INDEPENDENT ORBITER ASSESSMENT

ASSESSMENT OF THE MAIN PROPULSION SUBSYSTEM
FMEA/CIL
VOLUME 3 OF 4

26 FEBRUARY 1988
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000AA
NASA FMEA #: NA
NASA DATA:
BASELINE [ ]
NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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| NASA      | /     | [ ] | [ ] | [ ] | [ ] | [ ] * |
| IOA       | 3 /3  | [ NA] | [ NA] | [ NA] | [ ] |
| COMPARE   | N /N  | [ N ] | [ N ] | [ N ] | [ ] |

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
The original assessment sheet #5000 listed 72 diodes. This should have been 66 diodes. Delete 6 diodes. Six remaining diodes assessed on this sheet were miscounted.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000B
NASA FMEA #: 2184-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALUE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 MAINSTAGE MDM BLOCKING DIODES.

REPORT DATE 03/11/88  C-1152
### APPENDIX C
#### ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000C
NASA FMEA #: 2184-2

**NASA DATA:**

- BASELINE [ ]
- NEW [ X ]

**SUBSYSTEM:** EPD&C/MPS
**MDAC ID:** 5000
**ITEM:** LO2 PREVALVE CONTROL CIRCUIT

**LEAD ANALYST:** HOLDEN/LOWERY

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

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* (ADD/DELETE)

**CIL RETENTION RATIONALE:** (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

**REMARKS:**
12 MAINSTAGE MDM BLOCKING DIODES. FAILS B-SCREEN BECAUSE MAINSTAGE COMMANDS ARE NOT INSTRUMENTED. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY. NASA REVISED THEIR FUNCTION AND SCREEN CRITICALITY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000D
NASA FMEA #: 2187-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 OPEN SWITCH BLOCKING DIODES.

REPORT DATE 03/11/88 C-1154
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000E
NASA FMEA #: 2187-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

*A CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 OPEN SWITCH BLOCKING DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000F
NASA FMEA #: 2189-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 OPEN SWITCH BLOCKING DIODES.

REPORT DATE 03/11/88  C-1156
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000G
NASA FMEA #: 2189-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 OPEN SWITCH BLOCKING DIODES. SHORT IN SWITCH CIRCUIT, PASSED ON THROUGH THE SHORTED BLOCKING DIODE, WOULD REMOVE THE INHIBIT FROM THE HYBRID DRIVER. THIS DECREASE IN REDUNDANCY COULD RESULT IN PREMATURE CLOSING OF LO2 PREVALVE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
NASA DATA:
ASSESSMENT ID: MPS-5000J
NASA FMEA #: 2191-1
NASA DATA:
BASELINE [ ] 
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 SWITCH CLOSE GROUND DIODES. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.
APPENDIX C

ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000K
NASA FMEA #: 2191-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 SWITCH CLOSE GROUND DIODES. DIODES FAIL SHORTED WILL NOT NORMALy AFFECT THE OPERATION OF THE CIRCUIT.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000L
NASA FMEA #: 2192-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 SWITCH OPEN GROUND DIODES. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88  
ASSESSMENT ID: MPS-5000M  
NASA FMEA #: 2192-2

NASA DATA:
BASELINE [ ]  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 5000  
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS:  (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

12 SWITCH OPEN GROUND DIODES. DIODES FAIL SHORTED WILL NOT NORMALLY AFFECT THE OPERATION OF THE CIRCUIT.

REPORT DATE 03/11/88   C-1161
ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000N
NASA FMEA #: 2193-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 TRANSIENT SUPPRESSOR DIODES. DIODE FAILURE WILL NOT NORMALLY AFFECT THE CIRCUIT OPERATION.

REPORT DATE 03/11/88 C-1162
**APPENDIX C**  
**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 2/11/88  
**ASSESSMENT ID:** MPS-50000  
**NASA FMEA #:** 2193-1  
**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5000  
**ITEM:** LO2 PREVALVE CONTROL CIRCUIT  
**LEAD ANALYST:** HOLDEN/LOWERY

**ASSESSMENT:**

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**RECOMMENDATIONS:**  
(If different from NASA)

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(ADD/DELETE)

* **CIL RETENTION RATIONALE:** (If applicable)

**ADEQUATE** [ ]

**INADEQUATE** [ ]

**REMARKS:**

6 ZENER TRANSIENT SUPPRESSOR DIODES. DIODE FAILURE WILL NOT NORMALLY AFFECT THE CIRCUIT OPERATION.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000P
NASA FMEA #: 2194-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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| IOA  | [ 3 /3 ] | [ NA] | [ NA] | [ NA] | [ ] |

COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
48 INSTRUMENTATION RESISTORS. LOSS OF THE MEASUREMENT ON THE TELEMETRY DOWNLINK.

REPORT DATE 03/11/88 C-1164
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88  NASA DATA:
ASSESSMENT ID: MPS-5000Q  BASELINE [ ]
NASA FMEA #: 2195-1  NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS:  (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE:  (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 CLOSE SWITCH SCAN DIODES. DIODE FAILS OPEN. LOSS OF THE MEASUREMENT ON THE TELEMETRY DOWN LINK.

REPORT DATE 03/11/88  C-1165
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000R
NASA FMEA #: 2195-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 CLOSE SWITCH SCAN DIODES. DIODE SHORTS. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE. LOSS OF MANUAL SWITCH CLOSE COMMAND ISSOLATION. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.

REPORT DATE 03/11/88 C-1166
## APPENDIX C
### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 2/11/88  
**NASA DATA:**  
**ASSESSMENT ID:** MPS-5000S  
**NASA FMEA #:** 2196-1  
**BASELINE [ ]**  
**NEW [ X ]**

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5000  
**ITEM:** LO2 PREVALVE CONTROL CIRCUIT  
**LEAD ANALYST:** HOLDEN/LOWERY

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**RECOMMENDATIONS:** (If different from NASA)  

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)  

ADEQUATE [ ]  
INADEQUATE [ ]

### REMARKS:
12 OPEN SWITCH SCAN DIODES. DIODE FAILS OPEN. LOSS OF THE MEASUREMENT ON THE TELEMETRY DOWN LINK.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-50000
NASA FMEA #: 2196-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN SWITCH SCAN DIODES. DIODE SHORTS. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE. LOSS OF MANUAL SWITCH OPEN COMMAND ISSOLATION. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000U
NASA FMEA #: 2389-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
30 BLEED RESISTORS. POSSIBLE ERRONEOUS MEASUREMENT ON THE TELEMETRY DOWNLINK.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000V
NASA FMEA #: 2390-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

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| COMPARE | [ / ] | [ ] | [ ] | [ ] | [ ] | [ ] | [ ] |

RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

| ADEQUATE | [ ] |
| INADEQUATE | [ ] |

REMARKS:
3 OPEN SWITCH SCAN DIODES

REPORT DATE 03/11/88  C-1170
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000W
NASA FMEA #: 2390-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3 OPEN SWITCH SCAN DIODES. DIODE SHORTS. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88  
ASSESSMENT ID: MPS-5000Y  
NASA FMEA #: 2391-1

NASA DATA:  
BASELINE [ ]  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 5000  
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSessment:

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RECOMMENDATIONS:  (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

3 CLOSE SWITCH SCAN DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5000Z
NASA FMEA #: 2391-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5000
ITEM: LO2 PREVALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY REDUNDANCY SCREENS CIL
FLIGHT HDW/FUNC A B C ITEM

NASA [ 3 /1R ] [ F ] [ F ] [ P ] [ X ] *
IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]
COMPARE [ /N ] [ N ] [ N ] [ N ] [ N ]

RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3 CLOSE SWITCH SCAN DIODES. DIODE SHORTS. FUNCTIONAL
CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY. FAILS B-
SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.

REPORT DATE 03/11/88 C-1173
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5001
NASA FMEA #: 2071-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5001
ITEM: LO2 PREVALVE TOGGLE SWITCH
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
  ADEQUATE [ ]
  INADEQUATE [ ]

REMARKS:
3 TOGGLE SWITCHES. INADVERTENT COMMAND TO REOPEN PREVALVE DURING MECO SEQUENCE. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5002
NASA FMEA #: 2071-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5002
ITEM: LO2 PREVALUE TOGGLE SWITCH

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

| [ 3 /1R ] | [ P ] | [ F ] | [ P ] | [ A ] |
| ADD/DELETE |

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3 TOGGLE SWITCHES. INADVERTENT COMMAND TO CLOSE SOLENOID, MAY CLOSE PREVALUE PREMATURELY DURING THE BURN. ONE SWITCH SCAN MEASUREMENT FOR 4 SWITCH CONTACTS DOES NOT SATISFY THE B-SCREEN. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5003
NASA FMEA #: 2070-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5003
ITEM: FUSE (1A) (4 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[3 /1R ] [ P ] [ F ] [ P ] [ A]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 FUSES. LOSS OF ALL REDUNDANCY (GPC AND MANUAL) IN LO2 PREVALVE COULD POSSIBLY CAUSE THE LOSS OF VEHICLE/CREW. REFERENCE NSTS 22206, PARA 2.3.3.C, AND ASSESSMENT MPS-4160 REMARKS.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5004
NASA FMEA #: 2070-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5004
ITEM: Fuse (1A) (4 per circuit)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
12 fuses. Open fuses remove power from the LO2 Prevalve Control Switch. Open switch initiates redundant on-orbit vacuum venting function after MECO. Venting function not critical for mission. Reference Assessment MPS-4150 Remarks.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5011
NASA FMEA #: NA
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5011
ITEM: MDM (FAI)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-1,
CRITICALITY 2/1R, LOSS OF OUTPUT FROM AFT MDM'S FAI-4.

REPORT DATE 03/11/88 C-1178
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5012
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5012
ITEM: MDM (FA2)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-1,
CRITICALITY 2/1R, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.

REPORT DATE 03/11/88 C-1179
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5013
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5013
ITEM: MDM (FA3)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

*CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-1, CRITICALITY 2/1R, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5014
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ x ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5014
ITEM: MDM (FA4)

LEAD ANALYST: HOLDEN/LOWERY

ASSessment:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

Adequate [ ]
Inadequate [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-1,
CRITICALITY 2/1R, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5015
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5015
ITEM: MDM (FA1)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-1, CRITICALITY 2/1R, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5016
NASA FMEA #: NA
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5016
ITEM: MDM (FA2)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-1, CRITICALITY 2/1R, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5017
NASA FMEA #: NA
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5017
ITEM: MDM (FA3)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY REDUNDANCY SCREENS CIL
FLIGHT HDW/FUNC A B C ITEM

NASA [ / ] [ ] [ ] [ ] [ ] [*]
IOA [ 3 /1R ] [ P ] [ P ] [ P ] [ ]
COMPARE [ N /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-1,
CRITICALITY 2/1R, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.
APPENDIX C
ASSSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5018
NASA FMEA #: NA
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5018
ITEM: MDM (FA4)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-1, CRITICALITY 2/1R, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.

REPORT DATE 03/11/88 C-1185
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5019
NASA FMEA #: NA
NASA DAT: NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5019
ITEM: MDM (FA1)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-2, CRITICALITY 1/1, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5020
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5020
ITEM: MDM (FA2)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-2, CRITICALITY 1/1, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5021
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5021
ITEM: MDM (FA3)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-2, CRITICALITY 1/1, LOSS OF OUTPUT FROM AFT MDM'S FAI-4.

REPORT DATE 03/11/88    C-1188
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5022
NASA FMEA #: NA
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MDAC ID: 5022
ITEM: MM (FA4)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 MDM. REFERENCE DATA PROCESSING SYSTEM FMEA 05-5-B03-1-2, CRITICALITY 1/1, LOSS OF OUTPUT FROM AFT MDM'S FA1-4.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5031
NASA FMEA #: 2078-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5031
ITEM: HYBRID DRIVER, TYPE 3 (2 PER CIRCUIT)

ASSESSMENT ID:
LEADANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN HDC IIIs. B-SCREEN FAILS BECAUSE OF SERIES/PARALLEL REDUNDANCY MASKS THE FAILURE. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5032
NASA FMEA #: 2078-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5032
ITEM: HYBRID DRIVER, TYPE 3 (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN HDC IIIs. FAILS B-SCREEN BECAUSE REDUNDANT (PARALLEL) DRIVER MASKS THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5033
NASA FMEA #: 2079-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5033
ITEM: HYBRID DRIVER, TYPE 1
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3 OPEN HDC Is.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5034
NASA FMEA #: 2076-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5034
ITEM: REMOTE POWER CONTROLLER (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN RPCs.

REPORT DATE 03/11/88   C-1193
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5035
NASA FMEA #: 2077-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5035
ITEM: DIODE, ISOLATION (12A) (2 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN RPC OUTPUT DIODES.

REPORT DATE 03/11/88 C-1194
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5041
NASA FMEA #: 2074-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5041
ITEM: HYBRID DRIVER, TYPE 3 (2 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE HDC IIIs. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.

REPORT DATE 03/11/88 C-1195
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5042
NASA FMEA #: 2075-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5042
ITEM: HYBRID DRIVER, TYPE 1

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3 CLOSE HDC I'S. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
NASA DATA:
ASSESSMENT ID: MPS-5043
BASELINE [ ]
NASA FMEA #: 2072-1
NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5043
ITEM: REMOTE POWER CONTROLLER (2 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE RPC'S. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.

REPORT DATE 03/11/88 C-1197
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5044
NASA FMEA #: 2073-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5044
ITEM: DIODE, ISOLATION (12A) (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE RPC OUTPUT DIODES. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5051
NASA FMEA #: 2074-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5051
ITEM: HYBRID DRIVER, TYPE 3 (2 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY

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IOA [2/1R] [P] [P] [P] [X]

COMPARE [N/ ] [ ] [N] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE HDC III'S. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY..

REPORT DATE 03/11/88 C-1199
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5052
NASA FMEA #: 2072-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5052
ITEM: REMOTE POWER CONTROLLER (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE RPC'S. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5053
NASA FMEA #: 2073-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5053
ITEM: DIODE, ISOLATION (12A) (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE RPC OUTPUT DIODES. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5061
NASA FMEA #: 2078-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5061
ITEM: HYBRID DRIVER, TYPE 3 (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN HDC III'S. B-SCREEN FAILS BECAUSE OF SERIES/PARALLEL REDUNDANCY MASKS THE FAILURES. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.

REPORT DATE 03/11/88 C-1202
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5062
NASA FMEA #: 2078-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5062
ITEM: HYBRID DRIVER, TYPE 3 (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

| CRITICALITY | REDUNDANCY SCREENS | CIL |
| FLIGHT | HDW/FUNC | A | B | C |
| NASA [ 3 /1R ] | [ P ] | [ F ] | [ P ] | [ X ] * |
| IOA [ 3 /1R ] | [ P ] | [ P ] | [ P ] | [ ] |

COMPARE [ / ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN HDC III'S. FAILS B-SCREEN BECAUSE REDUNDANT (PARALLEL) DRIVER MASKS THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5063
NASA FMEA #: 2076-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5063
ITEM: REMOTE POWER CONTROLLER (2 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN RPC'S.

REPORT DATE 03/11/88 C-1204
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5064
NASA FMEA #: 2077-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5064
ITEM: DIODE, ISOLATION (12A) (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN RPC OUTPUT DIODES.

REPORT DATE 03/11/88 C-1205
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5071
NASA FMEA #: 2182-1
NASA DATA: BASELINE [ ] NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5071
ITEM: DIODE (10 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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IOA [ 3 /1R ] [ P ] [ F ] [ P ] [ X ]

COMPARE [ / ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:

9 OPEN MDM BLOCKING DIODES.

REPORT DATE 03/11/88 C-1206
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5071A
NASA FMEA #: 2180-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5071
ITEM: DIODE (10 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN MDM BLOCKING DIODES. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5071B
NASA FMEA #: 2185-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5071
ITEM: DIODE (10 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN SWITCH BLOCKING DIODES. DIODE FAIL OPEN WILL INHIBIT MANUAL CAPABILITY TO OPEN PREVALE AFTER MECO. FEEDLINE VENTING NOT CRITICAL AFTER MECO. REFERENCE ASSESSMENT MPS-4150 REMARKS.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5071C
NASA FMEA #: 2187-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5071
ITEM: DIODE (10 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY

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COMPARE [ /N ] [ N ] [ N ] [ N ] [ N ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN SWITCH BLOCKING DIODES. LOSS OF ALL REDUNDANCY (GPC AND MANUAL) IN OPENING THE LO2 PREVALVE AFTER MECO. FEEDLINE VENTING NOT CRITICAL. REFERENCE ASSESSMENT MPS-4150 REMARKS. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5072
NASA FMEA #: 2180-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5072
ITEM: DIODE (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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COMPARE [ / ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)
[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN MDM BLOCKING DIODES. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5072A
NASA FMEA #: 2185-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5072
ITEM: DIODE (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN SWITCH BLOCKING DIODES. DIODE FAIL OPEN WILL INHIBIT MANUAL CAPABILITY OF OPENING PREVALVE AFTER MECO. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE. AFTER MECO, FEEDLINE VENTING NOT CRITICAL. REFERANCE ASSESSMENT MPS-4150 REMARKS.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5073
NASA FMEA #: 2182-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5073
ITEM: DIODE (3 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY

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COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
9 OPEN MDM BLOCKING DIODES.

REPORT DATE 03/11/88 C-1212
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5073A
NASA FMEA #: 2187-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5073
ITEM: DIODE (3 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN SWITCH BLOCKING DIODES. LOSS OF ALL REDUNDANCY (GPC AND MANUAL) IN OPENING THE LO2 PREVALVE AFTER MECO. FEEDLINE VENTING NOT CRITICAL. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE. REFERENCE ASSESSMENT MPS- 4150.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5074
NASA FMEA #: 2183-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5074
ITEM: DIODE (10 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
9 CLOSE MDM BLOCKING DIODES.

REPORT DATE 03/11/88 C-1214
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5074A
NASA FMEA #: 2181-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5074
ITEM: DIODE (10 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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NASA DATA:
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RECOMMENDATIONS: (If different from NASA)
[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE MDM BLOCKING DIODES. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.

REPORT DATE 03/11/88 C-1215
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5074B
NASA FMEA #: 2184-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5074
ITEM: DIODE (10 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 MAINSTAGE MDM BLOCKING DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5074C
NASA FMEA #: 2186-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5074
ITEM: DIODE (10 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE SWITCH BLOCKING DIODES. LOSS OF ALL REDUNDANCY (GPC AND MANUAL) IN CLOSING THE LO2 PREVALVE COULD POSSIBLY CAUSE LOSS OF VEHICLE/CREW. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88  NASA DATA:
ASSESSMENT ID: MPS-5074D  BASELINE [ ]
NASA FMEA #: 2189-1  NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5074
ITEM: DIODE (10 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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IOA   [ 3 /1R]  [ P]   [ P]   [ P]   [ X ]
COMPARE [ /N ]  [ N]   [ N]   [ N]   [ N ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 OPEN SWITCH BLOCKING DIODES. THE DIODE FAILING OPEN, AND FAILURES IN THE CLOSE SOLENOID CIRCUITS COULD INHIBIT THE OPENING OF THE PREVAVES AFTER MECO. OPENING OF THE PREVAVES TO VENT THE FEEDLINE IS NOT CRITICAL BECAUSE OF LEAKAGE THROUGH ENGINE.
REFERENCE ASSESSMENT MPS-4150 REMARKS.

REPORT DATE 03/11/88   C-1218
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5074E
NASA FMEA #: 2188-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5074
ITEM: DIODE (10 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[3/1R] [P] [F] [P] [A] (ADD/DELETE)

*CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE SWITCH BLOCKING DIODES. LOSS OF ALL REDUNDANCY (GPC AND MANUAL) IN CLOSING THE LO2 PREVALVE COULD POSSIBLY CAUSE LOSS OF VEHICLE/CREW. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.

REPORT DATE 03/11/88 C-1219
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5075
NASA FMEA #: 2181-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5075
ITEM: DIODE (6 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

Adequate [ ]

Inadequate [ ]

REMARKS:
6 CLOSE MDM BLOCKING DIODES. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE. FUNCTIONAL CRITICALITY DETERMINED BY LIKE AND UNLIKE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5075A
NASA FMEA #: 2186-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5075
ITEM: DIODE (6 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

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REMARKS:
6 CLOSE SWITCH BLOCKING DIODES. LOSS OF ALL REDUNDANCY (GPC AND MANUAL) IN CLOSING THE LO2 PREVALVE COULD POSSIBLY CAUSE LOSS OF VEHICLE/CREW. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.

REPORT DATE 03/11/88   C-1221
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5076
NASA FMEA #: 2183-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5076
ITEM: DIODE (7 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ ] [ ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

Adequate [ ]
Inadequate [ ]

REMARKS:
9 CLOSE MDM BLOCKING DIODES.

REPORT DATE 03/11/88 C-1222
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5076A
NASA FMEA #: 2184-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5076
ITEM: DIODE (7 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 MAINSTAGE MDM BLOCK DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/11/88
ASSESSMENT ID: MPS-5076B
NASA FMEA #: 2188-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5076
ITEM: DIODE (7 PER CIRCUIT)
LEAD ANALYST: HOLDEN/LOWERY
NASA DATA:
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NEW [ X ]

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| COMPARE [ /N ] | [ N ] | [ N ] | [ N ] | [ N ] |

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 CLOSE SWITCH BLOCKING DIODES. LOSS OF ALL REDUNDANCY (GPC AND MANUAL) IN CLOSING THE LO2 PREVALVE COULD POSSIBLY CAUSE LOSS OF VEHICLE/CREW. FAILS B-SCREEN BECAUSE REDUNDANCY MASKS THE FAILURE.

REPORT DATE 03/11/88 C-1224
### APPENDIX C
#### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 2/11/88  
**ASSESSMENT ID:** MPS-5076C  
**NASA FMEA #:** 2189-1  
**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5076  
**ITEM:** DIODE (7 PER CIRCUIT)  
**LEAD ANALYST:** HOLDEN/LOWERY

**NASA DATA:**
- **BASELINE:** [ ]
- **NEW:** [ X ]

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

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(ADD/DELETE)

* **CIL RETENTION RATIONALE:** (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

**REMARKS:**

6 OPEN SWITCH BLOCKING DIODES. THE DIODE FAILING OPEN, AND FAILURES IN THE CLOSE SOLENOID CIRCUITS COULD INHIBIT THE OPENING OF THE PREVALVES AFTER MECO. OPENING OF THE PREVALVES TO VENT THE FEEDLINE IS NOT CRITICAL BECAUSE OF LEAKAGE THROUGH ENGINE. REFERENCE ASSESSMENT MPS-4150 REMARKS.

**REPORT DATE:** 03/11/88  
**C-1225**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5120
NASA FMEA #: 2012-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5120
ITEM: LO2 FEEDLINE RELIEF SHUTOFF VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY
FLIGHT
HDW/FUNC

REdundancy Screens
A    B    C

CIL
ITEM

NASA [ 3 /3 ] [ NA] [ NA] [ NA] [ ] *
IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]

COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3 CLOSE SW SCAN DIODES.

REPORT DATE 03/11/88    C-1226
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5120A
NASA FMEA #: 2012B-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5120
ITEM: LO2 FEEDLINE RELIEF SHUTOFF VALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3 CLOSE SW SCAN DIODES. THE FAILURE ERODES REDUNDANCY BY TYING PARALLEL PATHS TOGETHER. LOSS OF ALL REDUNDANCY COULD RESULT IN A RUPTURE OF THE MPS. THE BLOCKING PROTECTION IS NOT STANDBY REDUNDANT AND IS NOT READILY DETECTABLE.

REPORT DATE 03/11/88 C-1227
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88  NASA DATA:
ASSESSMENT ID: MPS-5120B  BASELINE [ ]
NASA FMEA #: 2237-1  NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5120
ITEM: LO2 FEEDLINE RELIEF SHUTOFF VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

   ADEQUATE [ ]
   INADEQUATE [ ]

REMARKS:
2 OPEN SW SCAN DIODES.

REPORT DATE 03/11/88  C-1228
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5120C
NASA FMEA #: 2237-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5120
ITEM: LO2 FEEDLINE RELIEF SHUTOFF VALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2 OPEN SW SCAN DIODES. THE FAILURE ERODES REDUNDANCY BY CONNECTING PARALLEL PATHS TOGETHER. LOSS OF ALL REDUNDANCY COULD RESULT IN A RUPTURE OF THE MPS. THE BLOCKING PROTECTION IS NOT STANDBY REDUNDANT AND IS NOT READILY DETECTABLE.
**APPENDIX C**

**ASSESSMENT WORKSHEET**

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**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5120  
**ITEM:** LO2 FEEDLINE RELIEF SHUTOFF VALVE CONTROL CIRCUIT

**LEAD ANALYST:** HOLDEN/LOWERY

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

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* **CIL RETENTION RATIONALE:** (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

**REMARKS:**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5120E
NASA FMEA #: 2015-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5120
ITEM: LO2 FEEDLINE RELIEF SHUTOFF VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1231
### APPENDIX C
### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 1/29/88  
**ASSESSMENT ID:** MPS-5120F  
**NASA FMEA #:** 2016-1

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5120  
**ITEM:** LO2 FEEDLINE RELIEF SHUTOFF VALVE CONTROL CIRCUIT  
**LEAD ANALYST:** HOLDEN/LOWERY

**NASA DATA:**  
- BASELINE [ ]  
- NEW [X]

**ASSESSMENT:**  
**CRITICALITY REDUNDANCY SCREENS**

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**COMPARE**
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**RECOMMENDATIONS:** (If different from NASA)

- [ ]

**CIL RETENTION RATIONALE:** (If applicable)

- ADEQUATE [ ]
- INADEQUATE [ ]

**REMARKS:**

*Report Date 03/11/88 C-1232*
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5120G
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5120
ITEM: LO2 FEEDLINE RELIEF SHUTOFF VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THERE WERE 3 DIODES TOO MANY ON THE MDAC ANALYSIS WORKSHEET 5120.
DELETE 3 DIODES FROM WORKSHEET 5120.

REPORT DATE 03/11/88 C-1233
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5121
NASA PMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5121
ITEM: LO2 FEEDLINE RELIEF SHUTOFF VALVE TOGGLE SWITCH

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5122
NASA FMEA #: 2011-3
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5122
ITEM: LO2 FEEDLINE RELIEF SHUTOFF VALVE TOGGLE SWITCH
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
The switch is a standby redundant system.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5123
NASA FMEA #: 2310-1

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LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALITY 1.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5124
NASA FMEA #: 2017-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5124
ITEM: HYBRID DRIVER, TYPE 3 (AR42)
LEAD ANALYST: HOLDEN/LOWERY

NASA DATA:

BASELINE [ ]
NEW [ X ]

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALITY 1.

REPORT DATE 03/11/88 C-1237
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5125
NASA FMEA #: 2017-2
NASA DATA: BASELINE [ ]
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5125
ITEM: HYBRID DRIVER, TYPE 3 (AR42)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FIRST FAILURE WILL NOT CLOSE (PV7).

REPORT DATE 03/11/88 C-1238
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5126
NASA FMEA #: 2017-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5126
ITEM: HYBRID DRIVER, TYPE 3 (AR30)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALITY 1.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5127
NASA FMEA #: 2017-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5127
ITEM: HYBRID DRIVER, TYPE 3 (AR30)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
The first failure will not close (PV7).

REPORT DATE 03/11/88 C-1240

C-1240
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5128
NASA FMEA #: 2040-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5128
ITEM: REMOTE POWER CONTROLLER (RPC28)
LEAD ANALYST: HOLDEN/LOWERY

ASSessment:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FIRST FAILURE WILL NOT CLOSE (PV7).

REPORT DATE 03/11/88   C-1241
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88  
ASSESSMENT ID: MPS-5129  
NASA FMEA #: 2040-2

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 5129  
ITEM: REMOTE POWER CONTROLLER (RPC32)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

| ADEQUATE [ ] |

| INADEQUATE [ ] |

REMARKS:

THE FIRST FAILURE WILL NOT CLOSE (PV7)
**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 1/28/88  
**NASA FMEA #:** 2040-1  
**ASSESSMENT ID:** MPS-5130  
**BASELINE:** MPS-5130  
**LEAD ANALYST:** HOLDEN/LOWERY  
**ITEM:** EPD&C/MPS 5130 REMOTE POWER CONTROLLER (RPC32)  
**SUBSYSTEM:** MDAC ID:  

**NASA DATA:**  
BASELINE [ ]  
NEW [ X ]  

**NASA [ ] [ /IR ] [ P ] [ P ] [ P ]  
IOA [ ] [ 3/2R ] [ P ] [ P ] [ P ]  
**ITEM**  

**FREE HNDL FUNCTION A**  
**FREED FUNCTION B**  
**FREED FUNCTION C**  

**ASSESSMENT:** CRITICALITY REDUNDANCY SCREENS  
**FLIGHT HDW/FUNC:**  

**REM: NASA ASSESSMENT**  
**RECOMMENDATIONS:** (If different from NASA)  

**REMARKS:**  
THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALITY 1.  

**LEAD ANALYST:** HOLDEN/LOWERY  
**ASSESSMENT ID:** MPS-5130  
**BASELINE:** MPS-5130  
**NASA FMEA #:** 2040-1  
**ASSESSMENT DATE:** 1/28/88  
**REPORT DATE:** 03/11/88  
**C-1243**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5131
NASA FMEA #: 2040-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5131
ITEM: REMOTE POWER CONTROLLER (RPC28)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALITY 1.

REPORT DATE 03/11/88 C-1244
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5132
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5132
ITEM: MDM (FA3)

LEAD ANALYST: HOLDEN/LOWERY

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| NASA | IOA | COMPARE |
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| [ P ] | [ P ] | [ N ] |
| [ P ] | [ X ] | [ N ] |
| [ ] | [ ] | [ N ] |

RECOMMENDATIONS: (If different from NASA)

| NASA | IOA | COMPARE |
| [ 3 /1R ] | [ P ] | [ N ] |
| [ F ] | [ P ] | [ A ] |

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A LOSS OF ALL REDUNDANCY WILL CLOSE (PV7). THIS COULD CAUSE A RUPTURE IN THE MPS DUE TO OVERPRESSURIZATION. THE FAILURE IS NOT READILY DETECTABLE.

REPORT DATE 03/11/88
C-1245
**APPENDIX C**  
**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 1/29/88  
**NASA DATA:**  
**ASSESSMENT ID:** MPS-5133  
**BASELINE [ ]**  
**NASA FMEA #:** NA  
**NEW [ X ]**  
**SUBSYSTEM:**  
**EPD&C/MPS**  
**MDAC ID:** 5133  
**ITEM:** MDM (FA3)**

**LEAD ANALYST:** HOLDEN/LOWERY

**ASSESSMENT:**

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**RECOMMENDATIONS:**  
*(If different from NASA)*

| [ 3 /1R ] | [ P ] | [ F ] | [ P ] | [ A ] |

*(ADD/DELETE)*  

*CIL RETENTION RATIONALE:* *(If applicable)*

| ADEQUATE [ ] |
| INADEQUATE [ ] |

**REMARKS:**

*A LOSS OF ALL REDUNDANCY WILL OPEN THE VALVE PREMATURELY. O2 COULD BE RELEASED INTO THE ATMOSPHERE. THE FAILURE IS NOT READILY DETECTABLE.*
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5134
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5134
ITEM: MDM (FAI)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A LOSS OF ALL REDUNDANCY WILL CLOSE (PV7). THIS COULD CAUSE A RUPTURE IN THE MPS DUE TO OVERPRESSURIZATION. THE FAILURE IS NOT READILY DETECTABLE.

REPORT DATE 03/11/88 C-1247
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5135
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5135
ITEM: MDM (FA1)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[3/1R] [P] [F] [P] [A]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

A LOSS OF ALL REDUNDANCY WILL OPEN THE VALVE PREMATURELY. O2 COULD BE RELEASED INTO THE ATMOSPHERE. THE FAILURE IS NOT READILY DETECTABLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5136
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5136
ITEM: MDM (FA2)

LEAD ANALYST: HOLDEN/LOWERY

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5136
ITEM: MDM (FA2)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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REMARKS:
A LOSS OF ALL REDUNDANCY WILL CLOSE (PV7). THIS COULD CAUSE A RUPTURE IN THE MPS DUE TO OVERPRESSURIZATION. THE FAILURE IS NOT READILY DETECTABLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5137
NASA FMEA #: NA
NASA DATA:

ASSESSMENT ID: 1/29/88
ASSESSMENT ID: MPS-5137
NASA FMEA #: NA
NASA DATA: BASELINE [ ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5137
ITEM: MDM (FA2)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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| NASA | [ ] | [ ] | [ ] | [ ] | [ ] | * |
| IOA  | [ 3 /2R] | [ P ] | [ P ] | [ P ] | [ ] |
| COMPARE | [ N /N ] | [ N ] | [ N ] | [ N ] | [ ] |

RECOMMENDATIONS: (If different from NASA)

| [ 3 /1R ] | [ P ] | [ F ] | [ P ] | [ A ] |

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

| ADEQUATE | [ ] |
| INADEQUATE | [ ] |

REMARKS:

A LOSS OF ALL REDUNDANCY WILL OPEN THE VALVE PREMATURELY. O2 COULD BE RELEASED INTO THE ATMOSPHERE. THE FAILURE IS NOT READILY DETECTABLE.

REPORT DATE 03/11/88
C-1250
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5138
NASA FMEA #: 2239-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5138
ITEM: DIODE, ISOLATION (1A, 12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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IOA [ 3 /2R ] [ P ] [ P ] [ P ] [ ]
COMPARE [ /N ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ P ] [ ]

*(ADD/DELETE)

*CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2 BLOCKING DIODES, MDM TO RPC. VENTING O2 INTO THE ATMOSPHERE IS CRITICALITY 1.

REPORT DATE 03/11/88 C-1251
ASSESSMENT DATE: 1/28/88
NASA DATA: BASELINE [ ]
NASA FMEA #: 2238-1 NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5138
ITEM: DIODE, ISOLATION (1A, 12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE ELIMINATES THE ABILITY TO MANUALLY CLOSE THE VALVE. O2 COULD BE VENTED INTO THE ATMOSPHERE. THE FAILURE IS READILY DETECTABLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5138B
NASA FMEA #: 2397-1

NASA FMEA #: 2397-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5138
ITEM: DIODE, ISOLATION (1A, 12A)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 RPC A OUTPUT DIODE, 12A. THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALITY 1. THE FAILURE IS NOT READILY DETECTABLE.

REPORT DATE 03/11/88 C-1253
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5139
NASA FMEA #: 2238B-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5139
ITEM: DIODE, ISOLATION (1A, 12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY
FLIGHT
HDW/FUNC
A       B       C
NASA [ 3 /1R ] [ P ] [ NA] [ P ] [ ] *
IOA [ 3 /2R ] [ P ] [ P ] [ P ] [ ]
COMPARE [ /N ] [ ] [ N ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)
[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR TWO DIODES. THE VENTING OF O2 INTO THE
ATMOSPHERE IS CRITICALITY 1. THE BLOCKING PROTECTION IS NOT
STANDBY REDUNDANT.

REPORT DATE 03/11/88 C-1254
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-5139A
NASA FMEA #: 2238-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5139
ITEM: DIODE, ISOLATION (1A, 12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE ELIMINATES THE ABILITY TO MANUALLY CLOSE THE VALVE. O2 COULD BE VENTED INTO THE ATMOSPHERE. THE FAILURE IS NOT READILY DETECTABLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5139B
NASA FMEA #: 2039-1
NASA DATA:
BASELINE [   ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5139
ITEM: DIODE, ISOLATION (1A, 12A)

LEAD ANALYST: HOLDEN/LOWERY

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NASA: [ 3 /1R ] [ P ] [ P ] [ P ] [ X ] *
IOA: [ 3 /2R ] [ P ] [ P ] [ P ] [   ]
COMPARE: [ /N ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)

[ ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [   ]
INADEQUATE [   ]

REMARKS:
THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALITY 1.

REPORT DATE 03/11/88 C-1256
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5139C
NASA FMEA #: 2039-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5139
ITEM: DIODE, ISOLATION (1A, 12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
The venting of O2 into the atmosphere is criticality 1.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5139D
NASA FMEA #: 2240B-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5139
ITEM: DIODE, ISOLATION (1A, 12A)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS:  (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALITY 1.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5139E
NASA FMEA #: 2240B-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5139
ITEM: DIODE, ISOLATION (1A, 12A)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALLY 1.
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88  
ASSESSMENT ID: MPS-5139F  
NASA FMEA #: 2241-1  
ASSESSMENT ID: MPS-5139F  
NASA FMEA #: 2241-1  
SUBSYSTEM: EPD&C/MPS  
MDAC ID: 5139  
ITEM: DIODE, ISOLATION (1A, 12A)  
LEAD ANALYST: HOLDEN/LOWERY  

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

REMARKS:

THE VENTING OF O2 INTO THE ATMOSPHERE IS CRITICALITY I.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5139G
NASA FMEA #: 2241-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5139
ITEM: DIODE, ISOLATION (1A, 12A)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
The failure will have no hazardous effect.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-5139H
NASA FMEA #: 2013-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5139
ITEM: DIODE, ISOLATION (1A, 12A)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

| [ 3 /1R ] [ P ] [ F ] [ P ] [ A ] |

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 TRANSIENT SUPPRESSOR DIODE. A SHORT IN THIS DIODE COULD GROUND THE OUTPUT TO THE CLOSE SOLENOID IF ALL REDUNDANCY IS LOST. O2 COULD BE VENTED INTO THE ATMOSPHERE. THE FAILURE IS NOT READILY DETECTABLE.
ASSESSMENT DATE: 2/16/88
ASSESSMENT ID: MPS-5141
NASA FMEA #: 2162-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5141
ITEM: LO2 PROPELLENT DUMP SEQUENCE TOGGLE SWITCH
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 1 /1 ] [ NA ] [ NA ] [ NA ] [ A ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAILABLE REFERENCE: MPS/EPD&C FMEA REVIEW SUMMARY 8-17-87.
PREMATURE TRANSFER TO START COULD VENT PROPELLANT OVERBOARD DURING BOOST. THIS COULD RESULT IN FIRE/EXPLOSION.
DOCUMENTATION ON ANY SOFTWARE INHIBIT WAS UNAVAILABLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/16/88  
ASSESSMENT ID: MPS-5142  
NASA FMEA #: 2162-1

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 5142  
ITEM: LO2 PROPELLENT DUMP SEQUENCE TOGGLE SWITCH  
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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NASA [ 2 /1R ] [ F ] [ F ] [ P ] [ X ] *  
IOA [ 2 /1R ] [ P ] [ P ] [ P ] [ X ]

COMPARE [ / ] [ N ] [ N ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ 2 /1R ] [ P ] [ P ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

REMARKS:

ONLY AVAILABLE REFERENCE: MPS/EPD&C FMEA REVIEW SUMMARY 8-17-87.  
THE FAILURE WILL BE DETECTED DURING MPS DUMP. DIRECT INSERTION MISSION IS THE MOST CRITICAL CASE SINCE IT REQUIRES A MANUAL DUMP INITIATE COMMAND.

REPORT DATE 03/11/88  C-1264
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/16/88
ASSESSMENT ID: MPS-5143
NASA FMEA #: 2160-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5143
ITEM: FUSE (F31, F32)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3/1R ] [ P ] [ P ] [ P ] [ D ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

ONLY AVAILABLE REFERENCE: MPS/EPD&C FMEA REVIEW SUMMARY 8-17-87.
THE FAILURE WILL BE DETECTED DURING MPS DUMP (WHEN S1 IS NOT IN
GPC POSITION). DIRECT INSERTION MISSION IS THE MOST CRITICAL
CASE SINCE IT REQUIRES A MANUAL DUMP INITIATE COMMAND.
FAILURE OF ONE FUSE, ONLY ELIMINATES ONE POWER PATH.

REPORT DATE 03/11/88 C-1265
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5160
NASA FMEA #: 2357B-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5160
ITEM: DIODE, ISOLATION

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1266
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5160A
NASA FMEA #: 2357B-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5160
ITEM: DIODE, ISOLATION
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF DIODE ERODES REDUNDANCY. SECOND FAILURE - (INADVERTENT CLOSE COMMAND) WOULD ELIMINATE OPEN SOLENOID POWER. THIRD FAILURE - (INADVERTENT CLOSE POWER) WOULD SHUT VALVE DURING LOADING.

REPORT DATE 03/11/88 C-1267
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5160B
NASA FMEA #: 2358B-1

NASA DATA:
BASELINE
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5160
ITEM: DIODE, ISOLATION

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]

COMPARE [ /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FIRST FAILURE WOULD ELIMINATE OPEN SOLENOID INHIBIT. SECOND FAILURE - INADVERTENT OPEN COMMAND. THIRD FAILURE - LOSS OF CLOSE SOLENOID POWER CAUSING PREMATURE OPENING OF THE OUTBOARD F/D.

REPORT DATE 03/11/88 C-1268
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5160C
NASA FMEA #: 2358B-2
NASA DATA:
BASELINE [ ]
NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5160
ITEM: DIODE, ISOLATION
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88   C-1269
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5160D
NASA FMEA #: 2359B-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5160
ITEM: LO2 OUTBOARD FILL & DRAIN VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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IOA [ 3 /3 ] [ NA ] [ NA ] [ NA ] [ ]

COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 TRANSIENT SUPPRESSION DIODE. A SHORT IN THIS DIODE COMBINED WITH AN INTERNAL HDC FAILURE WOULD GROUND THE OPEN SOLENOID. INADVERTENT CLOSE SOLENOID POWER WOULD CLOSE THE VALVE DURING LOADING. THE FAILURE IS NOT READILY DETECTABLE.

REPORT DATE 03/11/88 C-1270
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
NASA DATA:
ASSESSMENT ID: MPS-5160E
NASA FMEA #: 2360B-1
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5160
ITEM: LO2 OUTBOARD FILL & DRAIN VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 MONITORING RESISTORS.

REPORT DATE 03/11/88 C-1271
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5160F
NASA FMEA #: 2372B-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5160
ITEM: LO2 OUTBOARD FILL & DRAIN VALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2 BLEED RESISTORS.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5161
NASA FMEA #: 2055B-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5161
ITEM: LO2 OUTBOARD FILL & DRAIN TOGGLE SWITCH

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88   C-1273
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5162
NASA FMEA #: 2055B-3
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5162
ITEM: LO2 OUTBOARD FILL & DRAIN TOGGLE SWITCH

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA SCENARIO IS DIFFERENT AND MORE CRITICAL THAN IOA's.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5163
NASA FMEA #: 2055B-1
NASA DATA: BASELINE [ ] NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5163
ITEM: LO2 OUTBOARD FILL & DRAIN TOGGLE SWITCH

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1275
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5164
NASA FMEA #: 2055B-4
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5164
ITEM: LO2 OUTBOARD FILL & DRAIN TOGGLE SWITCH
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FIRST FAILURE WILL ELIMINATE OPEN SOLENOID POWER. PREMATURE OUTPUT BY CLOSE SOLENOID HDC WOULD CLOSE OUTBOARD F/D VALVE.

REPORT DATE 03/11/88 C-1276
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5165
NASA FMEA #: 2054B-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5165
ITEM: FUSE
LEAD ANALYST: HOLDEN/LOWERY

NASA DATA:
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NEW [ X ]

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1277
## APPENDIX C
### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 1/15/88  
**ASSESSMENT ID:** MPS-5166  
**NASA FMEA #:** 2057B-2

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5166  
**ITEM:** HYBRID DRIVER, TYPE 3  
**LEAD ANALYST:** HOLDEN/LOWERY

**NASA DATA:**  
**BASELINE [ ]**  
**NEW [ X ]**

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

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(ADD/DELETE)

* **CIL RETENTION RATIONALE:** (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

**REMARKS:**  
LOSS OF ALL FUNCTIONAL REDUNDANCY COULD LEAD TO LOSS OF VEHICLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5167
NASA FMEA #: 2057B-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5167
ITEM: HYBRID DRIVER, TYPE 3

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF ALL FUNCTIONAL REDUNDANCY COULD LEAD TO LOSS OF VEHICLE.

REPORT DATE 03/11/88 C-1279
**APPENDIX C**

**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 1/15/88  
**ASSESSMENT ID:** MPS-5168  
**NASA FMEA #:** 2057B-1  
**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5168  
**ITEM:** HYBRID DRIVER, TYPE 3  
**LEAD ANALYST:** HOLDEN/LOWERY  

**ASSESSMENT:**

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**COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]**

**RECOMMENDATIONS:** (If different from NASA)  

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)  

ADEQUATE [ ]  
INADEQUATE [ ]

**REMARKS:**

**REPORT DATE** 03/11/88  
C-1280
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5169
NASA FMEA #: 2058B-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5169
ITEM: HYBRID DRIVER, TYPE 3
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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| IOA [ 2 /1R ] | [ P ] | [ P ] | [ P ] | [ X ] |
| COMPARE [ / ] | [ ] | [ ] | [ ] | [ ] |

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88  C-1281
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5170
NASA FMEA #: 2056B-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5170
ITEM: DIODE, ISOLATION
LEAD ANALYST: HOLDEN/LOWERY

NASA DATA:
BASELINE [ ]
NEW [ X ]

CRITICALITY REDUNDANCY SCREENS CIL ITEM
FLIGHT HDW/FUNC A B C

NASA [ 3 /1R ] [ P ] [ F ] [ P ] [ X ] *
IOA [ 3 /1R ] [ P ] [ P ] [ P ] [ ]

COMPARE [ / ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILS SCREEN B ON THE GROUND DUE TO GROUND OPEN COMMAND MASK.

REPORT DATE 03/11/88 C-1282
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5170A
NASA FMEA #: 2356B-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5170
ITEM: DIODE, ISOLATION

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
AN OPEN DURING LOADING WOULD NOT BE DETECTED.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5171
NASA FMEA #: 2355B-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5171
ITEM: DIODE, ISOLATION

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1284
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5171A
NASA FMEA #: 2354B-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5171
ITEM: DIODE, ISOLATION
LEAD ANALYST: HOLDEN/LOWERY

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5171
ITEM: DIODE, ISOLATION
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

NASA HAS FOUND A MORE CRITICAL SCENARIO.
**APPENDIX C**  
**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 1/15/88  
**ASSESSMENT ID:** MPS-5172  
**NASA FMEA #:** NA  
**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5172  
**ITEM:** MDM (FA4)  
**LEAD ANALYST:** HOLDEN/LOWERY

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**RECOMMENDATIONS:**  
(If different from NASA)

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[ P ]  
[ P ]  
[ P ]  
(ADD/DELETE)

* CIL RETENTION RATIONALE:  
(If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

**REMARKS:**

LOSS OF PROPELLANT COMBINED WITH ACCELERATION LOADS COULD RUPTURE THE F/D LINE CAUSING A FIRE HAZARD.

**REPORT DATE** 03/11/88  
**C-1286**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5173
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5173
ITEM: MDM (FA4)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA SCENARIO IS POSSIBLE.

REPORT DATE 03/11/88 C-1287
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5174
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5174
ITEM: MDM (FA4)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONAL: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA SCENARIO IS POSSIBLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5175
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5175
ITEM: MDM (LA1)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DATA UNAVAILABLE FOR RECOMMENDATIONS.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
ASSESSMENT ID: MPS-5176
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5176
ITEM: MDM (LA1)
LEAD ANALYST: HOLDEN/LOWERY

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COMPARE [ N /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DATA UNAVAILABLE FOR RECOMMENDATION.

REPORT DATE 03/11/88 C-1290
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5500
NASA FMEA #: 2280-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5500
ITEM: LO2 INBOARD FILL & DRAIN VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1291
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5500A
NASA FMEA #: 2280-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5500
ITEM: LO2 INBOARD FILL & DRAIN VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY REDUNDANCY SCREENS CIL ITEM
FLIGHT HDW/FUNC A B C

NASA [ 2 /1R ] [ P ] [ F ] [ P ] [ X ] *
IOA [ 3 /3 ] [ NA] [ NA] [ NA ] [ ]
COMPARE [ N /N ] [ N ] [ N ] [ N ] [ N ]

RECOMMENDATIONS: (If different from NASA)
[ 3 /3 ] [ NA] [ NA] [ NA] [ D ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURE WILL ERODE BLOCKING PROTECTION. A SECOND FAILURE
WILL NOT ACTUATE THE VALVE.

REPORT DATE 03/11/88 C-1292
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5500B
NASA FMEA #: 2289-1
NASA DATA: BASELINE [ ]
NASA FMEA #: 5500
NASA [ 3 /3 ]
NASA [ 3 /3 ]
COMPARE [ / ]
RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ]
(ADD/DELETE)
* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

ASSESSMENT:

CRITICALITY FLIGHT
HDW/FUNC REDUNDANCY SCREENS
A B C

NASA [ 3 /3 ] [ NA] [ NA] [ NA] [ ] *
IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]

ITEM: LO2 INBOARD FILL & DRAIN VALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

REPORT DATE 03/11/88 C-1293
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5500C
NASA FMEA #: 2290-1
NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5500
ITEM: LO2 INBOARD FILL & DRAIN VALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

| CRITICALITY
| REDUNDANCY SCREENS | CIL ITEM |
|-------------------|-----------|----------|
| FLIGHT            | A         | B        | C        |
| HDW/FUNC          |           |          |          |

NASA [ 3 /3 ] [ NA] [ NA] [ NA] [ ] *
IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]
COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1294
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5500D
NASA FMEA #: 2374-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5500
ITEM: LO2 INBOARD FILL & DRAIN VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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| IOA  | 3 / 3 | [ NA] | [ NA] | [ NA] | [ ] |

COMPARE [ / ] [ ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1295
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
NASA DATA:
ASSESSMENT ID: MPS-5501
NASA FMEA #: 2037-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5501
ITEM: LO2 INBOARD FILL & DRAIN TOGGLE SWITCH
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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COMPARE [ /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[3/1R] [P] [P] [P] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PREMATURE OPENING OF THE FILL DRAIN IS ALL REDUNDANCY IS LOST. GAS TRAPPED IN THE LINE WOULD ENTER FEEDLINES RESULTING IN POTENTIAL CAVITATION OF ONE OR MORE SSME's. (FAIL SHORTED TO BUS) DIFFERENT FROM NASA's FAIL XFER TO CLOSE.

REPORT DATE 03/11/88 C-1296
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5502
NASA FMEA #: 2037-3

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5502
ITEM: LO2 INBOARD FILL & DRAIN TOGGLE SWITCH

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
AFTER THIS FAILURE, A PREMATURE OPEN COMMAND B COULD OPEN FILL DRAIN VALVE. NASA SCENARIO POSSIBLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5503
NASA FMEA #: 2037-4
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5503
ITEM: LO2 INBOARD FILL & DRAIN TOGGLE SWITCH
LEAD ANALYST: HOLDEN/LOWERY

NASA DATA:
BASELINE [ ]
NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5503
ITEM: LO2 INBOARD FILL & DRAIN TOGGLE SWITCH
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY
FLIGHT
HDW/FUNC
NASA [ 2 /1R ]
IOA [ 3 /1R ]
COMPARE [ N / ]

REDUNDANCY SCREENS
A
B
C
[ P ]
[ P ]
[ P ]
[ X ] *
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CIL ITEM
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RECOMMENDATIONS: (If different from NASA)

[ / ]
[ ]
[ ]
[ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA SCENARIO IS MORE CRITICAL.

REPORT DATE 03/11/88 C-1298
## APPENDIX C

### ASSESSMENT WORKSHEET

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**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:**  5504  
**ITEM:** LO2 INBOARD FILL & DRAIN TOGGLE SWITCH  
**LEAD ANALYST:** HOLDEN/LOWERY  

**ASSESSMENT:**

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**RECOMMENDATIONS:**  
(If different from NASA)

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* CIL RETENTION RATIONALE:  
(If applicable)

| ADEQUATE | [ ] |
| INADEQUATE | [ ] |

**REMARKS:**

FAILURE WILL RESULT IN ADVERTENT POWER TO CLOSE SOLENOID AND TERMINATION OF POWER TO OPEN SOLENOID WITH ONE ADDITIONAL FAILURE (LOSS OF GND OPEN COMMAND).

**REPORT DATE 03/11/88 C-1299**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88  NASA DATA:
ASSESSMENT ID: MPS-5505  BASELINE [ ]
NASA FMEA #: 2037-1  NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5505
ITEM: LO2 INBOARD FILL & DRAIN TOGGLE SWITCH

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88  C-1300
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5506
NASA FMEA #: 2051-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5506
ITEM: FUSE (2) (1A)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE WILL INHIBIT OPENING SOLENOID (LV30) MANUAL OPEN COMMAND, i.e. VACUUM INERT USING F/D VALVE.

REPORT DATE 03/11/88 C-1301
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5507
NASA FMEA #: 2051-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5507
ITEM: FUSE (1A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE WILL INHIBIT CLOSE COMMAND TO THE CLOSING SOLENOID (LV31). THE INBOARD FILL DRAIN WILL OPEN IF ALL REDUNDANCY IS LOST. MINIMUM OF 2 MORE FAILURES TO CAUSE CAVITATION OF PUMPS ON ONE OR MORE SSME's AND POSSIBLE FIRE AND EXPLOSION.

REPORT DATE 03/11/88 C-1302
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5511
NASA FMEA #: 2053-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5511
ITEM: HYBRID DRIVER, TYPE 3
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL GIVE PREMATURE OPEN COMMAND TO HDC IN SERIES WITH OPEN SOLENOID. REDUNDANCY WILL BE REDUCED 2 ADDITIONAL FAILURES NECESSARY FOR LOSS OF VEHICLE. (OTHER SERIES HDC MUST CONDUCT AND TERMINATION OF POWER TO CLOSE SOLENOID).

REPORT DATE 03/11/88 C-1303
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5512
NASA FMEA #: 2053-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5512
ITEM: HYBRID DRIVER, TYPE 3
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ / ] [ / ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL GIVE PREMATURE OPEN COMMAND TO HDC IN SERIES WITH OPEN SOLENOID. REDUNDANCY WILL BE REDUCED. TWO ADDITIONAL FAILURES ARE NECESSARY FOR LOSS OF VEHICLE. PREMATURE OPEN COMMAND FROM NEXT SERIES HDC AND TERMINATION OF POWER TO CLOSE SOLENOID.

REPORT DATE 03/11/88 C-1304
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5513
NASA FMEA #: 2053-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5513
ITEM: HYBRID DRIVER, TYPE 3

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1305
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5514
NASA FMEA #: 2059-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5514
ITEM: HYBRID DRIVER, TYPE 3

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1306
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5515
NASA FMEA #: 2059-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5515
ITEM: HYBRID DRIVER, TYPE 3

LEAD ANALYST: HOLDEN/LOWERY

RECOMMENDATIONS: (If different from NASA)

CIL RETENTION RATIONALE: (If applicable)

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(ADD/DELETE)

* ADEQUATE [ ]
INADEQUATE [ ]
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5521
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5521
ITEM: MDM (FA1)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3/1R ] [ P ] [ P ] [ P ] [ ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PREMATURE OPEN CMD A. AFTER AT LEAST 2 FAILURES THE FILL DRAIN VALVE COULD OPEN PREMATURELY.

REPORT DATE 03/11/88 C-1308
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5522
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5522
ITEM: MDM (FA4)
LEAD ANALYST: HOLDEN/LOWERY

NASA DATA:
BASELINE [ ]
NEW [ X ]

CRITICALITY
FLIGHT
HDW/FUNC

NASA [ / ] [ ] [ ] [ ] [ ] [ ] *
IOA [ 3 /1R ] [ P ] [ P ] [ P ] [ ]
COMPARE [ N /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)
[ 3 /1R ] [ P ] [ P ] [ P ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PREMATURE OPEN CMD B. SECOND FAILURE COULD APPLY POWER TO OPEN SOLENOID. THIRD FAILURE TERMINATION OF CLOSE SOLENOID POWER WOULD OPEN F/D VALVE.

REPORT DATE 03/11/88 C-1309
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5523
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5523
ITEM: MDM (LA1)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL TERMINATE GROUND OPEN SIGNAL. LOSS OF ALL REDUNDANCY WILL CAUSE PREMATURE CLOSURE OF F/D VALVE.

REPORT DATE 03/11/88 C-1310
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5524
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5524
ITEM: MDM (FA1)

LEAD ANALYST: HOLDEN/LOWERY

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| COMPARE | [N] | [N] | [N] | [N] | [ ] |

RECOMMENDATIONS: (If different from NASA)

| [ ] | [P] | [P] | [P] | [ ] |

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL ERODE REDUNDANCY. LOSS OF ALL REDUNDNACY WILL CAUSE CLOSURE OF F/D VALVE.

REPORT DATE 03/11/88    C-1311
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5525
NASA FMEA #: NA
NASA ID:

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5525
ITEM: MDM (FA2)

LEAD ANALYST: HOLDEN/LOWERY

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COMPARE [ N /N ] [ N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL GIVE PREMATURE CLOSE COMMAND (ERODE REDUNDANCY).
THE INBOARD F/D WILL CLOSE IF ALL REDUNDANCY IS LOST.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5526
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5526
ITEM: MDM (FA2)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL INHIBIT CLOSE COMMAND (ERODE REDUNDANCY). THE INBOARD F/D WILL OPEN IF ALL REDUNDANCY IS LOST.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/12/88
ASSESSMENT ID: MPS-5531
NASA FMEA #: 2281-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5531
ITEM: DIODE (2)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1314
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5531A
NASA FMEA #: 2288-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5531
ITEM: DIODE (2)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR ONE DIODE. REDUNDANCY WILL CONTINUE TO KEEP VALVE OPEN. MINIMUM OF 2 ADDITIONAL FAILURES NEED FOR PREMATURE CLOSURE (LOSS OF MDM OPENS AND PREMATURE CLOSE SOLENOID ACTIVATION).

REPORT DATE 03/11/88 C-1315
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5532
NASA FMEA #: 2283-1

SUBSYSTEM: EPD&/C/MPS
MDAC ID: 5532
ITEM: DIODE (3A) (4)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1316
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5532A
NASA FMEA #: 2282-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5532
ITEM: DIODE (3A) (4)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1317
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5532B
NASA FMEA #: 2284-1
NASA DATA: 
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5532
ITEM: DIODE (3A) (4)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PARALLEL PATH WILL MASK FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5532C
NASA FMEA #: 2285-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5532
ITEM: DIODE (3A) (4)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

*(ADD/DELETE)*

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL ELIMINATE POWER TO OPEN SOLENOID. PREMATURE ACTUATION OF CLOSE SOLENOID WOULD CLOSE F/D DURING LOADING.

REPORT DATE 03/11/88 C-1319
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5533
NASA FMEA #: 2286-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5533
ITEM: DIODES (2) (3A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

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REMARKS:
INBOARD FILL DRAIN VALVE (PVI0) WILL OPEN IF ALL REDUNDANCY IS LOST. GAS TRAPPED IN THE LINE WOULD ENTER FEEDLINES RESULTING IN POTENTIAL CAVITATION OF PUMPS ON ONE OR MORE SSME's.

REPORT DATE 03/11/88 C-1320
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
ASSESSMENT ID: MPS-5533A
NASA FMEA #: 2287-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5533
ITEM: DIODES (2) (3A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / * ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:
FIRST FAILURE WILL CAUSE LOSS OF POWER TO CLOSE SOLENOID. SECOND FAILURE (PREMATURE ACTUATION OF OPEN SOLENOID) COULD RESULT IN PREMATURE F/D OPEN AND LOSS OF VEHICLE.

REPORT DATE 03/11/88 C-1321
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5550
NASA FMEA #: 2097-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5550
ITEM: LO2 OVERBOARD BLEED VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2 RPC MONITOR RESISTORS.
**APPENDIX C**

**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 2/03/88  
**ASSESSMENT ID:** MPS-5550A  
**NASA FMEA #:** 2386-1

**NASA DATA:**
- **BASELINE:** [ ]
- **NEW:** [ X ]

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5550  
**ITEM:** LO2 OVERBOARD BLEED VALVE CONTROL CIRCUIT

**LEAD ANALYST:** HOLDEN/LOWERY

**ASSESSMENT:**

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**RECOMMENDATIONS:**  
(If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

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**REMARKS:**

**REPORT DATE 03/11/88**  
C-1323
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5550B
NASA FMEA #: 2387-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5550
ITEM: LO2 OVERBOARD BLEED VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1324
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-5551
NASA FMEA #: 2090-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5551
ITEM: HYBRID DRIVER, TYPE 3

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PARALLEL PATH MASKS THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-5552
NASA FMEA #: 2090-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5552
ITEM: HYBRID DRIVER, TYPE 3

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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| NASA        | [ 2 /1R ]           | [ P ] | [ F ] | [ P ] | [ X ] *
| IOA         | [ 2 /1R ]           | [ P ] | [ P ] | [ P ] | [ X ] |
| COMPARE     | [ / ]               | [ ]  | [ N ] | [ ]  | [ ] |

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PARALLEL PATH MASKS THE FAILURE

REPORT DATE 03/11/88 C-1326
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-5553
NASA FMEA #: 2091-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5553
ITEM: HYBRID DRIVER, TYPE 1

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PARALLEL PATH MASKS THE FAILURE.

REPORT DATE 03/11/88 C-1327
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5554
NASA FMEA #: 2092-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5554
ITEM: REMOTE POWER CONTROLLER (RPC24)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 2 /1R ] [ P ] [ P ] [ P ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURE WOULD BE DETECTED.
**APPENDIX C**

**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 2/02/88  
**ASSESSMENT ID:** MPS-5555  
**NASA FMEA #:** 2092-1  

**NASA DATA:**  
- BASELINE [ ]  
- NEW [ X ]

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5555  
**ITEM:** REMOTE POWER CONTROLLER (RPC23)

**LEAD ANALYST:** HOLDEN/LOWERY

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

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(ADD/DELETE)

* **CIL RETENTION RATIONALE:** (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

**REMARKS:**

**REPORT DATE 03/11/88**  
C-1329
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5556
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5556
ITEM: MDM (FA2)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 2 /1R ] [ P ] [ P ] [ P ] [ ] *(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PARALLEL PATH MASKS THE FAILURE.

REPORT DATE 03/11/88 C-1330
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5557
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5557
ITEM: MDM (FA3)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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IOA [ 2 /1R ] [ P ] [ P ] [ P ] [ X ]

COMPARE [ N /N ] [ N ] [ N ] [ N ] [ N ]

RECOMMENDATIONS: (If different from NASA)
[ 2 /1R ] [ P ] [ F ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PARALLEL PATH MASKS THE FAILURE.

REPORT DATE 03/11/88 C-1331
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5558
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5558
ITEM: MDM (FA4)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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NASA DATA:
BASELINE [ ]
NEW [ X ]

RECOMMENDATIONS: (If different from NASA)

[ 2/1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PARALLEL PATH MASKS THE FAILURE.

REPORT DATE 03/11/88 C-1332
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5559
NASA FMEA #: 2094-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5559
ITEM: DIODE (12A)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FIRST FAILURE WILL NOT OPEN THE VALVE DUE TO A REDUNDANT PATH. FAILURE IN THE SECOND PATH COULD LEAD TO LOSS OF VEHICLE.

REPORT DATE 03/11/88 C-1333
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5559A
NASA FMEA #: 2094-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5559
ITEM: DIODE (12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

THE FIRST FAILURE WILL NOT OPEN THE VALVE DUE TO A REDUNDANT PATH. FAILURE IN THE SECOND PATH COULD LEAD TO LOSS OF VEHICLE.

REPORT DATE 03/11/88 C-1334
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5559B
NASA FMEA #: 2095-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5559
ITEM: DIODE (12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FIRST FAILURE WILL NOT OPEN THE VALVE DUE TO A REDUNDANT PATH. FAILURE IN THE SECOND PATH COULD LEAD TO LOSS OF VEHICLE.
### APPENDIX C

#### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 2/03/88  
**ASSESSMENT ID:** MPS-5559C  
**NASA FMEA #:** 2095-2

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5559  
**ITEM:** DIODE (12A)

**LEAD ANALYST:** HOLDEN/LOWERY

**NASA DATA:**

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**RECOMMENDATIONS:** (If different from NASA)

| / | | | | |

| (ADD/DELETE) |

* CIL RETENTION RATIONALE: (If applicable)

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**REMARKS:**

THE FIRST FAILURE WILL NOT OPEN THE VALVE DUE TO A REDUNDANT PATH. FAILURE IN THE SECOND PATH COULD LEAD TO LOSS OF VEHICLE.
APPENDIX C

ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5560
NASA FMEA #: 2093-1
NASA ID: NASA FME
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5560
ITEM: DIODE (12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FIRST FAILURE WILL NOT OPEN THE VALVE DUE TO A REDUNDANT PATH. FAILURE IN THE SECOND PATH COULD LEAD TO LOSS OF VEHICLE.

REPORT DATE 03/11/88  C-1337
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5560A
NASA FMEA #: 2093-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5560
ITEM: DIODE (12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FIRST FAILURE WILL NOT OPEN THE VALVE DUE TO A REDUNDANT PATH. FAILURE IN THE SECOND PATH COULD LEAD TO LOSS OF VEHICLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5561
NASA FMEA #: 2096-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5561
ITEM: DIODE
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 2 /1R ] [ P ] [ F ] [ P ] [ A ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A SHORT IN THE DIODE WILL ERODE REDUNDANCY. A SECOND SHORTED DIODE WITHIN THE SERIES HDC I WILL GROUND THE OUTPUT AND OPEN THE VALVE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-5561A
NASA FMEA #: NA
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5561
ITEM: DIODE
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /3 ] [ NA] [ NA] [ NA] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURE WILL HAVE NO HAZARDOUS EFFECT.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/17/88
ASSESSMENT ID: MPS-5600
NASA FMEA #: 2411-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5600
ITEM: MPS INSTRUMENT POWER CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY REDUNDANCY SCREENS CIL
FLIGHT HDW/FUNC A B C ITEM

NASA [ 3 /3 ] [ NA] [ NA] [ NA] [ ] *
IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]

COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1341
### APPENDIX C
**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 2/17/88  
**NASA DATA:**  
**ASSESSMENT ID:** MPS-5600A  
**NASA FMEA #:** 2411-2  
**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5600  
**ITEM:** MPS INSTRUMENT POWER CIRCUIT  
**LEAD ANALYST:** HOLDEN/LOWERY

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

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*(ADD/DELETE)*

* CIL RETENTION RATIONALE: (If applicable)

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**REMARKS:**  
**ONLY AVAILABLE REFERENCE:** MPS/EPDC FMEA REVIEW SUMMARY 8/17/88. NASA VIOLATES NTS 22206 2.3.3 F.

**REPORT DATE 03/11/88**  
**C-1342**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/17/88
ASSESSMENT ID: MPS-5600B
NASA FMEA #: 2412-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5600
ITEM: MPS INSTRUMENT POWER CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ 3 /3 ] [ NA] [ NA] [ NA] [ D ] (ADD/DELETE)

*CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAILABLE REFERENCE: MPS/EPDC FMEA REVIEW SUMMARY 8/17/88.
NASA VIOLATES NTS 22206 2.3.3 F.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/17/88
ASSESSMENT ID: MPS-5600C
NASA FMEA #: 2413-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5600
ITEM: MPS INSTRUMENT POWER CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAILABLE REFERENCE: MPS/EPDC FMEA REVIEW SUMMARY 8/17/88.
NASA VIOLATES NTS 22206 2.3.3 F.

REPORT DATE 03/11/88 C-1344
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/17/88
ASSESSMENT ID: MPS-5600D
NASA FMEA #: 2416-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5600
ITEM: MPS INSTRUMENT POWER CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1345
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-5650
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SUBSYSTEM: EPD&C/MPS
ITEM: GO2 PRESSURE FLOW CONTROL VALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
3 MONITOR RESISTORS.

REPORT DATE 03/11/88 C-1346
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-5650A
NASA FMEA #: 2034-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5650
ITEM: GO2 PRESSURE FLOW CONTROL VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 BLOCKING DIODES (XDUCER SEL).
A SECOND FAILURE WILL NOT OVERPRESSURIZE THE ET, BUT A THIRD
FAILURE COULD CAUSE ET OVERPRESSURIZATION.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-5650B
NASA FMEA #: 2034-2
NASA ID: 2034-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5650
ITEM: GO2 PRESSURE FLOW CONTROL VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY
FLIGHT
HDW/FUNC

REDUNDANCY SCREENS
A   B   C

CIL
ITEM

NASA  [ 2 /1R ]  [ F ]  [ F ]  [ P ]  [ X ] *
IOA   [ 3 /3 ]   [ NA]  [ NA]  [ NA]  [ ]
COMPARE [ N /N ] [ N ]  [ N ]  [ N ]  [ N ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ]  [ P ]  [ F ]  [ P ]  [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

6 BLOCKING DIODES (XDUCER SEL).
A SECOND FAILURE WILL NOT OVERPRESSURIZE THE ET, BUT A THIRD
FAILURE COULD CAUSE ET OVERPRESSURIZATION.

REPORT DATE 03/11/88    C-1348
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-5651
NASA FMEA #: 2063-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5651
ITEM: HYBRID DRIVER, TYPE 3 (1 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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| IOA [ 3 /1R ] | [ P ] | [ P ] | [ P ] | [ ] |
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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A SECOND FAILURE COULD OVERPRESSURIZE THE ET.

REPORT DATE 03/11/88 C-1349
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-5652
NASA FMEA #: 2063-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5652
ITEM: HYBRID DRIVER, TYPE 3 (1 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A SECOND AILURE COULD CAUSE LOW ULLAGE PRESSURE IN THE ET AND CAUSE IMPLOSION DUE TO FLIGHT LOADS.

REPORT DATE 03/11/88 C-1350
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-5653
NASA FMEA #: 2063-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5653
ITEM: HYBRID DRIVER, TYPE 3 (1 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A SECOND FAILURE COULD OVERPRESSURIZE THE &a3600HET.

REPORT DATE 03/11/88 C-1351
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-5654
NASA FMEA #: 2063-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5654
ITEM: HYBRID DRIVER, TYPE 3 (1 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A SECOND FAILURE COULD CAUSE LOW ULLAGE PRESSURE IN THE ET AND CAUSE IMPLOSION DUE TO FLIGHT LOADS.

REPORT DATE C-1352
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/09/88  NASA DATA:
ASSESSMENT ID: MPS-5700  BASELINE [  ]
NASA FMEA #: 2385-1  NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5700
ITEM: LO2 POGO ACCUMULATOR RECIRCULATION VALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2 TRANSIENT SUPPRESSION DIODES.

REPORT DATE 03/11/88 C-1353
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/09/88  NASA DATA:
ASSESSMENT ID: MPS-5700A  BASELINE [ ]
NASA FMEA #: 200400-1  NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5700
ITEM: LO2 POGO ACCUMULATOR RECIRCULATION VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS:  (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

6 RESISTORS.

REPORT DATE 03/11/88  C-1354
### APPENDIX C
#### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 2/09/88
**ASSESSMENT ID:** MPS-5700B
**NASA FMEA #:** NA

**SUBSYSTEM:** EPD&C/MPS
**MDAC ID:** 5700
**ITEM:** LO2 POGO ACCUMULATOR RECIRCULATION VALVE CONTROL CIRCUIT

**LEAD ANALYST:** HOLDEN/LOWERY

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

[ 3 /3 ] [ NA] [ NA] [ NA] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

**REMARKS:**

---

**REPORT DATE 03/11/88 C-1355**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-5701
NASA FMEA #: 2225-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5701
ITEM: HYBRID DRIVER, TYPE 3 (2 PER CIRCUIT)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[3 /1R] [P] [P] [P] [D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

Adequate [ ]
Inadequate [ ]

REMARKS:
THE FAILURE IS READILY DETECTABLE. ONLY AVAILABLE REFERENCE;
MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/09/88
ASSESSMENT ID: MPS-5702
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5702
ITEM: MDM (FA1)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

|           |                     |          |
|           |                     |          |
|           |                     |          |

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PREMATURE OFF CREATES THE FALSE OPEN COMMAND.

REPORT DATE 03/11/88 C-1357
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/09/88
NASA DATA:
ASSESSMENT ID: MPS-5703
NASA FMEA #: NA
BASELINE [ ]
NASA FMEA #: NA
NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5703
ITEM: MDM (FA2)
LEAD ANALYST: HOLDEN/LOWERY

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| COMPARE | [ N /N ] | [ N ] | [ N ] | [ N ] | [ ] |

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

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REMARKS:
PREMATURE OFF CREATES THE FALSE OPEN COMMAND.

REPORT DATE 03/11/88 C-1358
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/09/88
ASSESSMENT ID: MPS-5704
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5704
ITEM: MDM (FA3)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PREMATURE OFF CREATES THE FALSE OPEN COMMAND.

REPORT DATE 03/11/88 C-1359
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSessment ID: MPS-5705
NASA FMEA #: NA

NASA FMEA #: NA
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5705
ITEM: MDM (FA4)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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IOA [ 3 /1R ] [ P ] [ P ] [ P ] [ ]

COMPARE [ N /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88  C-1360
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750
NASA FMEA #: 2252-1

NASA DATA:
BASELINE [   ]
NEW [   ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [   ]
INADEQUATE [   ]

REMARKS:
2 TRANSIENT SUPPRESSION DIODES. A SHORT IN THE DIODE, PLUS A SHORT IN THE ON INTERNAL HDC DIODE, WILL GROUND A SOLENOID.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750A
NASA FMEA #: 2248-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 DIODE OP RPC "B" OUT (12A). FAILURE CAUSES LOSS OF OPEN COMMAND B. LOSS OF ALL REDUNDANCY WILL LEAD TO THE LOSS OF OPEN SOLENOID POWER AND POSSIBLE PREMATURE VALVE CLOSURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750B
NASA FMEA #: 2248-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 DIODE OP RPC "B" OUT (12A). FIRST FAILURE CAUSES LOSS OF REDUNDANT BLOCKING PROTECTION. SECOND FAILURE (SERIES RPC BLOCKING DIODE SHORTS) RESULTS IN PARALLEL RPC HAVING ITS OUTPUT TIED TO GROUND. CURRENT LIMIT WILL TRIP RPC ELIMINATING POWER TO OPEN SOLENOID. PREMATURE CLOSE IS POSSIBLE. PARALLEL PATH MASKS FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
NASA DATA:
ASSESSMENT ID: MPS-5750C
NASA FMEA #: 2248-3
NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 DIODE OP RPC "B" OUT (12A). P-TERMINAL OF THE DIODE SHORTED TO GROUND. THIS WOULD ELIMINATE A REDUNDANT PATH FOR OPEN SOLENOID POWER.

REPORT DATE 03/11/88 C-1364
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750D
NASA FMEA #: 2250-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 DIODE OP XOVER (12A). LOSS OF VEHICLE IS A POSSIBILITY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750E
NASA FMEA #: 2250-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 DIODE OP XOVER (12A). LOSS OF VEHICLE IS A POSSIBILITY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750F
NASA FMEA #: 2250-3

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ D ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 DIODE OP XOVER (12A). FAILURE CAN SHORT ALL OPEN COMMANDS TO GROUND, VENTING OPEN PRESSURE AND ALLOWING VALVE TO CLOSE DURING MAIN ENGINE BURN. BISTABLE FEATURE AND LATCH PROVIDE REDUNDANCY AGAINST PREMATURE CLOSURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750H
NASA FMEA #: 2253-1
NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
6 RESISTOR RPC & SOL PWR.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750G
NASA FMEA #: NA
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2 ZENER DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750I
NASA FMEA #: 2254-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 RESISTOR OF POS SW MONITOR. REFERENCE: FMEA 05-67-200900-1

REPORT DATE 03/11/88 C-1370
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750J
NASA FMEA #: 2255-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: ET/ORBITER DISCONNECT VALVE CONTROL CIRCUIT

LEAD ANALYST: HOLDEN/LOWERY

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* CIL RETENTION RATIONALE: (If applicable)

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REMARKS:
1 RESISTOR CL POS SW MONITOR. LOSS OF MONITORING REDUNDANCY.
ONLY AVAILABLE REFERENCE: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750K
NASA FMEA #: 2399-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: DIODE (12A)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 DIODE OP RPC "C" OUT (12A). LOSS OF VEHICLE IS A POSSIBILITY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750L
NASA FMEA #: 2399-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: DIODE (12A)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 DIODE OP RPC "C" OUT (12A). FIRST FAILURE CAUSES LOSS OF REDUNDANT BLOCKING PROTECTION. SECOND FAILURE (SERIES RPC BLOCKING DIODE SHORTS) RESULTS IN PARALLEL RPC HAVING ITS OUTPUT TIED TO GROUND. CURRENT LIMIT WILL TRIP RPC, ELIMINATING POWER TO CLOSE SOLENOID. MECHANICAL LINKAGE PROVIDES REDUNDANCY.

REPORT DATE 03/11/88 C-1373
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750M
NASA FMEA #: 2399-3

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: DIODE (12A)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)
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*(ADD/DELETE)*

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
1 DIODE OP RPC "C" OUT (12A). P-TERMINAL OF DIODE SHORTS TO GROUND, ELIMINATING A REDUNDANT PATH FOR THE OPEN SOLENOID POWER. LOSS OF ALL REDUNDANCY COULD RESULT IN THE VALVE CLOSURE WHILE SSME'S ARE RUNNING, CAUSING POSSIBLE MPS RUPTURE AND FIRE.

REPORT DATE 03/11/88 C-1374
ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750N
NASA FMEA #: 2400-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: DIODE (12A)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
4 RPC BLEED RESISTORS.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-57500
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: DIODE (12A)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /3 ] [ NA] [ NA] [ NA] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
2 MDM (OA2, OA3).

REPORT DATE 03/11/88 C-1376
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5750P
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5750
ITEM: DIODE (12A)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
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REMARKS:
1 POSITIVE INDICATOR SWITCH.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5751
NASA FMEA #: NA
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5751
ITEM: MDM (FA2)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY REDUNDANCY SCREENS CIL
FLIGHT HDW/FUNC A B C ITEM
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COMPARE [ N /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)
[ 3 /1R ] [ P ] [ P ] [ P ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FALSE OPEN COMMAND DURING ET SEPERATION COULD RESULT IN ET COLLISION WITH ORBITER DURING SEPERATION IF ALL REDUNDANCY IS LOST.

REPORT DATE 03/11/88 C-1378
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
NASA DATA:
ASSESSMENT ID: NASA
NASA FMEA #: MPS-5752
FMEA #:
NASA ID:
SUBSYSTEM:
MDAC ID:
ITEM:
LEAD ANALYST:
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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FALSE OPEN COMMAND DURING ET SEPERATION COULD RESULT IN ET COLLISION WITH ORBITER DURING SEPERATION IF ALL REDUNDANCY IS LOST.

REPORT DATE 03/11/88 C-1379
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5753
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5753
ITEM: MDM (FA4)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FALSE OPEN COMMAND DURING ET SEPERATION COULD RESULT IN ET COLLISION WITH ORBITER DURING SEPERATION IF ALL REDUNDANCY IS LOST.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5754
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5754
ITEM: MDM (FA2)
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
POSSIBLE PREMATURE CLOSURE OF VALVE WHILE SSME'S ARE RUNNING.
PRESSURE COULD RUPTURE MPS IF ALL REDUNDANCY IS LOST.

REPORT DATE 03/11/88    C-1381
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
NASA DATA:
ASSESSMENT ID: MPS-5755
BASELINE [ ]
NASA FMEA #: NA
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5755
ITEM: MDM (FA3)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
POSSIBLE PREMATURE CLOSURE OF VALVE WHILE SSME'S ARE RUNNING.
PRESSURE COULD RUPTURE MPS IF ALL REDUNDANCY IS LOST.

REPORT DATE 03/11/88 C-1382
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5756
NASA FMEA #: NA
NASA DATA: BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5756
ITEM: MDM (FA4)

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

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REMARKS:
POSSIBLE PREMATURE CLOSURE OF VALVE WHILE SSME'S ARE RUNNING.
PRESSURE COULD RUPTURE MPS IF ALL REDUNDANCY IS LOST.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5761
NASA FMEA #: 2244-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5761
ITEM: HYBRID DRIVER, TYPE 3

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

CRITICALITY
FLIGHT
HDW/FUNC
REDUNDANCY SCREENS
A B C
CIL
ITEM

NASA [ 3 /1R ] [ P ] [ F ] [ P ] [ X ] *
IOA [ 3 /2R ] [ P ] [ P ] [ P ] [ ]
COMPARE [ /N ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF VEHICLE IS A POSSIBILITY. PARALLEL PATH MASKS FAILURE.

REPORT DATE 03/11/88 C-1384
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5762
NASA FMEA #: 2246-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5762
ITEM: HYBRID DRIVER, TYPE 1

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF VEHICLE IS A POSSIBILITY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5763
NASA FMEA #: 2244-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5763
ITEM: HYBRID DRIVER, TYPE 3
LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

LOSS OF VEHICLE IS A POSSIBILITY. PARALLEL PATH MASKS FAILURE.

REPORT DATE 03/11/88 C-1386
### APPENDIX C

#### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 1/19/88  
**ASSESSMENT ID:** MPS-5764  
**NASA FMEA #:** 2242-2  

**NASA DATA:**  
- BASELINE [ ]  
- NEW [ X ]  

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5764  
**ITEM:** REMOTE POWER CONTROLLER (RPC 19)  

**LEAD ANALYST:** HOLDEN/LOWERY  

#### ASSESSMENT:

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**RECOMMENDATIONS:** (If different from NASA)  
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)  
ADEQUATE [ ]  
INADEQUATE [ ]

**REMARKS:**  
LOSS OF VEHICLE IS A POSSIBILITY.

---

**REPORT DATE** 03/11/88  
**C-1387**
ASSSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5765
NASA FMEA #: 2242-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5765
ITEM: REMOTE POWER CONTROLLER (RPC 20)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF VEHICLE IS A POSSIBILITY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5766
NASA FMEA #: 2242-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5766
ITEM: REMOTE POWER CONTROLLER (RPC 19)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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| COMPARE [ N / ] | [ ] | [ ] | [ ] | [ N ]

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
BISTABLE FEATURE, SERIES CONFIGURATION, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88   C-1389
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5767
NASA FMEA #: 2242-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&CMPS
MDAC ID: 5767

ITEM: REMOTE POWER CONTROLLER (RPC 20)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
BISTABLE FEATURE, SERIES CONFIGURATION, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5771
NASA FMEA #: 2245-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5771
ITEM: HYBRID DRIVER, TYPE 3

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
HDC FAILING "ON" CANNOT BE DETECTED DUE TO SERIES RPC POWER.
SECOND FAILURE (PREMATURE RPC POWER) WOULD ENERGIZE CLOSE
SOLENOID, BUT BISTABLE FEATURE WOULD KEEP VALVE OPEN.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5772
NASA FMEA #: 2247-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5772
ITEM: HYBRID DRIVER, TYPE 1

LEAD ANALYST: HOLDEN/LOWERY

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SERIES CONFIGURATION AND BISTABLE FEATURE PREVENT VALVE CLOSURE ON A SECOND FAILURE.

REPORT DATE 03/11/88 C-1392
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5773
NASA FMEA #: 2245-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5773
ITEM: HYBRID DRIVER, TYPE 3
LEAD ANALYST: HOLDEN/LOWERY

NASA DATA:
BASELINE [ ]
NEW [ X ]

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
HDC FAILING "ON" CANNOT BE DETECTED DUE TO SERIES RPC POWER.
SECOND FAILURE (PREMATURE RPC POWER) WOULD ENERGIZE CLOSE
SOLENOID, BUT BISTABLE FEATURE WOULD KEEP VALVE OPEN.

REPORT DATE 03/11/88 C-1393
### APPENDIX C
### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 1/19/88  
**NASA DATA:**  
**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 5774  
**ITEM:** REMOTE POWER CONTROLLER (RPC 20)  
**LEAD ANALYST:** HOLDEN/LOWERY

#### ASSESSMENT:

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#### RECOMMENDATIONS:
(If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

#### REMARKS:

BISTABLE FEATURE, SERIES CONFIGURATION, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.

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**REPORT DATE 03/11/88**

**C-1394**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5775
NASA FMEA #: 2243-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5775
ITEM: REMOTE POWER CONTROLLER (RPC 21)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
BISTABLE FEATURE, SERIES CONFIGURATION, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5776
NASA FMEA #: 2243-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5776
ITEM: REMOTE POWER CONTROLLER (RPC 20)

LEAD ANALYST: HOLDEN/LOWERY

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IOA [3 /2R] [P] [P] [P] [ ]
COMPAR [ /N] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF VEHICLE IS A POSSIBILITY.

REPORT DATE 03/11/88 C-1396
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5777
NASA FMEA #: 2243-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5777
ITEM: REMOTE POWER CONTROLLER (RPC 21)

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF VEHICLE IS A POSSIBILITY.

REPORT DATE 03/11/88 C-1397
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5778
NASA FMEA #: 2249-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5778
ITEM: DIODE (12A)
LEAD ANALYST: Holden/Lowery

NASA DATA:
BASELINE [ ]
NEW [ X ]

CRITICALLY REDUNDANCY SCREENS CIL
FLIGHT HDW/FUNC A B C ITEM
NASA [3 /1R] [P] [F] [P] [X] *
IOA [2 /2] [NA] [NA] [NA] [X]
COMPARE [N /N] [N] [N] [N] [ ]

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE CAUSES LOSS OF REDUNDANCY. SECOND FAILURE WILL ELIMINATE
CLOSE SOLENOID POWER, BUT BISTABLE FEATURE IS REDUNDANT.
PARALLEL PATHS MASK THE FAILURE.

REPORT DATE 03/11/88 C-1398
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5778A
NASA FMEA #: 2251-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 5778
ITEM: DIODE (12A)
LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PARALLEL PATHS AND MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88    C-1399
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: MPS-5779
NASA FMEA #: 2398-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 5779
ITEM:

LEAD ANALYST: HOLDEN/LOWERY

ASSESSMENT:

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IOA [ 2 /2 ] [ NA ] [ NA ] [ NA ] [ X ]
COMPARE [ N /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE CAUSES LOSS OF 1 POWER PATH TO CLOSE SOLENOID AND REDUNDANT POWER TO OTHER PATH. REDUNDANT PATHS MASK THE FAILURE. MECHANICAL LINKAGE PROVIDES REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6011
NASA FMEA #: 2253-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6011
ITEM: POWER & CONTROL CIRCUITS FOR LH2 FEEDLINE
DISCONNECT VALVE

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1401
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6011A
NASA FMEA #: NA
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6011
ITEM:
POWER & CONTROL CIRCUITS FOR LH2 FEEDLINE DISCONNECT VALVE

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 ZENER DIODES.

REPORT DATE 03/11/88 C-1402
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6011B
NASA FMEA #: 2255-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6011
ITEM: POWER & CONTROL CIRCUITS FOR LH2 FEEDLINE
DISCONNECT VALVE

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. ASSESSMENT IS FOR 2 CLOSE POSITION SWITCH MONITOR RESISTORS.

REPORT DATE 03/11/88 C-1403
**APPENDIX C**

**ASSESSMENT WORKSHEET**

ASSESSMENT DATE: 1/21/88  
NASA DATA:  
BASELINE [ ]  
NEW [ X ]

ASSESSMENT ID: MPS-6011C  
NASA FMEA #: NA  
SUBSYSTEM: EPD&C/MPS  
MDAC ID: 6011  
ITEM: POWER & CONTROL CIRCUITS FOR LH2 FEEDLINE  
DISCONNECT VALVE

LEAD ANALYST: MCNICOLL/EMMONS

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**RECOMMENDATIONS:** (If different from NASA)  
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)  
ADEQUATE [ ]  
INADEQUATE [ ]

**REMARKS:**  
ASSESSMENT IS FOR 2 MDMs, OA2 & OA3.

REPORT DATE 03/11/88  C-1404
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-6011D
NASA FMEA #: 2252-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6011
ITEM: POWER & CONTROL CIRCUITS FOR LH2 FEEDLINE DISCONNECT VALVE

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A SHORT IN THE TRANSIENT SUPPRESSION DIODE COMBINED WITH A SHORT IN AN INTERNAL HDC DIODE WILL GROUND A SOLENOID. LOSS OF ALL REDUNDANCY COULD CAUSE LOSS OF CREW OR VEHICLE.

REPORT DATE 03/11/88 C-1405
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6011E
NASA FMEA #: 2254-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6011
ITEM: POWER & CONTROL CIRCUITS FOR LH2 FEEDLINE DISCONNECT VALVE

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
### APPENDIX C
#### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 1/21/88  
**ASSESSMENT ID:** MPS-6011F  
**NASA FMEA #:** 2400-1

**NASA DATA:**  
- BASELINE [ ]  
- NEW [ X ]

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 6011  
**ITEM:** POWER & CONTROL CIRCUITS FOR LH2 FEEDLINE  
**DISCONNECT VALVE**

**LEAD ANALYST:** MCNICOLL/EMMONS

**ASSESSMENT:**

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**RECOMMENDATIONS:**  
(If different from NASA)

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(ADD/DELETE)

* **CIL RETENTION RATIONALE:**  
  (If applicable)

  ADEQUATE [ ]
  INADEQUATE [ ]

**REMARKS:**

**REPORT DATE** 03/11/88  
'C-1407
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/20/88
ASSESSMENT ID: MPS-6012
NASA FMEA #: 2247-1

NASA DATA: Baseline [ ] New [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6012
ITEM: HYBRID DRIVER CONTROLLER (6)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

THE SERIES CONFIGURATION AND BISTABLE FEATURE PREVENT VALVE OPENING DUE TO A SECOND FAILURE.

REPORT DATE 03/11/88 C-1408
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/20/88
ASSESSMENT ID: MPS-6012A
NASA FMEA #: 2246-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6012
ITEM: HYBRID DRIVER CONTROLLER (6)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS:  (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 OPEN HDC, TYPE I. THE SERIES CONFIGURATION AND BISTABLE FEATURE PREVENT VALVE CLOSURE DUE TO A SECOND FAILURE.

REPORT DATE 03/11/88       C-1409
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/20/88
ASSESSMENT ID: MPS-6012B
NASA FMEA #: 2245-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6012
ITEM: HYBRID DRIVER CONTROLLER (6)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 CLOSE HDC'S, TYPE III. SERIES CONFIGURATION, BISTABLE FEATURE, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88 C-1410
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6012C
NASA FMEA #: 2244-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6012
ITEM: HYBRID DRIVER CONTROLLER (6)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
 SERIES CONFIGURATION, BISTABLE FEATURE, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88 C-1411
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6013
NASA FMEA #: 2243-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6013
ITEM: REMOTE POWER CONTROLLER (4)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SERIES CONFIGURATION, BISTABLE FEATURE, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/20/88
ASSESSMENT ID: MPS-6013A
NASA FMEA #: 2243-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6013
ITEM: REMOTE POWER CONTROLLER (4)

LEAD ANALYST: MCNICOLL/EMMONS

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IOA [ 2 /1R ] [ P ] [ P ] [ P ] [ X ]

COMPARE [ N / ] [ ] [ ] [ ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 CLOSE RPC'S. SERIES CONFIGURATION, BISTABLE FEATURE, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88 C-1413
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/20/88
ASSESSMENT ID: MPS-6013B
NASA FMEA #: 2242-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6013
ITEM: REMOTE POWER CONTROLLER (4)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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*CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 OPEN RPC'S. SERIES CONFIGURATION, BISTABLE FEATURE, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88 C-1414
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/20/88
ASSESSMENT ID: MPS-6013C
NASA FMEA #: 2242-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6013
ITEM: REMOTE POWER CONTROLLER (4)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 OPEN RPC'S. SERIES CONFIGURATION, BISTABLE FEATURE, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88 C-1415
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/20/88
ASSESSMENT ID: MPS-6014
NASA FMEA #: 2249-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6014
ITEM: ISOLATION AND BLOCKING DIODES (6)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL CAUSE THE LOSS OF A REDUNDANT CLOSE SOLENOID POWER PATH. SECOND FAILURE WILL ELIMINATE CLOSE SOLENOID POWER, BUT BISTABLE FEATURE IS REDUNDANT. PARALLEL PATHS MASK THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6014A
NASA FMEA #: 2251-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6014
ITEM: ISOLATION AND BLOCKING DIODES (6)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 CLOSE CROSSOVER DIODE, 12A. PARALLEL PATHS AND MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88 C-1417
ASSESSMENT WORKSHEET

APPENDIX C

ASSESSMENT DATE: 1/20/88
ASSESSMENT ID: MPS-6014B
NASA FMEA #: 2248-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6014
ITEM: ISOLATION AND BLOCKING DIODES (6)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 OPEN RPC B OUTPUT DIODE, 12A. THE SERIES CONFIGURATION AND BISTABLE FEATURE PREVENT VALVE CLOSURE DUE TO A SECOND FAILURE.
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88  
ASSESSMENT ID: MPS-6014C  
NASA FMEA #: 2250-1  
NASA DATA:  
BASELINE [ ]  
NEW [ X ]  

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 6014  
ITEM: ISOLATION AND BLOCKING DIODES (6)  
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 OPEN CROSSOVER DIODE, 12A. BISTABLE FEATURE, SERIES CONFIGURATION, OR MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88  
C-1419
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6014D
NASA FMEA #: 2398-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6014
ITEM: ISOLATION AND BLOCKING DIODES (6)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 CLOSE RPC C OUTPUT DIODE, 12A. FAILURE CAUSES THE LOSS OF ONE POWER PATH TO THE CLOSE SOLENOID AND REDUNDANT POWER TO THE OTHER PATH. PARALLEL PATHS MASK THE FAILURE. MECHANICAL LINKAGE PROVIDES REDUNDANCY.

REPORT DATE 03/11/88 C-1420
## APPENDIX C
### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 1/21/88  
**ASSESSMENT ID:** MPS-6014E  
**NASA FMEA #:** 2399-1

**NASA DATA:**  
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- NEW [ X ]

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 6014  
**ITEM:** ISOLATION AND BLOCKING DIODES (6)

**LEAD ANALYST:** MCNICOLL/EMMONS

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

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* **CIL RETENTION RATIONALE:** (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

**REMARKS:**

ASSESSMENT IS FOR 1 RPC C OUTPUT DIODE, 12A. SECOND FAILURE WOULD INHIBIT OPEN POWER AND ERODE REDUNDANCY AGAINST A PREMATURE CLOSURE.

REPORT DATE 03/11/88  
C-1421
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6015
NASA FMEA #: NA
NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6015
ITEM: FLIGHT CRITICAL AFT MDM (3)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
BISTABLE VALVE AND MECHANICAL LINKAGE PROVIDE REDUNDANCY.

REPORT DATE 03/11/88 C-1422
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6016
NASA FMEA #: NA

NASA DATA: BASELINE [ ] NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6016
ITEM: INDICATOR SWITCH (PD2)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ 2 / IR ] [ P ] [ F ] [ P ] [ A ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
MECHANICAL LINKAGE WILL PROVIDE REDUNDANCY. LOSS OF MECHANICAL REDUNDANCY COULD RESULT IN LOSS OF VEHICLE.

REPORT DATE 03/11/88 C-1423
APPENDIX C  
ASSESSMENT WORKSHEET  

ASSESSMENT DATE: 2/08/88  
ASSESSMENT ID: MPS-6021  
NASA FMEA #: 2005-1  

NASA DATA:  
BASELINE [ ]  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 6021  
ITEM: POWER & CONTROL CIRCUITS FOR LH2 RTLS DUMP VALVES (2)  

LEAD ANALYST: MCNICOLL/EMMONS  

ASSESSMENT:  
CRITICALITY REDUNDANCY SCREENS CIL ITEM  
FLIGHT HDW/FUNC A B C ITEM

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1424
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/09/88
ASSESSMENT ID: MPS-6021A
NASA FMEA #: NA
NASA ID #: MPS-6021
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6021
ITEM: POWER & CONTROL CIRCUITS FOR LH2 RTLS DUMP
VALVES (2)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR 2 MDMS, OAI AND OA3.

REPORT DATE 03/11/88 C-1425
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/09/88
NASA DATA: BASELINE [ ]
NASA FMEA #: NA
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6021
ITEM: POWER & CONTROL CIRCUITS FOR LH2 RTL5 DUMP
VALVES (2)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR 2 POSITION INDICATOR SWITCHES.

REPORT DATE 03/11/88 C-1426
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6021C
NASA FMEA #: 2009-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6021
ITEM: POWER & CONTROL CIRCUITS FOR LH2 RTLS DUMP VALVES (2)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A SHORT IN A TRANSIENT DIODE WILL ERODE BLOCKING REDUNDANCY. A SHORT IN AN INTERNAL HDC DIODE WILL GROUND OPEN SOLENOID POWER AND CLOSE THE VALVE. FAILURE OF THE RELIEF VALVE COULD CAUSE OVERPRESSURIZATION AND RUPTURE DUE TO LH2 BOIL OFF.

REPORT DATE 03/11/88 C-1427
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6021D
NASA FMEA #: 2006-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6021
ITEM: POWER & CONTROL CIRCUITS FOR LH2 RTLS DUMP VALVES (2)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1428
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6021E
NASA FMEA #: 2007-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6021
ITEM: POWER & CONTROL CIRCUITS FOR LH2 RTLS DUMP
VALVES (2)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

CRITICALITY
FLIGHT
HDW/FUNC

REDUNDANCY SCREENS
A   B   C

NASA [ 3 /3 ] [ NA] [ NA] [ NA] [ ] *
IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]

COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1429
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6021F
NASA FMEA #: 2008-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6021
ITEM: POWER & CONTROL CIRCUITS FOR LH2 RTLS DUMP VALVES (2)
LEAD ANALYST: MCNICOLL/EMMONS

ASSESMENT:

| CRITICALITY | REDUNDANCY SCREENS | CIL |
| FLIGHT | HDW/FUNC | A | B | C | ITEM |
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| COMPARE | [ / ] | [ ] | [ ] | [ ] | [ ] | [ ] |

RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1430
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6022
NASA FMEA #: 2003-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6022
ITEM: HYBRID DRIVER CONTROLLER (6)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR 2 HDCs, TYPE I. ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. LOSS OF ALL REDUNDANCY WILL PRECLUDE LH2 MANIFOLD VENT AFTER MECO. OVERPRESSURIZATION AND RUPTURE COULD RESULT.

REPORT DATE 03/11/88 C-1431
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6022A
NASA FMEA #: 2004-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6022
ITEM: HYBRID DRIVER CONTROLLER (6)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

ASSESSMENT FOR 4 HDCs, TYPE III. ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. LOSS OF ALL REDUNDANCY WILL PRECLUDE LH2 MANIFOLD VENT AFTER MECO. OVERPRESSURIZATION AND RUPTURE COULD RESULT.

REPORT DATE 03/11/88        C-1432
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6023
NASA FMEA #: 2000-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6023
ITEM: REMOTE POWER CONTROLLER (4)

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ /N ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. LOSS OF ALL REDUNDANCY WILL PRECLUDE LH2 MANIFOLD VENT AFTER MECO. OVERPRESSURIZATION AND RUPTURE COULD RESULT.
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88  
ASSESSMENT ID: MPS-6024  
NASA FMEA #: 2001-1  
ASSESSMENT ID: MPS-6024  
ASSESSMENT DATE: 2/08/88

NASA DATA:  
BASELINE [ ]  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 6024  
ITEM: BLOCKING DIODE (4)  
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:

ASSESSMENT FOR 2 DIODES, A4CR7 AND A4CR8. ONLY AVAIL REF:  
MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. LOSS OF ALL REDUNDANCY  
WILL PRECLUDE LH2 MANIFOLD VENT AFTER MECO. OVERPRESSURIZATION  
AND RUPTURE COULD RESULT.

REPORT DATE 03/11/88  C-1434
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6024A
NASA FMEA #: 2381-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6024
ITEM: BLOCKING DIODE (4)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR 2 DIODES, A3CR3 AND A3CR9. ONLY AVAIL REF:
MPS/EPD&\ FMEA REVIEW SUMMARY 8-17-87. LOSS OF ALL REDUNDANCY
WILL PRECLUDE LH2 MANIFOLD VENT AFTER MECO. OVERPRESSURIZATION
AND RUPTURE COULD RESULT.

REPORT DATE 03/11/88 C-1435
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6025
NASA FMEA #: 2202-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6025
ITEM: ISOLATION DIODE (2)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. LOSS OF ALL REDUNDANCY WILL PRECLUDE LH2 MANIFOLD VENT AFTER MECO. OVERPRESSURIZATION AND RUPTURE COULD RESULT.

REPORT DATE 03/11/88   C-1436
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6026
NASA FMEA #: N/A
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6026
ITEM: FLIGHT CRITICAL AFT MDM (FA1, FA3, FA4)
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6027
NASA FMEA #: N/A
NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6027
ITEM: FLIGHT CRITICAL AFT MDM (FA1, FA3, FA4)
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

CRITICALITY
FLIGHT HDW/FUNC

REDUNDANCY SCREENS A B C

CIL ITEM

NASA [ / ] [ ] [ ] [ ] [ ] [ ] *

IOA [ 3 /3 ] [ P ] [ F ] [ P ] [ ]

COMPARE [ N /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:
LOSS OF ALL REDUNDANCY WILL PRECLUDE LH2 MANIFOLD VENT AFTER MECO. OVERPRESSURIZATION AND RUPTURE COULD RESULT. FAILURE OF FA1 MAY NOT BE DETECTED.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-6051
NASA FMEA #: 200300-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6051
ITEM: LH2 RECIRCULATION PUMP VALVE OPENING SOLENOID ENERGIZING CIRCUITRY

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 7 RESISTORS.

REPORT DATE 03/11/88   C-1439
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-6051A
NASA FMEA #: 2224-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6051
ITEM: LH2 RECIRCULATION PUMP VALVE OPENING SOLENOID ENERGIZING CIRCUITRY

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 HDC, TYPE III.

REPORT DATE 03/11/88 C-1440
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-6051B
NASA FMEA #: 2224-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6051
ITEM: LH2 RECIRCULATION PUMP VALVE OPENING SOLENOID ENERGIZING CIRCUITRY

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ 3 /3 ] [ NA] [ NA] [ NA] [ D ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 HDC, TYPE III. PRELAUNCH FAILURE WILL CAUSE LAUNCH DELAY. IF LAUNCH OCCURS, THIS FAILURE WILL HAVE NO EFFECT ON THE MISSION.

REPORT DATE 03/11/88 C-1441
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-6051C
NASA FMEA #: 2384-1
NASA DATA: BASELINE [ ] NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6051
ITEM: LH2 RECIRCULATION PUMP VALVE OPENING SOLENOID ENERGIZING CIRCUITRY

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ] INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 DIODE.

REPORT DATE 03/11/88 C-1442
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88  
ASSESSMENT ID: MPS-6051D  
NASA FMEA #: NA  

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 6051  
ITEM: LH2 RECIRCULATION PUMP VALVE OPENING SOLENOID ENERGIZING CIRCUITRY  
LEAD ANALYST: MCNICOLL/EMMONS  

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /3 ] [ NA] [ NA] [ NA] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 POSITION INDICATOR SWITCHES.
ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-6051E
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6051
ITEM: LH2 RECIRCULATION PUMP VALVE OPENING SOLENOID ENERGIZING CIRCUITRY
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 MDMS, LA1, OA1 AND OA2.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-6061
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6061
ITEM: LH2 RECIRCULATION PUMP CONTROL CIRCUITRY

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR MDM OA3, 3 SIGNAL CONDITIONERS AND 3 PUMP MOTORS.

REPORT DATE 03/11/88 C-1445
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6071
NASA FMEA #: 2264-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6071
ITEM: FUSE, 1A (3)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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| IOA [ 2 /1R ]  | [ P ] [ F ] [ P ] | [ X ]   |

COMPARE [ / ] [ ] [ N ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ 2 /1R ] [ P ] [ F ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PARALLEL PATHS MASK THE FAILURE.

REPORT DATE 03/11/88 C-1446
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6072
NASA FMEA #: 2038-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6072
ITEM: TOGGLE SWITCH
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURES UNDER ANALYSIS ARE DIFFERENT. THE RECOMMENDATION CORRESPONDS TO THE MORE CRITICAL FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/22/88
ASSESSMENT ID: MPS-6072A
NASA FMEA #: 2038-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6072
ITEM: TOGGLE SWITCH

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1448
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88                            NASA DATA:
ASSESSMENT ID: MPS-6073                             BASELINE [ ]
NASA FMEA #: 2038-3                                 NEW [ X ]

SUBSYSTEM: EPD&C/MPS                              MDAC ID: 6073
ITEM: TOGGLE SWITCH

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA'S SCENARIO IS POSSIBLE, BUT IT IS QUESTIONABLE WHETHER THREE WIPERS SHORTING TO GROUND CAN BE CLASSIFIED AS A SINGLE FAILURE.

REPORT DATE 03/11/88 C-1449
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6073A
NASA FMEA #: 2038-4

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6073
ITEM: TOGGLE SWITCH

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1450
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6074
NASA FMEA #: 2260-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6074
ITEM: HYBRID DRIVER CONTROLLER (4)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR 2 FILL AND DRAIN OPEN HDCs ONLY. A SECOND FAILURE COULD CLOSE THE INBD FILL/DRAIN VALVE DURING LOADING.

REPORT DATE 03/11/88   C-1451
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
NASA DATA:
ASSESSMENT ID: MPS-6074A
BASELINE [ ]
NASA FMEA #: 2261-1
NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6074
ITEM: HYBRID DRIVER CONTROLLER (4)
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

CRITICALITY REDUNDANCY SCREENS CIL
FLIGHT HDW/FUNC A B C ITEM

NASA [ 2 /1R ] [ P ] [ P ] [ P ] [ X ] *
IOA [ 3 /1R ] [ P ] [ P ] [ P ] [ ]
COMPARE [ N / ] [ ] [ ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FILL AND DRAIN CLOSE HDC ONLY. FIRST FAILURE CAUSES A LOSS OF REDUNDANCY. A SECOND FAILURE COULD OPEN THE VALVE IN FLIGHT.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/22/88
ASSESSMENT ID: MPS-6074B
NASA FMEA #: 2262-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6074
ITEM: HYBRID DRIVER CONTROLLER (4)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 TOPPING VALVE OPEN HDC. PRELAUNCH SCENARIO IS MORE CRITICAL THAN THE DEORBIT SCENARIO.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6075
NASA FMEA #: 2260-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6075
ITEM: HYBRID DRIVER CONTROLLER

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 FILL AND DRAIN OPEN HDCs. A SECOND FAILURE WILL NOT CLOSE THE VALVE DURING LOADING (BISTABLE FEATURE).
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6075A
NASA FMEA #: 2261-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6075
ITEM: HYBRID DRIVER CONTROLLER

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FILL AND DRAIN CLOSE HDC. LOSS OF OUTPUT DETECTED BY V41X1458E.

REPORT DATE 03/11/88
C-1455
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/21/88
ASSESSMENT ID: MPS-6075B
NASA FMEA #: 2262-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6075
ITEM: HYBRID DRIVER CONTROLLER
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ 2 /1R ] [ P ] [ F ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 TOPPING VALVE OPEN HDC. FAILURE IS DETECTED BY V41X1458E.

REPORT DATE 03/11/88 C-1456
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076
NASA FMEA #: 2265-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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COMPARE [ /N ] [ N ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN SWITCH SCAN DIODES. LOSS OF MONITORING CAPABILITY FOR THE OPEN SWITCH IS THE RESULT OF THE FAILURE.

REPORT DATE 03/11/88 C-1457
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
NASA DATA: BASELINE [ ]
ASSESSMENT ID: MPS-6076A NEW [ X ]
NASA FMEA #: 2265-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /3 ] [ NA] [ NA] [ NA] [ D ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN SWITCH SCAN DIODES. NASA FAILURE SCENARIO WOULD CAUSE LOSS OF VEHICLE EVEN WITHOUT THIS DIODE FAILURE.

REPORT DATE 03/11/88 C-1458
**APPENDIX C**

**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 1/25/88  
**ASSESSMENT ID:** MPS-6076B  
**NASA FMEA #:** 2266-1

**NASA DATA:**
- **BASELINE:** [ ]  
- **NEW:** [ X ]

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 6076  
**ITEM:** ISOLATION DIODES (16)

**LEAD ANALYST:** MCNICOLL/EMMONS

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

- [ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* **CIL RETENTION RATIONALE:** (If applicable)
  - ADEQUATE [ ]
  - INADEQUATE [ ]

**REMARKS:**

ASSESSMENT IS FOR 2 CLOSE SWITCH SCAN DIODES. FAILURE CAUSES LOSS OF MONITORING.

**REPORT DATE 03/11/88**  
**C-1459**
ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076C
NASA FMEA #: 2266-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[3 /3 ] [NA] [NA] [NA] [D ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 CLOSE SWITCH SCAN DIODES. NASA FAILURE SCENARIO WOULD CAUSE A LOSS OF VEHICLE EVEN WITHOUT THIS DIODE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076D
NASA FMEA #: 2268-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)
LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ N / ] [ ] [ ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FILL AND DRAIN OPEN SWITCH BLOCKING DIODE (J360). FIRST FAILURE WILL MAKE THE MANUAL OPEN COMMAND TO THE INBOARD FILL AND DRAIN VALVE INOPERABLE.

REPORT DATE 03/11/88 C-1461
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076E
NASA FMEA #: 2268-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ / ] [ ] [ N ] [ ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FILL AND DRAIN OPEN SWITCH BLOCKING DIODE (J360). THIS FAILURE IS NOT DETECTABLE.

REPORT DATE 03/11/88 C-1462
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076F
NASA FMEA #: 2269-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

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| IOA  | [ 3 /1R ] | [ P ] | [ P ] | [ P ] | [ ] |
| COMPARE | [ N / ] | [ ] | [ ] | [ ] | [ ] | [ ] |

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FILL AND DRAIN OPEN SWITCH BLOCKING DIODE (J359). FIRST FAILURE CAUSES LOSS OF THE MANUAL OPEN COMMAND.

REPORT DATE 03/11/88 C-1463
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076G
NASA FMEA #: 2269-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FILL AND DRAIN OPEN SWITCH BLOCKING DODE (J359).

REPORT DATE 03/11/88 C-1464
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076H
NASA FMEA #: 2270-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] | [ P ] | [ F ] | [ P ] | [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 CLOSE SWITCH BLOCKING DIODE. A LOSS OF ALL REDUNDANCY COULD VENT H2 INTO THE ATMOSPHERE DURING BOOST. THE FAILURE IS NOT READILY DETECTABLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076l
NASA FMEA #: 2270-2
NASA ID: NASA FMEA #:
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 CLOSE SWITCH BLOCKING DIODE.

REPORT DATE 03/11/88 C-1466
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076J
NASA FMEA #: 2271-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

ASSessment:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 TOPPING OPEN SWITCH BLOCKING DIODE.

REPORT DATE 03/11/88  C-1467
ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076K
NASA FMEA #: 2271-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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COMPARE [ / ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 TOPPING OPEN SWITCH BLOCKING DIODE. THE FAILURE NOT DETECTABLE DURING ALL PHASES OF FLIGHT.

REPORT DATE 03/11/88 C-1468
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/22/88
ASSESSMENT ID: MPS-6076L
NASA FMEA #: 2273-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FA2 MDM BLOCKING DIODE. THE FAILURE IS NOT READILY DETECTABLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076M
NASA FMEA #: 2273-2
NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FA2 MDM BLOCKING DIODE.

REPORT DATE 03/11/88 C-1470
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076N
NASA FMEA #: 2274-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPG
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FA3 MDM BLOCKING DIODE. THE FIRST FAILURE CAUSES A LOSS OF OPEN SOLENOID POWER TO THE INBD FILL/DRAIN VALVE.
**APPENDIX C**

**ASSESSMENT WORKSHEET**

ASSESSMENT DATE: 1/25/88  
ASSESSMENT ID: MPS-60760  
NASA FMEA #: 2274-2

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**RECOMMENDATIONS:** (If different from NASA)

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(ADD/DELETE)

* **CIL RETENTION RATIONALE:** (If applicable)  
ADEQUATE [ ]  
INADEQUATE [ ]

**REMARKS:**

ASSESSMENT IS FOR 1 FA3 MDM BLOCKING DIODE.

**REPORT DATE 03/11/88 C-1472**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-6076P
NASA FMEA #: 2276-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&G/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ ] [ ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FILL AND DRAIN FA1 MDM BLOCKING DIODE. FIRST FAILURE CAUSES LOSS OF INBOARD F/D CLOSE SOLENOID POWER.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076Q
NASA FMEA #: 2276-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 FILL AND DRAIN FAI MDMA BLOCKING DIODE. THE FAILURE HAS NO EFFECT.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076R
NASA FMEA #: 2277-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 TOPPING FA1 MDM BLOCKING DIODE. THE FIRST FAILURE CAUSES LOSS OF OPEN COMMAND FOR THE TOPPING CAUSING IT TO CLOSE.

REPORT DATE 03/11/88   C-1475
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076S
NASA FMEA #: 2277-2
NASA DATA:
BASELINE [    ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

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CIL ITEM

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 TOPPING FA1 MDM BLOCKING DIODE.

REPORT DATE 03/11/88 C-1476
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6076T
NASA FMEA #: 2279-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6076
ITEM: ISOLATION DIODES (16)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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| (ADD/DELETE) |

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 TRANSIENT SUPPRESSION DIODES. CRITICALITY 3/1R FOR SHORT AND IS NOT READILY DETECTABLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6077
NASA FMEA #: 2372-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6077
ITEM: CURRENT LIMITING RESISTORS (9) AND BLEED RESISTORS (2)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]

COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 1.8K SWITCH SCAN BLEED RESISTORS.

REPORT DATE 03/11/88 C-1478
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6077A
NASA FMEA #: 202600-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6077
ITEM: CURRENT LIMITING RESISTORS (9) AND BLEED RESISTORS (2)

LEAD ANALYST: MCNICOLL/EMMONS

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| IOA | 3 /3 | [ NA] | [ NA] | [ NA] | [ ] |
| COMPARE | / / | [ ] | [ ] | [ ] | [ ] |

RECOMMENDATIONS: (If different from NASA)

[ / / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 9 MONITOR RESISTORS.

REPORT DATE 03/11/88 C-1479
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6078
NASA FMEA #: NA
NASA DATA: BASLINE [ ] NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6078
ITEM: MDM (FA1, 2, LA1)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A LOSS OF ALL REDUNDANCY WILL CAUSE THE VALVE TO OPEN PREMATURELY.

REPORT DATE 03/11/88 C-1480
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6079
NASA FMEA #: NA

NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6079
ITEM: VALVE SWITCH INDICATOR

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THERE ARE 3 INDICATORS.

REPORT DATE 03/11/88 C-1481
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6081
NASA FMEA #: 2054A-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6081
ITEM: 1A FUSE
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL BE DETECTED BY THE LH2 OTBD F/D SW SCAN.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6082
NASA FMEA #: 2055A-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6082
ITEM: TOGGLE SWITCH, 32V73A438

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ]

(REMOVE/ADD)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AND NASA SCENARIOS ARE DIFFERENT. NASA DEFINES THE FAILURE AS FAILS TO XFER TO CLOSE. IOA DEFINES THE FAILURE AS FAILURE TO XFER TO OPEN OR CLOSE. NASA'S ANALYSIS FOR THEIR DEFINITION IS CORRECT.

REPORT DATE 03/11/88 C-1483
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6082A
NASA FMEA #: 2055A-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6082
ITEM: TOGGLE SWITCH, 32V73A438

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1484
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6083
NASA FMEA #: 2055A-3

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6083
ITEM: TOGGLE SWITCH

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL OPEN THE OUTBOARD F/D VALVE. FAILURE OF THE INBOARD F/D VALVE WILL VENT H2 OVERBOARD DURING BOOST.

REPORT DATE 03/11/88 C-1485
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6083A
NASA FMEA #: 2055A-4
NASA DATA:
BASELINE [ ]
NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6083
ITEM: TOGGLE SWITCH
MDAC ID: 6083
ITEM: TOGGLE SWITCH
LEAD ANALYST: MCNICOLL/EMMONS
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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
PREMATURE SWITCH TRANSFER WILL CLOSE O/B F&D VALVE AND CAUSE LINE RUPTURE DURING TANK FILL. TYPE ON IOA ANALYSIS SHEET 6083. FLIGHT CRITICALITY WAS INTENDED TO BE 1/IR FOR SHORT ACROSS CLOSE CONTACTS, HERE CHANGED TO 1/1.
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.

REPORT DATE 03/11/88 C-1486
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6084
NASA FMEA #: 2057A-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6084
ITEM: HYBRID DRIVER CONTROLLER (2)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR OPEN HDC ONLY. FILL AND DRAIN VALVE COULD CLOSE DURING LOADING AFTER A SECOND FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6084A
NASA FMEA #: 2058A-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6084
ITEM: HYBRID DRIVER CONTROLLER (2)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR CLOSE HDC ONLY.

REPORT DATE 03/11/88 C-1488
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6085
NASA FMEA #: 2057A-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6085
ITEM: HYBRID DRIVER CONTROLLER
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR OPEN HDC ONLY. THE BISTABLE FEATURE AND THE INBOARD FILL AND DRAIN VALVE OFFER REDUNDANCY AGAINST PREMATURE OPENING.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6085A
NASA FMEA #: 2058A-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6085
ITEM: HYBRID DRIVER CONTROLLER
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR CLOSE HDC ONLY.

REPORT DATE 03/11/88 C-1490
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6086
NASA FMEA #: 2056A-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6086
ITEM: ISOLATION DIODE (4)

LEAD ANALYST: MCNICOLL/EMMONS

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IOA [ 3 /1R ] [ P ] [ F ] [ P ] [ X ]

COMPARE [ N / ] [ ] [ N ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR OPEN SWITCH BLOCKING DIODE ONLY. FIRST FAILURE ELIMINATES THE MANUAL OPEN COMMAND TO THE OUTBOARD FILL/DRAIN VALVE.

REPORT DATE 03/11/88 C-1491
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6086A
NASA FMEA #: 2356A-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6086
ITEM: ISOLATION DIODE (4)

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR ONE OPEN MDM ISOLATION DIODE.

REPORT DATE 03/11/88 C-1492
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6086B
NASA FMEA #: 2357A-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6086
ITEM: ISOLATION DIODE (4)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR ONE CLOSE SWITCH ISOLATION DIODE. FAILURE COULD CAUSE CONTAMINATION OF THE MPS SYSTEM DURING ENTRY, BUT IS NOT CRITICAL.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6086C
NASA FMEA #: 2358A-1
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SUBSYSTEM: EPD&C/MPS
MDAC ID: 6086
ITEM: ISOLATION DIODE (4)
LEAD ANALYST: MCNICOLL/EMMONS

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| IOA  | [ 3 /1R ] | [ P ] | [ F ] | [ P ] |
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RECOMMENDATIONS: (If different from NASA)

| [ 3 /1R ] | [ P ] | [ F ] | [ P ] |

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR ONE CLOSE MDM ISOLATION DIODE. FAILURE IS NOT DETECTABLE DURING ALL PHASES OF FLIGHT.

REPORT DATE 03/11/88 C-1494
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/25/88
ASSESSMENT ID: MPS-6087
NASA FMEA #: 2360A-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6087
ITEM: CURRENT LIMITING RESISTOR (4)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
    ADEQUATE [ ]
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REMARKS:
ASSESSMENT IS FOR 5.1K MONITORING RESISTORS.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-6088
NASA FMEA #: NA

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6088
ITEM: MDM

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
MDM FA2 ONLY.

REPORT DATE 03/11/88 C-1496
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-6089
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6089
ITEM: VALVE SWITCH INDICATOR
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1497
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-6101
NASA FMEA #: 2013-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6101
ITEM: LH2 FEEDLINE RELIEF ISOLATION VALVE POWER AND CONTROL CIRCUITS

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 TRANSIENT SUPPRESSION DIODES. A SHORT COULD SHORT THE SOLENOID TO GROUND WITH ANOTHER FAILURE.

REPORT DATE 03/11/88 C-1498
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-6101A
NASA FMEA #: 2014-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6101
ITEM: LH2 FEEDLINE RELIEF ISOLATION VALVE POWER AND CONTROL CIRCUITS
LEAD ANALYST: MCNICOLL/EMMONS

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* CIL RETENTION RATIONALE: (If applicable)
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  INADEQUATE [    ]

REMARKS:
ASSESSMENT IS FOR 1 MONITOR RESISTOR, 5.1K.

REPORT DATE 03/11/88 C-1499
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-6101B
NASA FMEA #: 2015-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6101
ITEM: LH2 FEEDLINE RELIEF ISOLATION VALVE POWER AND CONTROL CIRCUITS
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 RPC BLEED RESISTORS, 1.8K.

REPORT DATE 03/11/88   C-1500
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-6101C
NASA FMEA #: 2016-1
NASA DATA: BASELINE [ ] NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6101
ITEM: LH2 FEEDLINE RELIEF ISOLATION VALVE POWER AND CONTROL CIRCUITS

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 RPC LIMIT RESISTORS, 2.2K.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-6101D
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6101
ITEM: LH2 FEEDLINE RELIEF ISOLATION VALVE POWER AND CONTROL CIRCUITS

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 MDMS.

REPORT DATE 03/11/88 C-1502
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6102
NASA FMEA #: 2061-1

NASA DATA: BASELINE [ ] NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6102
ITEM: REMOTE POWER CONTROLLER (2)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

| CRITICALLY | REDUNDANCY SCREENS | CIL |
| FLIGHT     | A | B | C | ITEM |
| HDW/FUNC   |   |   |   |     |
| NASA [ 3 /1R ] | [ P ] | [ P ] | [ P ] | [ ] |
| IOA [ 3 /1R ] | [ P ] | [ F ] | [ P ] | [ X ] |
| COMPARE [ / ] | [ ] | [ N ] | [ ] | [ N ] |

RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ]

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
INSTRUMENTATION WILL DETECT THE FAILURE.

REPORT DATE 03/11/88 C-1503
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6102A
NASA FMEA #: 2061-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6102
ITEM: REMOTE POWER CONTROLLER (2)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A SECOND FAILURE COULD CLOSE THE VALVE PREMATURELY. THE FAILURE IS DETECTABLE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6103
NASA FMEA #: 2062-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6103
ITEM: HYBRID DRIVER CONTROLLER

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE LH2 FEEDLINE RELIEF VALVE OFFERS REDUNDANCY AFTER A PREMATURE OPENING OF THE RELIEF ISOLATION VALVE.

REPORT DATE 03/11/88 C-1505
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6104
NASA FMEA #: 2060-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6104
ITEM: TOGGLE SWITCH

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NOMINAL USE OF SWITCH. THE ITEM IS STANDBY REDUNDANT.

REPORT DATE 03/11/88 C-1506
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6104A
NASA FMEA #: 2060-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6104
ITEM: TOGGLE SWITCH

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NO NOMINAL USE OF SWITCH. THE ITEM IS STANDBY REDUNDANT.

REPORT DATE 03/11/88 C-1507
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88  
ASSESSMENT ID: MPS-6105  
NASA FMEA #: 2060-3

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 6105  
ITEM: TOGGLE SWITCH

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

THE LH2 FEEDLINE RELIEF VALVE PROVIDES REDUNDANCY.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6105A
NASA FMEA #: 2060-4
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6105
ITEM: TOGGLE SWITCH
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
POSSIBLE MANIFOLD RUPTURE.

REPORT DATE 03/11/88 C-1509
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6106
NASA FMEA #: 2010-1

SUBSYSTEM: EPD&CP/MPS
MDAC ID: 6106
ITEM: CURRENT LIMITING RESISTOR (3)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

THE ITEM IS STANDBY REDUNDANT.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6107
NASA FMEA #: 2012-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6107
ITEM: ISOLATION DIODE (11)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE SWITCH SCAN DIODES. FAILURE CAUSES LOSS OF CLOSED SWITCH SCAN.

REPORT DATE 03/11/88 C-1511
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6107A
NASA FMEA #: 2012-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6107
ITEM: ISOLATION DIODE (Ii)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE SWITCH SCAN DIODES.

REPORT DATE 03/11/88 C-1512
**APPENDIX C**

**ASSESSMENT WORKSHEET**

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REPORT DATE 03/11/88 C-1513
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6107C
NASA FMEA #: 2237-2
NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6107
ITEM: ISOLATION DIODE (11)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 OPEN SWITCH SCAN DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6107D
NASA FMEA #: 2238-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MDAC ID: 6107
ITEM: ISOLATION DIODE (11)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ P ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 SWITCH BLOCKING DIODES.

REPORT DATE 03/11/88  C-1515
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6107E
NASA FMEA #: 2238A-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6107
ITEM: ISOLATION DIODE (11)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 SWITCH BLOCKING DIODES.

REPORT DATE 03/11/88 C-1516
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6107F
NASA FMEA #: 2239-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6107
ITEM: ISOLATION DIODE (11)
LEAD ANALYST: McNICOLL/EMMONS

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 MDM TO RPC BLOCKING DIODES.

REPORT DATE 03/11/88 C-1517
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6107G
NASA FMEA #: 2239-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6107
ITEM: ISOLATION DIODE (11)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 MDM TO RPC BLOCKING DIODES. A SHORT WILL NOT CAUSE A HAZARD TO CREW, VEHICLE, OR MISSION.

REPORT DATE 03/11/88  C-1518
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/28/88
ASSESSMENT ID: MPS-6107H
NASA FMEA #: 2241-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6107
ITEM: ISOLATION DIODE (11)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 MDM TO HDC BLOCKING DIODE. PARALLEL PATHS MASK THE FAILURE.

REPORT DATE 03/11/88 C-1519
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6107I
NASA FMEA #: 2241-2
NASA ID:
BASELINE [ ]
NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6107
ITEM: ISOLATION DIODE (11)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 MDM TO HDC BLOCKING DIODE. FAILURE CREATES NO HAZARDOUS EFFECT ON CREW, VEHICLE, OR MISSION.

REPORT DATE 03/11/88 C-1520
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6108
NASA FMEA #: 2039-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6108
ITEM: ISOLATION DIODE (3)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FEEDLINE RELIEF VALVE PROVIDES REDUNDANCY AGAINST H2 ESCAPING INTO THE ATMOSPHERE.

REPORT DATE 03/11/88 C-1521
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88  
ASSESSMENT ID: MPS-6108A  
NASA FMEA #: 2240-1

NASA DATA:  
BASELINE [ ]  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 6108  
ITEM: ISOLATION DIODE (3)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 RPC CROSSOVER DIODE. THE FEEDLINE RELIEF VALVE OFFERS ADDITIONAL REDUNDANCY AGAINST ALLOWING H2 TO ESCAPE INTO THE ATMOSPHERE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6108B
NASA FMEA #: 2397-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6108
ITEM: ISOLATION DIODE (3)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(CADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 RPC A OUTPUT DIODE. THE LH2 RELIEF VALVE PROVIDES REDUNDANCY.

REPORT DATE 03/11/88 C-1523
**APPENDIX C**  
**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 1/28/88  
**ASSESSMENT ID:** MPS-6109  
**NASA FMEA #:** NA  
**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 6109  
**ITEM:** MDM (FA1, FA3, FA4)  
**LEAD ANALYST:** MCNICOLL/EMMONS

**ASSESSMENT:** CRITICALITY REDUNDANCY SCREENS CIL

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**RECOMMENDATIONS:** (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)  

ADEQUATE [ ]

INADEQUATE [ ]

**REMARKS:**

**REPORT DATE 03/11/88**  
C-1524
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6121
NASA FMEA #: 2029-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6121
ITEM: HYBRID DRIVER CONTROLLER

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ N / ] [ ] [ N ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE PARALLEL CONFIGURATION WILL NOT ALLOW A SECOND FAILURE TO CLOSE TWO VALVES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: MPS-6122
NASA FMEA #: 2029-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6122
ITEM: HYBRID DRIVER CONTROLLER

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1526
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/27/88
ASSESSMENT ID: MPS-6123
NASA FMEA #: 2041-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6123
ITEM: FUSE (3)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A SECOND FAILURE WILL NOT CLOSE TWO FLOW CONTROL VALVES.

REPORT DATE 03/11/88      C-1527
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6131
NASA FMEA #: 201100-1

NASA DATA:
BASELINE [ ]
NEW [ x ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6131
ITEM: GH2 PRESSURIZATION LINE VENT VALVE SOLENOID ENERGIZING CIRCUITRY

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1528
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6131A
NASA FMEA #: 2405-1

NASA DATA:
BASELINE [ ]
NEW [ x ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6131
ITEM: GH2 PRESSURIZATION LINE VENT VALVE SOLENOID ENERGIZING CIRCUITRY

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1529
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6131B
NASA FMEA #: 2406-1

NASA DATA:
BASELINE [ ]
NEW [ x ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6131
ITEM: GH2 PRESSURIZATION LINE VENT VALVE SOLENOID ENERGIZING CIRCUITRY

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1530
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6141
NASA FMEA #: NA

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6141
ITEM: MDM (FA4)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
The IOA analysis is correct except that mechanical backup adds an additional layer of redundancy.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6142
NASA FMEA #: 2100-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6142
ITEM: HYBRID DRIVER CONTROLLER (2)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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| COMPARE     | [ N /N ]   | [ N ]  | [ N ] [ N ] [ ] |

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ]

(REM) 

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR OPEN HDC ONLY. IOA ANALYSIS CONSIDERED CLOSE HDC AND IGNORED THE MECHANICAL BACKUP.

REPORT DATE 03/11/88 C-1532
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6142A
NASA FMEA #: 2101-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6142
ITEM: HYBRID DRIVER CONTROLLER (2)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
REF: FMEA NO. 05-6J-2101-1 REV. 10/10/87 ANALYZES BOTH THE NOMINAL AND ABORT CASES. THIS ASSESSMENT IS FOR THE NOMINAL CASE. THE CRITICALITY 1/1 FOR AN ENGINE OUT ABORT IS CORRECT.

REPORT DATE 03/11/88 C-1533
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6143
NASA FMEA #: 2103-1

NASA DATA:
BASELINE [   ]
NEW [   ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6143
ITEM: CURRENT LIMITING RESISTOR, 5.1K (4)

LEAD ANALYST: McNicoll/Emmons

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [   ]
INADEQUATE [   ]

REMARKS:

REPORT DATE 03/11/88 C-1534
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6144
NASA FMEA #: 2102-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6144
ITEM: ISOLATION DIODES (4)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 TRANSIENT SUPPRESSION DIODES. A SHORT IN THE TRANSIENT SUPPRESSION DIODES COMBINED WITH A SHORT IN AN INTERNAL HDC DIODE WILL ELIMINATE SOLENOID POWER. A FAILURE OF MECHANICAL BACKUP TO CLOSE THE DISCONNECT VALVE DURING ET SEPARATION COULD RESULT IN LOSS OF CREW/VEHICLE.

REPORT DATE 03/11/88 C-1535
## APPENDIX C
### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 2/08/88

**ASSESSMENT ID:** MPS-6144A

**NASA FMEA #:** NA

**SUBSYSTEM:** EPD&C/MPS

**MDAC ID:** 6144

**ITEM:** ZENER DIODES (2)

**LEAD ANALYST:** MCNICOLL/EMMONS

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| IOA  | [ 3 /3 ] | [ NA] | [ NA] | [ NA] | [ ] |
| COMPARE | [ N /N ] | [ N ] | [ N ] | [ N ] | [ ] |

**RECOMMENDATIONS:** (If different from NASA)

[ 3 /3 ] [ NA] [ NA] [ NA] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

**REMARKS:**

**REPORT DATE** 03/11/88  C-1536
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/08/88
ASSESSMENT ID: MPS-6145
NASA FMEA #: NA
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6145
ITEM: POSITION INDICATOR SWITCH
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1537
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6151
NASA FMEA #: 2222-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6151
ITEM: LH2 PREVALVE POWER & CONTROL CIRCUITS
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1538
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6151A
NASA FMEA #: NA
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6151
ITEM: LH2 PREVALVE POWER & CONTROL CIRCUITS
LEAD ANALYST: MCNICOLL/EMMONS
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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR MDM OAI.

REPORT DATE 03/11/88 C-1539
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6151B
NASA FMEA #: 2223-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6151
ITEM: LH2 PREVALVE POWER & CONTROL CIRCUITS

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88  C-1540
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88  NASA DATA:
ASSESSMENT ID: MPS-6151C  BASELINE [ ]
NASA FMEA #: 2394-1  NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6151
ITEM: LH2 PREVALVE POWER & CONTROL CIRCUITS
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88  C-1541
APPENDIX C
ASSESSMENT WORKSHEET

ASSSESSMENT DATE: 1/29/88
ASSSESSMENT ID: MPS-6152
NASA FMEA #: 2197-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6152
ITEM: FUSE
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE SWITCH IS NOT USED DURING NOMINAL OPERATIONS.

REPORT DATE 03/11/88 C-1542
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6153
NASA FMEA #: 2198-1
NASA FMEA #: MPS-6153
NASA FMEA #: 2198-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6153
ITEM: TOGGLE SWITCH
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
Adequate [ ]
Inadequate [ ]

REMARKS:
The switch is not used during nominal operations.

REPORT DATE 03/11/88 C-1543
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6153A
NASA FMEA #: 2198-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6153
ITEM: TOGGLE SWITCH
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE NASA SCENARIO IS MORE CRITICAL.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6153B
NASA FMEA #: 2198-3
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6153
ITEM: TOGGLE SWITCH
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE NASA SCENARIO IS MORE CRITICAL.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6154
NASA FMEA #: 2199-1
SUBSYSTEM: EPD&CMPS
MDAC ID: 6154
ITEM: REMOTE POWER CONTROLLER, 3A
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:

ASSESSMENT IS FOR 6 OPEN RPCs (36 & 40).

REPORT DATE 03/11/88 C-1546
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6154A
NASA FMEA #: 2199-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6154
ITEM: REMOTE POWER CONTROLLER, 3A
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 OPEN RPCs (36 & 40).

REPORT DATE 03/11/88 C-1547
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6154B
NASA FMEA #: 2200-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6154
ITEM: REMOTE POWER CONTROLLER, 3A
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 CLOSE RPCs (#35 & 39).

REPORT DATE 03/11/88    C-1548
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6154C
NASA FMEA #: 2200-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6154
ITEM: REMOTE POWER CONTROLLER, 3A

LEAD ANALYST: MCNICOLL/EMMONS

NASA DATA:
BASELINE [ ]
NEW [ X ]

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 CLOSE RPCs (#35 & 39).

REPORT DATE 03/11/88 C-1549
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6155
NASA FMEA #: 2201-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6155
ITEM: HYBRID DRIVER CONTROLLER, TYPE I (6)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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COMPARE [ / ] [ N ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN HDCs. TELEMETRY FROM THE SERIES RPC WOULD DETECT THE FAILURE.

REPORT DATE 03/11/88 C-1550
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6155A
NASA FMEA #: 2201-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6155
ITEM: HYBRID DRIVER CONTROLLER, TYPE I (6)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN HDCs. TElemetry FROM THE SERIES RPC WOULD DETECT THE FAILURE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6155B
NASA FMEA #: 2203-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6155
ITEM: HYBRID DRIVER CONTROLLER, TYPE I (6)

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ / ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE HDCs. TELEMETRY FROM THE SERIES RPC WOULD DETECT THE FAILURE.

REPORT DATE 03/11/88 C-1552
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6155C
NASA FMEA #: 2203-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6155
ITEM: HYBRID DRIVER CONTROLLER, TYPE I (6)
LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ / ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE HDCs. TELEMETRY FROM THE SERIES RPC WOULD DETECT THE FAILURE.

REPORT DATE 03/11/88 C-1553
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6156
NASA FMEA #: 2202-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6156
ITEM: HYBRID DRIVER CONTROLLER, TYPE III (12)
LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 OPEN HDCs.

REPORT DATE 03/11/88 C-1554
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6156A
NASA FMEA #: 2202-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6156
ITEM:
HYBRID DRIVER CONTROLLER, TYPE III (12)

LEAD ANALYST: MCNICOLL/EMMONS

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 OPEN HDCs.

REPORT DATE 03/11/88 C-1555
### APPENDIX C
#### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 1/29/88  
**NASA DATA:**  
**ASSESSMENT ID:** MPS-6156B  
**BASELINE [ ]**  
**NASA FMEA #:** 2204-1  
**NEW [ X ]**  
**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 6156  
**ITEM:** HYBRID DRIVER CONTROLLER, TYPE III (12)  
**LEAD ANALYST:** MCNICOLL/EMMONS

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**RECOMMENDATIONS:**  
(If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

**REMARKS:**

ASSESSMENT IS FOR 6 CLOSE HDCs.

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**REPORT DATE 03/11/88**  
**C-1556**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88  
ASSESSMENT ID: MPS-6156C  
NASA FMEA #: 2204-2

NASA DATA:  
BASELINE [ ]  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 6156  
ITEM: HYBRID DRIVER CONTROLLER, TYPE III (12)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 CLOSE HDCs.

REPORT DATE 03/11/88  C-1557
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6157
NASA FMEA #: NASA DATA:
SUBSYSTEM: EPD&C/MPS NASA [ 3 /IR ]
MDAC ID: 6157 IOA [ 3 /IR ]
ITEM: ISOLATION DIODES, 12A (18)
LEAD ANALYST: McNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN COMMAND B RPC OUTPUT DIODES.

REPORT DATE 03/11/88 C-1558
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6157A
NASA FMEA #: 2206-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6157
ITEM: ISOLATION DIODES, 12A (18)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN RPC CROSSOVER DIODES.

REPORT DATE 03/11/88   C-1559
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88  
ASSESSMENT ID: MPS-6157B  
NASA FMEA #: 2207-1

NASA DATA:
BASELINE [ ]  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 6157  
ITEM: ISOLATION DIODES, 12A (18)

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ / ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE COMMAND A RPC OUTPUT DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6157C
NASA FMEA #: 2208-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6157
ITEM: ISOLATION DIODES, 12A (18)

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ / ]

RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE RPC CROSSOVER DIODES.

REPORT DATE 03/11/88 C-1561
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6157D
NASA FMEA #: 2392-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6157
ITEM: ISOLATION DIODES, 12A (18)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN COMMAND A RPC OUTPUT DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6157E
NASA FMEA #: 2393-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6157
ITEM: ISOLATION DIODES, 12A (18)
LEAD ANALYST: MCNICOLL/EMMONS

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from RECOMMENDATIONS: (If different NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE COMMAND B RPC OUTPUT DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6158
NASA FMEA #: 2209-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6158
ITEM: ISOLATION DIODES, 4.2A (3)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN MDM BLOCKING DIODES. TYPO IN ITEM NAME: MDAC 6158 COVERED 30 DIODES, NOT 3. INSTRUMENTATION FOR THE SERIES RPC WILL DETECT THE FAILURE.

REPORT DATE 03/11/88 C-1564
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6158A
NASA FMEA #: 2210-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6158
ITEM: ISOLATION DIODES, 4.2A (3)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE MDM BLOCKING DIODES. TELEMETRY FROM THE SERIES RPC CAN DETECT THE FAILURE.
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6158B
NASA FMEA #: 2214-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6158
ITEM: ISOLATION DIODES, 4.2A (3)
LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ /N ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ]

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE DIODE PROVIDES REDUNDANT BLOCKING PROTECTION. LOSS OF ALL REDUNDANCY COULD PREMATURELY CLOSE THE PREVALVE.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6158C
NASA FMEA #: 2215-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6158
ITEM: ISOLATION DIODES, 4.2A (3)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE SWITCH COMMAND A BLOCKING DIODES. THE FAILURE ERODES THE REDUNDANCY OF AN UNUSED SWITCH.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6158D
NASA FMEA #: 2220-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 9 OPEN SWITCH SCAN DIODES. FAILURE CAUSES A LOSS IN MONITORING CAPABILITIES.

REPORT DATE 03/11/88 C-1568
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6158E
NASA FMEA #: 2221-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MP5
MDAC ID: 6158
ITEM: ISOLATION DIODES, 4.2A (3)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 9 CLOSE SWITCH SCAN DIODES. THE FAILURE CAUSES A LOSS OF MONITORING CAPABILITIES.

REPORT DATE 03/11/88 C-1569
ASSOCIATION WORKSHEET

ASSESSMENT DATE: 1/29/88
ASSESSMENT ID: MPS-6159
NASA FMEA #: 2211-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 6159
ITEM: ISOLATION DIODE (36)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN MDM BLOCKING DIODES.

REPORT DATE 03/11/88  C-1570
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/29/88  NASA DATA:
ASSESSMENT ID: MPS-6159A  BASELINE [ ]
NASA FMEA #: 2212-1  NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6159
ITEM: ISOLATION DIODE (36)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 CLOSE MDM BLOCKING DIODES.

REPORT DATE 03/11/88  C-1571
APPENDIX C
ASSESSMENT WORKSHEET

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 MAINSTAGE BLOCKING DIODES.

REPORT DATE 03/11/88 C-1572
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6159C
NASA FMEA #: 2216-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6159
ITEM: ISOLATION DIODE (36)
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN SWITCH COMMAND C BLOCKING DIODES.
FAILURE CAUSES A LOSS IN REDUNDANCY FOR THE MANUAL OPEN COMMAND.

REPORT DATE 03/11/88 C-1573
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6159D
NASA FMEA #: 2217-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6159
ITEM: ISOLATION DIODE (36)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 OPEN SWITCH COMMAND B BLOCKING DIODES. FAILURE CAUSES A LOSS OF REDUNDANCY FOR THE MANUAL OPEN COMMAND.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6159E
NASA FMEA #: 2218-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6159
ITEM: ISOLATION DIODE (36)

LEAD ANALYST: MCNICOLL/EMMONS

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COMPARE [ /N ] [ N ] [ N ] [ N ] [ N ] [ N ]

RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 CLOSE SWITCH B&C BLOCKING DIODES. THE
FAILURE CAUSES LOSS IN REDUNDANCY FOR THE MANUAL CLOSE COMMAND.

REPORT DATE 03/11/88 C-1575
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6159F
NASA FMEA #: 2219-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6159
ITEM: ISOLATION DIODE (36)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
Adequate [ ]
Inadequate [ ]

REMARKS:
ASSESSMENT IS FOR 6 OPEN SWITCH BLOCKING DIODES. THE FAILURE CAUSES A LOSS OF REDUNDANCY FOR THE MANUAL CLOSE COMMAND.

REPORT DATE 03/11/88 C-1576
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6159G
NASA FMEA #: 2222-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6159
ITEM: ISOLATION DIODE (36)

LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 TRANSIENT SUPPRESSION DIODES. A SHORT IN THE DIODE COULD CAUSE LOSS OF OPEN SOLENOID POWER. A LOSS OF ALL REDUNDANCY WOULD CLOSE THE PREVALVE DURING ENGINE BURN RESULTING IN AN EXPLOSION.

REPORT DATE 03/11/88 C-1577
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-6160
NASA FMEA #: NA
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 6160
ITEM: MODULATOR DEMODULATOR (4)
ITEM ID: NA
LEAD ANALYST: MCNICOLL/EMMONS

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEOQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR MDM FA1, 2, 3, 4.

REPORT DATE 03/11/88 C-1578
### APPENDIX C

#### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 2/02/88  
**ASSESSMENT ID:** MPS-7100  
**NASA FMEA #:** 2121-1  

**NASA DATA:**  
- BASELINE [ ]  
- NEW [ X ]

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 7100  
**ITEM:** ISOLATION VALVES

**LEAD ANALYST:** EMMONS/MCNEELY

#### ASSESSMENT:

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**RECOMMENDATIONS:**  
(If different from NASA)  

[ ]  

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)  

Adequate [ ]

Inadequate [ ]

**REMARKS:**

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**REPORT DATE 03/11/88**  
C-1579
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7100A
NASA FMEA #: 2113-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7100
ITEM: VALVE POWER & CONTROL CIRCUITS FOR HELIUM ISOLATION VALVES

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

| CRITICALITY | REDUNDANCY SCREENS | CIL ITEM |
| FLIGHT | A | B | C | |
| HDW/FUNC | NASA | [ 3 /1R ] | [ P ] | [ P ] | [ P ] |
| | IOA | [ 3 /3 ] | [ NA ] | [ NA ] | [ NA ] |
| COMPARE | [ /N ] | [ N ] | [ N ] | [ N ] |

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 "B" VALVE RPC'S. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.

REPORT DATE 03/11/88 C-1580
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7100B
NASA FMEA #: 2113-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7100
ITEM: VALVE POWER & CONTROL CIRCUITS FOR HELIUM ISOLATION VALVES

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSessment IS FOR 6 "B" VALVE RPC'S. A LOSS OF REDUNDANCY COULD MAKE HELIUM LEAK ISOLATION IMPOSSIBLE. THIS COULD OVERPRESSURIZE THE AFT COMPARTMENT AND CAUSE DAMAGE.

REPORT DATE 03/11/88 C-1581
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7100C
NASA FMEA #: 2375-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7100
ITEM: VALVE POWER & CONTROL CIRCUITS FOR HELIUM ISOLATION VALVES

LEAD ANALYST: EMMONS/MCNEELY

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1582
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7100D
NASA FMEA #: 2379-1
NASA DATA: BASELINE [ ] NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 7100
ITEM: VALVE POWER & CONTROL CIRCUITS FOR HELIUM ISOLATION VALVES
LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
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REMARKS:
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
NASA DATA:
ASSESSMENT ID: MPS-7100E
NASA FMEA #: 2379-2
SUBSYSTEM: EPD&C/MPS
MDAC ID: 7100
ITEM: VALVE POWER & CONTROL CIRCUITS FOR HELIUM ISOLATION VALVES
LEAD ANALYST: EMMONS/MCNEELY

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* CIL RETENTION RATIONALE: (If applicable)
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INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1584
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7100F
NASA FMEA #: 2414-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7100
ITEM: VALVE POWER & CONTROL CIRCUITS FOR HELIUM ISOLATION VALVES
LEAD ANALYST: EMMONS/MCNEELY

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88  C-1585
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7110
NASA FMEA #: 2110-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7110
ITEM: FUSE, 1AMP (9)

LEAD ANALYST: EMMONS/MCNEELY

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COMPARE [ /N ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 "B" VALVE FUSES. IOA SHOWS 3/1R FOR ABORT ONLY. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME. THE FAILURE IS MASKED BY PARALLEL PATHS.

REPORT DATE 03/11/88 C-1586
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7110A
NASA FMEA #: 2116-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7110
ITEM: FUSE, 1AMP (9)

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

| ADEQUATE [ ] |
| INADEQUATE [ ] |

REMARKS:
ASSESSMENT IS FOR 3 "A" VALVE FUSES. IOA INDICATES 3/1R FOR ABORTS ONLY. ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.

REPORT DATE 03/11/88 C-1587
**APPENDIX C**

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**RECOMMENDATIONS:** (If different from NASA)

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**CIL RETENTION RATIONALE:** (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

**REMARKS:**

ONLY AVAILABLE REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7120A
NASA FMEA #: 2117-3

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7120
ITEM: TOGGLE SWITCH, 1P3T (3)

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAILABLE REF; MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88  
NASA DATA:  
BASELINE [ ]  
NEW [ X ]

NASA FMEA #: 2117-4  

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 7120  
ITEM: TOGGLE SWITCH, 1P3T (3)  
LEAD ANALYST: EMMONS/MCNEELY  

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

REMARKS:

ONLY AVAILABLE REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.

REPORT DATE 03/11/88 C-1590
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88  
ASSESSMENT ID: MPS-7130  
NASA FMEA #: 2111-1

NASA DATA:  
BASELINE [ ]  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 7130  
ITEM: TOGGLE SWITCH, 2P3T (3)

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.
**APPENDIX C**

**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 2/01/88

**ASSESSMENT ID:** MPS-7130A

**NASA FMEA #:** 2111-3

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**SUBSYSTEM:** EPD&C/MPS

**MDAC ID:** 7130

**ITEM:** TOGGLE SWITCH, 2P3T (3)

**LEAD ANALYST:** EMMONS/ MCNEELY

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**RECOMMENDATIONS:** (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

Adequate [ ]
Inadequate [ ]

**REMARKS:**
LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME. THE FAILURE MAY NOT BE DETECTED.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7130B
NASA FMEA #: 2111-4

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7130
ITEM: TOGGLE SWITCH, 2P3T (3)

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
A LOSS OF ALL REDUNDANCY COULD MAKE HELIUM LEAK ISOLATION IMPOSSIBLE. THIS COULD OVERPRESSURIZE THE AFT COMPARTMENT AND CAUSE DAMAGE.
**APPENDIX C**

**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 2/01/88

**ASSESSMENT ID:** MPS-7140

**NASA FMEA #:** 2118-1

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**SUBSYSTEM:** EPD&C/MPS

**MDAC ID:** 7140

**ITEM:** HYBRID DRIVER, TYPE III (3)

**LEAD ANALYST:** EMMONS/MCNEELY

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**RECOMMENDATIONS:** (If different from NASA)

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**REMARKS:**

ONLY AVAILABLE REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.

**REPORT DATE 03/11/88**

C-1594
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7140A
NASA FMEA #: 2118-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7140
ITEM: HYBRID DRIVER, TYPE III (3)
LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAILABLE REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. LOSS
OF ALL REDUNDANCY COULD MAKE HELIUM LEAK ISOLATION IMPOSSIBLE.
THIS COULD OVERPRESSURIZE THE AFT COMPARTMENT AND CAUSE DAMAGE.

REPORT DATE 03/11/88  C-1595
### APPENDIX C
#### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 2/01/88  
**ASSESSMENT ID:** MPS-7150  
**NASA FMEA #:** 2112-2

**NASA DATA:**  
BASELINE [ ]  
NEW [ X ]

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 7150  
**ITEM:** HYBRID DRIVER, TYPE I (6)

**LEAD ANALYST:** EMMONS/MCNEELY

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

**REMARKS:**

LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7160
NASA FMEA #: 2115-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 7160
ITEM: ISOLATION DIODES (6)
LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

CRITICALITY
FLIGHT
HDW/FUNC

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IOA [ 3 /2R ] [ P ] [ F ] [ P ] [ X ]
COMPARE [ /N ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 "B" VALVE RPC OUTPUT DIODES. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.

REPORT DATE 03/11/88 C-1597
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7160A
NASA FMEA #: 2115-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7160
ITEM: ISOLATION DIODES (6)

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 "B" VALVE RPC OUTPUT DIODES. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.

REPORT DATE 03/11/88 C-1598
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7170
NASA FMEA #: 2114-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7170
ITEM: ISOLATION DIODES (9)

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 "B" VALVE SWITCH BLOCKING DIODES. IOA INDICATES 3/1R FOR ABORTS ONLY. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7170A
NASA FMEA #: 2119-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7170
ITEM: ISOLATION DIODES (9)

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 "A" VALVE SWITCH BLOCKING DIODES. ONLY
AVAILABLE REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. LOSS OF
ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM
PURGE IN AN SSME.

REPORT DATE 03/11/88   C-1600
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7180
NASA FMEA #: 2119-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7180
ITEM: ISOLATION DIODES (3)

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 3 "A" VALVE SWITCH BLOCKING DIODES. ONLY AVAILABLE REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. LOSS OF ALL REDUNDANCY COULD RESULT IN AN EXPLOSION DUE TO LACK OF HELIUM PURGE IN AN SSME.

REPORT DATE 03/11/88 C-1601
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7190
NASA FMEA #: N/A

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7190
ITEM: MDM, FLIGHT AFT 1,2,3,4
LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

[ ] / [1R] [ P ] [ P ] [ P ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1602
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7191
NASA FMEA #: N/A

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7191
ITEM: MDM, FLIGHT AFT 1,2,3,4

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1603
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7200
NASA FMEA #: 2147-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7200
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT INLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

| CRITICALLY | REDUNDANCY SCREENS | CIL ITEM |
| FLIGHT | HDW/FUNC | A | B | C | |
| NASA | [ 3 /3 ] | [ NA] | [ NA] | [ NA] | [ ] |
| IOA | [ 3 /3 ] | [ NA] | [ NA] | [ NA] | [ ] |

COMPARE [ / ] [ ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1604
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7200A
NASA FMEA #: 2148-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7200
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT INLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7200B
NASA FMEA #: 2149-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7200
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT INLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

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COMPARE [ ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1606
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7200C
NASA FMEA #: 2147-2

NASA DATA:
BASELINE [ ]
NEW [ x ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7200
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT INLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR 9 DIODES. A LOSS OF ALL REDUNDANCY COULD CAUSE THE LOSS OF ONE ENGINE, RESULTING IN LOSS OF MISSION (INTACT ABORT). NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/1R.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7200D
NASA FMEA #: 2148-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7200
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT INLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT FOR 9 DIODES. A LOSS OF ALL REDUNDANCY COULD CAUSE THE LOSS OF ONE ENGINE, RESULTING IN LOSS OF MISSION (INTACT ABORT). NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/1R.

REPORT DATE 03/11/88 C-1608
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7210
NASA FMEA #: 2140-1

NASA DATA:
BASELINE []
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7210
ITEM: FUSE, 1AMP (6)

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURE WOULD RESULT IN THE LOSS OF ONE ENGINE (LOSS OF MISSION) IF ALL REDUNDANCY WERE LOST. NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/1R. THE FAILURE WOULD BE CRITICALITY 1R FOR AN ABORT. ONLY AVAIL. REF.: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87.

REPORT DATE 03/11/88
C-1609
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7220
NASA FMEA #: 2141-4

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7220
ITEM: TOGGLE SWITCH, 2P3T (3)

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURE WILL INHIBIT THE ABILITY TO CLOSE THE VALVE. THIS WILL CREATE NO HAZARDOUS EFFECT. ONLY AVAILABLE REFERENCE:
MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7220A
NASA FMEA #: 2141-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7220
ITEM: TOGGLE SWITCH, 2P3T (3)

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

* CIL RETENTION RATIONALE: (If applicable)

REMARKS:
THE FAILURE WOULD RESULT IN THE LOSS OF ONE ENGINE (LOSS OF MISSION) IF ALL REDUNDANCY WERE LOST. THE SWITCH IS STANDBY REDUNDANT. NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/1R. ONLY

AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.

REPORT DATE 03/11/88  C-1611
**APPENDIX C**

**ASSESSMENT WORKSHEET**

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**RECOMMENDATIONS:** (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

**REMARKS:**

THE FAILURE WILL INHIBIT THE ABILITY TO CLOSE THE VALVE. THIS WILL CREATE NO HAZARDOUS EFFECT. ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.

**REPORT DATE 03/11/88 C-1612**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7220C
NASA FMEA #: 2141-3
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&CMPS
MDAC ID: 7220
ITEM: TOGGLE SWITCH, 2P3T (3)

LEAD ANALYST: EMMONS/MCNEELY

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IOA [ 2 /2R ] [ P ] [ F ] [ P ] [ X ]
COMPARE [ N /N ] [ ] [ N ] [ ] [ N ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURE WOULD RESULT IN THE LOSS OF ONE ENGINE (LOSS OF MISSION) IF ALL REDUNDANCY WERE LOST. NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/IR. THE SWITCH IS STANDBY REDUNDANT. ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7230
NASA FMEA #: 2144-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 7230
ITEM: ISOLATION DIODES (6)
LEAD ANALYST: EMMONS/MCNEELY

NASA DATA:
BASELINE [ ]
NEW [ X ]

ASSESSMENT:

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COMPARE [ /N ] [ ] [ N ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURE WOULD RESULT IN THE LOSS OF ONE ENGINE (LOSS OF MISSION) IF ALL REDUNDANCY WERE LOST. NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/1R. THE FAILURE WOULD BE CRITICALITY 1R FOR AN ABORT. ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.

REPORT DATE 03/11/88 C-1614
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7231
NASA FMEA #: 2144-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7231
ITEM: ISOLATION DIODES (6)
LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE

REMARKS:
THE FAILURE WOULD RESULT IN THE LOSS OF ONE ENGINE (LOSS OF MISSION) IF ALL REDUNDANCY WERE LOST. NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/1R. THE CRITICALITY WOULD BE 1R FOR AN ABORT.
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.

REPORT DATE 03/11/88 C-1615
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7240
NASA FMEA #: 2143-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7240
ITEM: REMOTE POWER CONTROLLER (6)

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /2R ] [ P ] [ P ] [ P ] [ ] *(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA CALLS LOSS OF AN UNRELATED ENGINE A REDUNDANT FAILURE.

REPORT DATE 03/11/88 C-1616
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7250
NASA FMEA #: 2142-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7250
ITEM: HYBRID DRIVER, TYPE I (6)
LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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IOA [ 3 /2R ] [ P ] [ P ] [ P ] [ ]

COMPARE [ /N ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ 3 /2R ] [ P ] [ P ] [ P ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA CALLS THE LOSS OF AN UNRELATED ENGINE A REDUNDANT FAILURE. ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.

REPORT DATE 03/11/88 C-1617
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7260
NASA FMEA #: 2145-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7260
ITEM: ISOLATION DIODES (12)

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 DIODES. ONLY AVAIL REF: FMEA REVIEW SUMMARY 8-17-87. THE FAILURE WILL ERODE REDUNDANCY TO OPEN THE VALVE. LOSS OF ALL REDUNDANCY WILL CAUSE THE LOSS OF ONE ENGINE. THE FAILURE WILL NOT BE DETECTED. RESULTS IN LOSS OF MISSION (INTACT ABORT). NSTS 22206 REQUIRES ASSIGNMENT OF 3/1R.

REPORT DATE 03/11/88 C-1618
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7260A
NASA FMEA #: 2146-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7260
ITEM: ISOLATION DIODES (12)

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. THE LOSS OF ALL REDUNDANCY WOULD RESULT IN THE LOSS OF ONE ENGINE. THE FAILURE WILL BE DETECTED. RESULTS IN LOSS OF MISSION (INTACT ABORT). NSTS 22206 REQUIRES ASSIGNMENT OF 3/1R.

REPORT DATE 03/11/88 C-1619
## APPENDIX C
### ASSESSMENT WORKSHEET

**ASSESSMENT DATE:** 2/05/88  
**ASSESSMENT ID:** MPS-7270  
**NASA FMEA #:**  
**NASA DATA:**  
**BASELINE [ ]**  
**NEW [ X ]**  

**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 7270  
**ITEM:** MDM, FLIGHT AFT 1,2,3  

**LEAD ANALYST:** EMMONS/MCNEELY  

### ASSESSMENT:

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**RECOMMENDATIONS:** (If different from NASA)

[ 3 /IR ] [ P ] [ F ] [ P ] [ A ]  
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]  
INADEQUATE [ ]

**REMARKS:**
SECOND FAILURE CAN CAUSE AN ENGINE SHUTDOWN AND LOSS OF MISSION (INTACT-abort). NSTS 22206 2.3.3L Requires Assignment of 3/1R.

**REPORT DATE 03/11/88**  
**C-1620**
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7271
NASA FMEA #: 

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7271
ITEM: MDM, FLIGHT AFT 1,2,3

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1621
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7300
NASA FMEA #: 2153-1
SUBSYSTEM: EPD&C/MPS
MDAC ID: 7300
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT OUTLET VALVES
LEAD ANALYST: EMMONS/MCNEELY

NASA DATA:

BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7300
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT OUTLET VALVES
LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1622
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7300A
NASA FMEA #: 2403-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7300
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT OUTLET VALVES
LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS:
(If different from NASA)

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(ADD/DELETE)

*CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1623
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7300B
NASA FMEA #: 2404-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7300
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT OUTLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1624
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7300C
NASA FMEA #: 2151-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7300
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT OUTLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1625
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7300D
NASA FMEA #: 2150-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7300
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT OUTLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

ASSESSMENT:

CRITICALITY REDUNDANCY SCREENS CIL

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. THE FAILURE WILL RESULT IN THE LOSS OF ONE ENGINE (LOSS OF MISSION) IF ALL REDUNDANCY WERE LOST. NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/1R.

REPORT DATE 03/11/88 C-1626
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7300E
NASA FMEA #: 2150-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7300
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT OUTLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /3 ] [ NA ] [ NA ] [ NA ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. NO HAZARDOUS EFFECT ON CREW, VEHICLE, OR MISSION.

REPORT DATE 03/11/88   C-1627
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
NASA DATA:
BASELINE [ ]
NEW [ X ]

ASSESSMENT ID: MPS-7300F
NASA FMEA #: 2151-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7300
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT OUTLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. THE FAILURE WILL RESULT IN THE LOSS OF ONE ENGINE (LOSS OF MISSION) IF ALL REDUNDANCY WERE LOST. NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/1R.

REPORT DATE 03/11/88 C-1628
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/05/88
ASSESSMENT ID: MPS-7300G
NASA FMEA #: 2404-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7300
ITEM: VALVE POWER AND CONTROL CIRCUITS FOR HELIUM INTERCONNECT OUTLET VALVES

LEAD ANALYST: EMMONS/MCNEELY

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RECOMMENDATIONS: (If different from NASA)

[ 3 /IR ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IDENTICAL FAILURE SCENARIO AS NASA FMEA 2148-2, BUT NASA's TWO FMEAs DISAGREE. THE FAILURE WILL RESULT IN THE LOSS OF ONE ENGINE (LOSS OF MISSION) IF ALL REDUNDANCY IS LOST. NSTS 22206 2.3.3L REQUIRES ASSIGNMENT OF 3/IR.

REPORT DATE 03/11/88   C-1629
Appendix C
Assessment Worksheet

Assessment Date: 2/02/88
Assessment ID: MPS-7400
NASA FMEA #: 2303-1

Subsystem: EPD&C/MPS
MDAC ID: 7400
Item: Pneumatic Helium Supply Isolation Valve Power and Control Circuit

Lead Analyst: W.J. McNicol

Assessment:

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Recommendations: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL Retention Rationale: (If applicable)

Adequate [ ]
Inadequate [ ]

Remarks:
Assessment is for 2 Switch (Open) Scan Diodes.

Report Date 03/11/88 C-1630
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7400A
NASA FMEA #: 2304-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7400
ITEM: PNEUMATIC HELIUM SUPPLY ISOLATION VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: W.J. McNicoll

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 SWITCH (CLOSED) SCAN DIODES.
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7400B
NASA FMEA #: 2304-2
NASA DATA:
  BASELINE [ ]
  NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7400
ITEM: PNEUMATIC HELIUM SUPPLY ISOLATION VALVE POWER
  AND CONTROL CIRCUIT

LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ 3 /3 ] [ NA] [ NA ] [ NA ] [ D ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 SWITCH (CLOSED) SCAN DIODES. THE FAILURE OF
THE ITEMS WILL NOT AFFECT CREW, VEHICLE, OR MISSION.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7400C
NASA FMEA #: 2305-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7400
ITEM: PNEUMATIC HELIUM SUPPLY ISOLATION VALVE POWER AND CONTROL CIRCUIT
LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 MDM BLOCKING DIODES. THE FAILURE OF THE ITEMS WILL NOT AFFECT CREW, VEHICLE, OR MISSION.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7400D
NASA FMEA #: 2305-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7400
ITEM: PNEUMATIC HELIUM SUPPLY ISOLATION VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

CRITICALITY
FLIGHT
HDW/FUNC

REDUNDANCY SCREENS
A    B    C

NASA [ 3 /3 ] [ NA] [ NA] [ NA] [ ] *

IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]

COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 MDM BLOCKING DIODES.

REPORT DATE 03/11/88   C-1634
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7400E
NASA FMEA #: 2306-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7400
ITEM: PNEUMATIC HELIUM SUPPLY ISOLATION VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 SWITCH BLOCKING DIODES. FAILURE TO OPEN VALVES IS NON-CRITICAL TO A NOMINAL FLIGHT. THE CRITICALITY IS 2/1R FOR AN ABORT.
ASSESSMENT DATE: 2/02/88
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7400
ITEM: PNEUMATIC HELIUM SUPPLY ISOLATION VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /3 ] [ NA] [ NA] [ NA] [ D ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 SWITCH BLOCKING DIODES. FAILURE TO OPEN VALVES IS NON-CRITICAL TO A NOMINAL FLIGHT. THE CRITICALITY IS 3/1R FOR AN ABORT.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7400G
NASA FMEA #: 2307-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7400
ITEM: PNEUMATIC HELIUM SUPPLY ISOLATION VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ A ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 TRANSIENT SUPPRESSION DIODES. THE CRITICALITY FOR A SHORT IS 3/1R.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7400H
NASA FMEA #: 2308-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7400
ITEM: PNEUMATIC HELIUM SUPPLY ISOLATION VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: W.J. McNicoll

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 4 MONITOR RESISTORS.

REPORT DATE 03/11/88 C-1638
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88  
NASA DATA:  
ASSESSMENT ID: MPS-7400I  
BASELINE [ ]  
NASA FMEA #: 2414-1  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 7400  
ITEM: PNEUMATIC HELIUM SUPPLY ISOLATION VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 1 BLEED RESISTOR.

REPORT DATE 03/11/88  C-1639
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-7420
NASA FMEA #: 2134-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7420
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1640
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-7420A
NASA FMEA #: 2134-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7420
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1641
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-7420B
NASA FMEA #: 2136-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7420
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1642
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88  NASA DATA:
ASSESSMENT ID: MPS-7420C  BASELINE [ ]
NASA FMEA #: 2137-1  NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7420
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88  C-1643
APPENDIX C
ASSESSMENT WORKSHEET

ASSSESSMENT DATE: 2/03/88
ASSSESSMENT ID: MPS-7420D
NASA FMEA #: 2138-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7420
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

CRITICALITY REDUNDANCY SCREENS CIL
FLIGHT HDW/FUNC A B C ITEM

NASA [ 3 /3 ] [ NA] [ NA] [ NA] [ ] *
IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]

COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1644
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88  NASA DATA:
ASSESSMENT ID: MPS-7420E  BASELINE [ ]
NASA FMEA #: 2139-1  NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7420
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88  C-1645
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-7430
NASA FMEA #: 2131-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7430
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE
CONTROL CIRCUIT SWITCH

LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE SWITCH IS A STANDBY REDUNDANT ITEM.

REPORT DATE 03/11/88 C-1646
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-7430A
NASA FMEA #: 2131-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7430
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE
CONTROL CIRCUIT SWITCH

LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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| IOA  | 3 /3  | [ P ]   | [ P ]   | [ P ]   | [ ]     |        |
| COMPARE | /N   | [ ]     | [ ]     | [ ]     | [ ]     |        |

RECOMMENDATIONS: (If different from NASA)

| NASA | 3 /1R | [ P ]   | [ NA ]  | [ P ]   | [ ]     | (ADD/DELETE) |

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8/17/87. THE
SWITCH IS A STANDBY REDUNDANT ITEM.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-7440
NASA FMEA #: 2130-1

NASA DATA:
BASELINE [ ]
NEW [ x ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7440
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE
CONTROL CIRCUIT FUSE

LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.

REPORT DATE 03/11/88 C-1648
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-7450
NASA FMEA #: 

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7450
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE
CONTROL CIRCUIT ISOLATION DIODES

LEAD ANALYST: W.J. McNicoll

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

3/2R [P] [NA] [P] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. FAILURE OF THE BLOCKING DIODE FOR THE SWITCH WOULD NOT BE DETECTED.

REPORT DATE 03/11/88 C-1649
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/03/88
ASSESSMENT ID: MPS-7460
NASA FMEA #: 2132-1
NASA ID: MPS-7460
SUBSYSTEM: EPD&C/MPS
MDAC ID: 7460
ITEM: PNEUMATIC HELIUM CROSSOVER SOLENOID VALVE
CONTROL CIRCUIT HYBRID DRIVER CONTROLLER
LEAD ANALYST: W.J. MCNICOLL

ASSESSMENT:

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COMPARE [ /N ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. THE FAILURE WOULD PREVENT VALVE OPENING.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7470
NASA FMEA #: 2370-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7470
ITEM: HELIUM SUPPLY BLOWDOWN VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 TRANSIENT SUPPRESSION DIODES AND 2 MONITORING RESISTORS. CRITICALITY FOR THE TRANSIENT SUPPRESSION DIODES FOR A SHORT DURING AN ABORT IS 3/1R.

REPORT DATE 03/11/88 C-1651
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7470A
NASA FMEA #: 2371-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7470
ITEM: HELIUM SUPPLY BLOWDOWN VALVES POWER AND CONTROL
CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 TRANSIENT SUPPRESSION DIODES AND 2 MONITORING RESISTORS. CRITICALITY FOR THE TRANSIENT SUPPRESSION DIODES FOR A SHORT DURING AN ABORT IS 3/1R.

REPORT DATE 03/11/88 C-1652
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7480
NASA FMEA #: 2050-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7480
ITEM: HELIUM SUPPLY BLOWDOWN VALVES CONTROL CIRCUIT HYBRID DRIVER CONTROLLER
LEAD ANALYST: A.J. MARINO

ASA

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RECOMMENDATIONS: (If different from NASA)
[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE SECOND FAILURE WILL RESULT IN LOSS OF HELIUM AVAILABLE FOR LO2 DUMP.

REPORT DATE 03/11/88 C-1653
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/02/88
ASSESSMENT ID: MPS-7490
NASA FMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 7490
ITEM: HELIUM SUPPLY BLOWDOWN VALVES CONTROL CIRCUIT
MDM COMMANDS
LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[2 /1R] [P] [P] [P] [A]

* CIL RETENTION RATIONALE: (If applicable)

REMARKS:
ASSESSMENT IS FOR MDMs FA3 AND FA4. THE SECOND FAILURE WILL RESULT IN LOSS OF HELIUM AVAILABLE FOR LO2 DUMP.

REPORT DATE 03/11/88 C-1654
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7500
NASA FMEA #: 2317-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7500
ITEM: LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 6 DIODES AND 5 RESISTORS.

REPORT DATE 03/11/88 C-1655
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7500A
NASA FMEA #: 2314-1
NASA DATA: BASELINE [ ] NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7500
ITEM: LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

   ADEQUATE [ ]
   INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 OPEN SWITCH SCAN DIODES.

REPORT DATE 03/11/88 C-1656
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7500B
NASA FMEA #: 2314-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7500
ITEM: LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 OPEN SWITCH SCAN DIODES. THE FAILURE DOES ELIMINATE BLOCKING PROTECTION ALLOWING THE NASA SCENARIO TO OCCUR.

REPORT DATE 03/11/88 C-1657
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7500C
NASA FMEA #: 2316-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7500
ITEM: LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

ASSESSMENT IS FOR 2 OPEN SWITCH BLOCKING DIODES.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7500D
NASA FMEA #: 2316-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7500
ITEM: LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ / ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 OPEN SWITCH BLOCKING DIODES. THE FAILURE DOES ELIMINATE BLOCKING REDUNDANCY ALLOWING THE NASA SCENARIO TO OCCUR.

REPORT DATE 03/11/88 C-1659
**APPENDIX C**

**ASSESSMENT WORKSHEET**

**ASSESSMENT DATE:** 2/04/88

**ASSESSMENT ID:** MPS-7500E

**NASA FMEA #:** 2317-2

**NASA DATA:**

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**SUBSYSTEM:** EPD&C/MPS

**MDAC ID:** 7500

**ITEM:** LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

**LEAD ANALYST:** A.J. MARINO

**ASSESSMENT:**

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**RECOMMENDATIONS:** (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

**REMARKS:**

**REPORT DATE** 03/11/88 C-1660
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7500F
NASA FMEA #: 2315-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7500
ITEM: LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1661
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7500G
NASA FMEA #: 2318-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7500
ITEM: LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ] INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1662
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88  ASSESSMENT ID: MPS-7500H
NASA FMEA #: 2324-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
ITEM: LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88     C-1663
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7500I
NASA FMEA #: 2401-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7500
ITEM: LO2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1664
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7510
NASA FMEA #: 2313-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7510
ITEM: LO2 MANIFOLD REPRESS VALVES CONTROL CIRCUIT
HYBRID DRIVER CONTROLLER

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURE WILL PREVENT REPRESSURIZATION FOR LANDING, BUT COULD NOT CAUSE LOSS OF LIFE/VEHICLE.

REPORT DATE 03/11/88 C-1665
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7520
NASA FMEA #: N/A

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7520
ITEM: LO2 MANIFOLD REPRESS VALVES CONTROL CIRCUIT MDM
COMMANDS

LEAD ANALYST: A.J. MARINO

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR MDM FA3 AND FA4. ASSESSMENT FOR FAILS ON RATHER THAN FAILS OFF.

REPORT DATE 03/11/88 C-1666
APPENDIX C  
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88  
ASSESSMENT ID: MPS-7530  
NASA FMEA #: 2312-1  

NASA DATA:
BASELINE [ ]  
NEW [ X ]

SUBSYSTEM: EPD&C/MPS  
MDAC ID: 7530  
ITEM: LO2 MANIFOLD REPRESS VALVES CONTROL CIRCUIT SWITCH  
LEAD ANALYST: A.J. MARINO

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FAILURE WILL NOT PRECLUDE LO2 DUMP.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7540
NASA FMEA #: 2322-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1668
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7540A
NASA FMEA #: 2319-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. Marino

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1669
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7540B
NASA FMEA #: 2319-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ 3 /1R ] [ P ] [ F ] [ P ] [ ]
(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 OPEN SWITCH SCAN DIODES. ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. A SECOND FAILURE WOULD NOT ALLOW HELIUM INGESTION INTO THE SSME's, BUT A THIRD FAILURE WOULD.

REPORT DATE 03/11/88 C-1670
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7540C
NASA FMEA #: 2321-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)
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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 OPEN SWITCH BLOCKING DIODES.

REPORT DATE 03/11/88 C-1671
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88  NASA DATA:
ASSESSMENT ID: MPS-7540D  BASELINE [ ]
NASA FMEA #: 2321-2  NEW [ X ]
SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT
LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ASSESSMENT IS FOR 2 OPEN SWITCH BLOCKING DIODES. ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87. THE FAILURE WILL ERODE BLOCKING PROTECTION IN THE OPEN SOLENOID POWER MATH. A LOSS OF ALL REDUNDANCY COULD CAUSE HELIUM INGESTION INTO THE SSME's.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7540E
NASA FMEA #: 2322-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
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REMARKS:

REPORT DATE 03/11/88 C-1673
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7540F
NASA FMEA #: 2320-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
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REMARKS:

REPORT DATE 03/11/88 C-1674
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7540G
NASA FMEA #: 2323-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1675
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7540H
NASA FMEA #: 2325-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

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RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1676
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7540I
NASA FMEA #: 2402-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7540
ITEM: LH2 MANIFOLD REPRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
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REMARKS:

REPORT DATE 03/11/88 C-1677
**APPENDIX C**

**ASSESSMENT WORKSHEET**

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**SUBSYSTEM:** EPD&C/MPS  
**MDAC ID:** 7550  
**ITEM:** LH2 MANIFOLD REPRESS VALVES CONTROL CIRCUIT HYBRID DRIVER CONTROLLER  
**LEAD ANALYST:** A.J. MARINO

**ASSESSMENT:**

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* CIL RETENTION RATIONALE: (If applicable)

| ADEQUATE [ ] |
| INADEQUATE [ ] |

**REMARKS:**

A SECOND FAILURE COULD CAUSE HELIUM INGESTION INTO THE SSME's DURING BURN.
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
NASA DATA:
ASSESSMENT ID: MPS-7560 BASELINE [ ]
NASA FMEA #: N/A NEW [ X ]

SUBSYSTEM: EPD&C/MPS
NASA FMEA #: N/A
MDAC ID: 7560
ITEM: LH2 MANIFOLD REPRESS VALVES CONTROL CIRCUIT MDM
COMMANDS

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

| [ 3 /1R ] | [ P ] | [ P ] | [ P ] | [ ] |

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1679
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/04/88
ASSESSMENT ID: MPS-7570
NASA FMEA #: 2064-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7570
ITEM: LH2 MANIFOLD REPRESS VALVES CONTROL CIRCUIT SWITCH

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

[ ] [ ] [ ] [ ] [ ]

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
The first failure will open both solenoids causing helium ingestion into the SSME's.

REPORT DATE 03/11/88 C-1680
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580
NASA FMEA #: 2019-1
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND
CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]
COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)
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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1681
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580A
NASA FMEA #: 2019-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM:
MDAC ID:
ITEM:

ASSESSMENT:
CRITICALITY
FLIGHT
HDW/FUNC

REDUNDANCY SCREENS
A B C

ITEM

NASA [ 3 /3 ] [ NA] [ NA] [ NA] [ ] *

IOA [ 3 /3 ] [ NA] [ NA] [ NA] [ ]

COMPARE [ / ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1682
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580B
NASA FMEA #: 2020-1

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND CONTROL CIRCUIT
LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1683
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580C
NASA FMEA #: 2021-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND
CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1684
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580D
NASA FMEA #: 2022-1

NASA DATA:
BASELINE [    ]
NEW [    ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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| IOA    | [ 3 /3 ] | [ NA] | [ NA] | [ NA] | [ ] |
| COMPARE| [ /  ]  | [ ]   | [ ]   | [ ]   | [ ] |

RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [    ]
INADEQUATE [    ]

REMARKS:

REPORT DATE 03/11/88  C-1685
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580E
NASA FMEA #: 2049-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1686
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580F
NASA FMEA #: 2382-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND
CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1687
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580G
NASA FMEA #: 2382-2
NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1688
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580H
NASA FMEA #: 2383-1

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1689
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7580I
NASA FMEA #: 2383-2
NASA DATA: BASELINE [ ] NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7580
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES POWER AND CONTROL CIRCUIT

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

| CRITICALLY | REDUNDANCY SCREENS | CIL |
| FLIGHT | HDW/FUNC | A | B | C | ITEM |
| NASA [ 3 /3 ] | [ NA] | [ NA] | [ NA] | [ ] | * |
| IOA [ 3 /3 ] | [ NA] | [ NA] | [ NA] | [ ] | |

COMPARE [ / ] [ ] [ ] [ ] [ ] [ ]

RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)
ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88 C-1690
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7590
NASA FMEA #: 2018-2

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7590
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES REMOTE POWER CONTROLLER

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.

REPORT DATE 03/11/88 C-1691
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7600
NASA FMEA #: 2048-2

NASA DATA:
BASELINE [ ]
NEW [ X ]

SUBSYSTEM: EPD&C/MPS
MDAC ID: 7600
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES HYBRID DRIVER CONTROLLER

LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ONLY AVAIL REF: MPS/EPDC FMEA REVIEW SUMMARY 8-17-87.

REPORT DATE 03/11/88
C-1692
APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/01/88
ASSESSMENT ID: MPS-7610
NASA PMEA #: NA
SUBSYSTEM: EPD&C/MPS
MDAC ID: 7610
ITEM: LH2 FEED MANIFOLD RTLS PRESS VALVES MDM COMMANDS
LEAD ANALYST: A.J. MARINO

ASSESSMENT:

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RECOMMENDATIONS: (If different from NASA)

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(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]

INADEQUATE [ ]

REMARKS:

REPORT DATE 03/11/88
C-1693
APPENDIX D

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### APPENDIX D

#### POTENTIAL CRITICAL ITEMS

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## APPENDIX D

### POTENTIAL CRITICAL ITEMS

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## APPENDIX D
### POTENTIAL CRITICAL ITEMS

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