /3 ] [	]	[ ]	[ ]	[ ] *
COMPARE [ N	/N ] [	]	[ ]	[ ]	[ ]
RECOMMENDATIO	NS: (If d	ifferent	from NAS	A)	
<b>C</b> .	/ ] [	]	[ ]	[ ] (A	[ ] DD/DELETE)
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REMARKS:			:	ADEQUATE INADEQUATE	[ ]
THE ISSUE AROS FMEA/CIL INTE ISSUE IS WITH	RPRETATION .	AND IMPLE	ES BETWEEN EMENTATION	N THE NASA . N OF NSTS 2	AND IOA 2206. THE

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/SDM	-9106		BASELINE NEW		
SUBSYSTEM: MDAC ID: ITEM:	MECH/SDM 9106 GEAR TRA	IN ASSEME	ьLY			
LEAD ANALYST:	H.J. LOW	IERY				
ASSESSMENT:						
CRITICAL	NS	CIL ITEM				
FLIGH HDW/FU		A	В	С		
NASA [ / IOA [ 3 /1F	] [	] [ P] [	P ]	[ ] [ P ]	[	] * ]
COMPARE [ N /N	] [	N ] [	N ]	[ N ]	[	]
RECOMMENDATIONS	: (If d	ifferent	from NAS	SA)		
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* CIL RETENTION	RATIONAL	E: (If ap	plicabl	e) ADEQUATE INADEQUATE	[	]
REMARKS: AFTER COMPARISO ALREADY IDENTIF ATTRIBUTED TO D WITHDRAWN BY IO	IED BY NA IFFERENCE					WERE NOT

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/SDM-9107		NASA DATA: BASELINE [ ] NEW [ ]				
SUBSYSTEM: MDAC ID: ITEM:	MECH/SDM 9107 GEAR TRAIN ASS	EMBLY					
LEAD ANALYST:	H.J. LOWERY						
ASSESSMENT:							
CRITICALI		ANCY SCREEN	rs	CIL			
FLIGHT HDW/FUN		В	С	ITEM			
NASA [ / IOA [ 3 /1R	] [ ] ] ]	[ ] [ [ P ] [	P ]	[ ] *			
COMPARE [ N /N	] [N]	[ N ]	N ]	[ ]			
RECOMMENDATIONS:	(If different	from NASA	)				
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* CIL RETENTION R	ATIONALE: (If a	pplicable)	122000				
REMARKS:		II	ADEQUATE NADEQUATE	[ ]			
AFTER COMPARISON, ALREADY IDENTIFIE ATTRIBUTED TO DIF	FERENCES IN GRO			BE			

ASSESSMEN ASSESSMEN NASA FME	T	ID	TE:	2/1 MEC	.7/88 CH/SDM-9	108			1	NASA D BASEI		[	]	
SUBSYSTEM MDAC ID:				910	CH/SDM 08 L ITEMS	NOT	SHOW	n on	MDA	C ID 9	100-	-910	7	
LEAD ANA	LYS	T:		н.3	T. LOWER	RΥ								
ASSESSME	NT:	<b>;</b>												
CRITICALITY REDUNDAN						ANCY	SCR	EENS			CIL	•		
	F		JIGH V/FU		A		В			С			••	
NASA IOA	[	3	/	]	[	]	[	]	[	]		[	]	*
COMPARE	(	N	/N	]	ſ	]	[	1	[	]		[	]	
RECOMMEN	DAT	ric	ONS:	:	(If dif:	fere	nt fr	om N	ASA)					
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* CIL RE	TE	NT:	ION	RAT	IONALE:	(If	appl	icab		ADEQUA ADEQUA		[	]	
REMARKS: THE ISSU FMEA/CII ISSUE IS	E I	NT!	ERP1	RETA	TION AN	D IM	PLEME	BETW TAT	VEEN CION	THE NO	ASA . TS 2	AND 220€	10 <i>i</i>	A THI

ASSESSMENT DATE: ASSESSMENT ID: NASA FMEA #:	2/17/88 MECH/SDM-	9501			DATA: ELINE NEW	[	]
MDAC ID:	MECH/SDM/ 9501 ALL ITEMS		HOWN ON 1	MDAC ID	9500		
LEAD ANALYST:	H.J. LOWE	RY					
ASSESSMENT:							
CRITICAL FLIGH	NCY SCRE	ENS		CIL	-		
HDW/FU			В	С		ITEM	1
NASA [ / IOA [ 3 /3	] [	]	[ ]	[ ]		[	] <b>*</b>
COMPARE [ N /N	] [	]	[ ]	[ ]		[	]
RECOMMENDATIONS:	(If dif	ferent	from NAS	SA)			
[ /	] [	]	[ ]	[ ]		[ D/DE	] LETE)
* CIL RETENTION 1	RATIONALE:	(If a	pplicable	adequ INADEQU		[	]
REMARKS: THE ISSUE AROSE I FMEA/CIL INTERPRI ISSUE IS WITHDRAW	ETATION AND	D IMPL	ES BETWEE EMENTATIO	EN THE N ON OF NS	ASA A TS 22	ND I 206.	OA THE

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