

INDEPENDENT ORBITER ASSESSMENT

ASSESSMENT OF THE DISPLAYS AND CONTROLS SUBSYSTEM

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MCDONNELL DOUGLAS ASTRONAUTICS COMPANY
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Independent Orbiter Assessment
Analysis of the Display and Control Subsystem

1.0 EXECUTIVE SUMMARY

The McDonnell Douglas Astronautics Company (MDAC) was selected in June 1986 to perform an Independent Orbiter Assessment (IOA) of the Failure Modes and Effects Analysis (FMEA) and Critical Items List (CIL). Direction was given by the STS Orbiter and GFE Projects Office to perform the hardware analysis using the instructions and ground rules defined in NSTS 22206, Instructions for Preparation of FMEA and CIL, 10 October 1986.

The IOA effort first completed an analysis of the Displays and Control hardware, generating draft failure modes and potential critical items. TO preserve independence, this analysis was accomplished without reliance upon the results contained within the NASA FMEA/CIL documentation. The IOA results were then compared to the NASA FMEA/CIL baseline with proposed Post 51-L updates included. A resolution of each discrepancy is provided through additional analysis as required. This report documents the results of that comparison for the Orbiter D&C hardware.

The IOA product for D&C analysis consisted of one-hundred thirty-four failure mode "worksheets" that resulted in eight (8) potential critical items being identified. Comparison was made to the NASA baseline of 4 January 1988 which consisted of two-hundred sixty-four (264) FMEAs and twenty one CIL items. The comparison determined if there were any results which had been found by the IOA but were not in the NASA baseline. This comparison produced agreement on all but forty-five (45) FMEAs which caused no differences in the CIL items. Reference Figure 1.

The issues arose due to different interpretation of NSTS 22206, FMEA and CIL preparation instruction. IOA analyzed the electrical circuit as a black box, and NASA analyzed the components of the black boxes. Of the forty-five (45) differences with the FMEA's, all were minor and did not affect criticalities assessment. In conclusion, IOA is in full agreement with the revised NASA CIL baseline.

Summary of IOA Failure Modes By Criticality (HW/F)							
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
Number :	0	16	0	58	5	92	171

For each failure mode identified, the criticality and redundancy screens were examined to identify critical items. A summary of Potential Critical Items (PCIs) is presented as follows:

Summary of IOA Potential Critical Items (HW/F)						
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	TOTAL
Number :	0	16	0	5	0	21

D & C ASSESSMENT OVERVIEW

D & C ASSESSMENT SUMMARY			
	IOA	NASA	ISSUES
FMEA	171	264	45
CIL	21	21	0

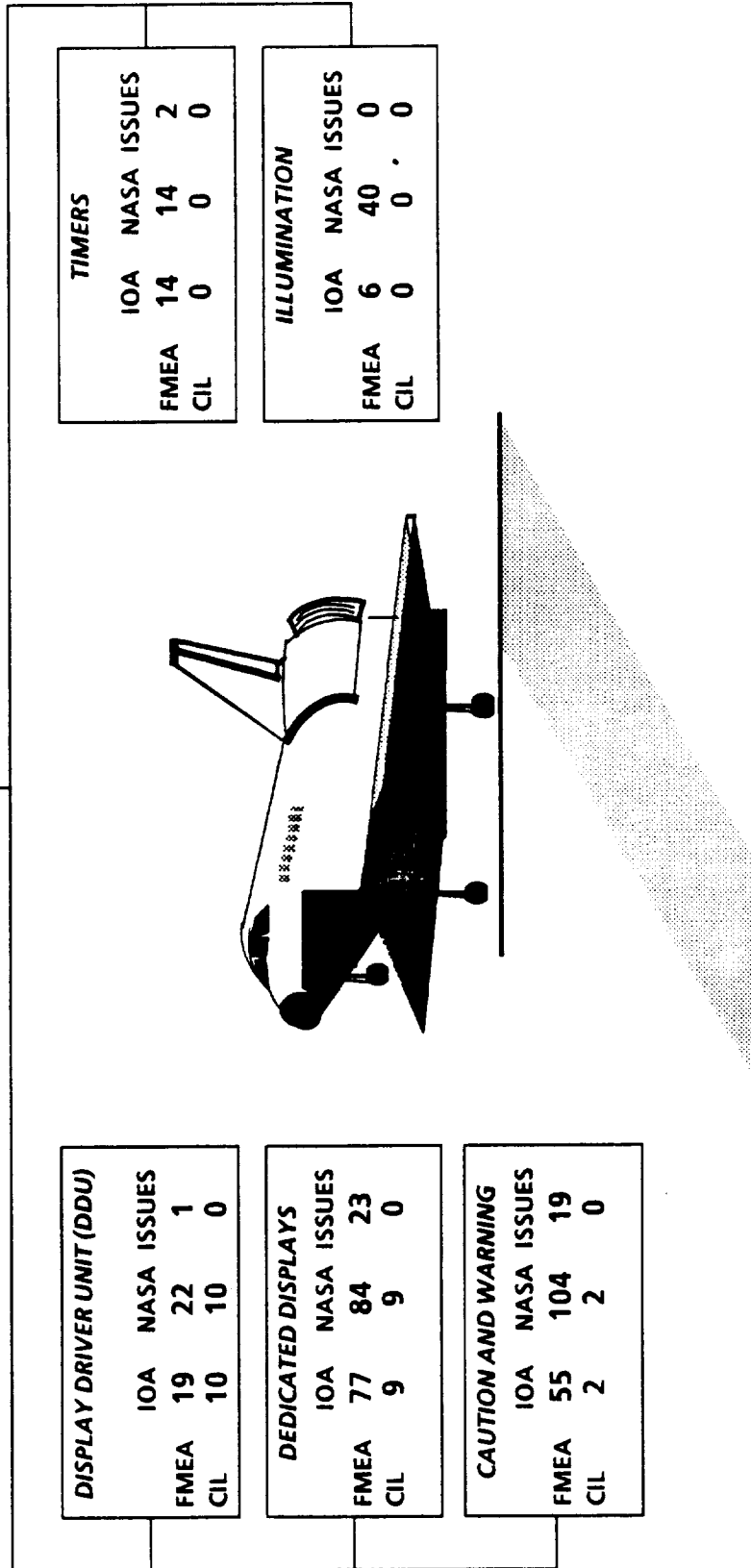


Figure 1 - D&C OVERVIEW ASSESSMENT SUMMARY

2.0 INTRODUCTION

2.1 Purpose

The 51-L Challenger accident prompted the NASA to readdress safety policies, concepts, and rationale being used in the National Space Transportation System (NSTS). The NSTS Office has undertaken the task of re-evaluating the FMEA/CIL for the Space Shuttle design. The MDAC is providing an independent assessment of the Orbiter FMEA/CIL re-evaluation results for completeness and technical accuracy.

2.2 Scope

The scope of the independent FMEA/CIL assessment activity encompasses those Shuttle Orbiter subsystems and GFE hardware identified in the Space Shuttle Independent FMEA/CIL Assessment Contractor Statement of Work. Each subsystem analysis addresses hardware, functions, internal and external interfaces, and operational requirements for all mission phases.

2.3 Analysis Approach

The independent analysis approach is a top-down analysis utilizing as-built drawings to breakdown the respective subsystem into components and low-level hardware items. Each hardware item is evaluated for failure mode, effects, and criticality. These data are documented in the respective subsystem analysis report, and are used to assess the NASA and Prime Contractor FMEA/CIL re-evaluation results. The IOA analysis approach is summarized in the following Steps 1.0 through 3.0. Step 4.0 summarizes the assessment of the NASA and Prime Contractor FMEAs/CILs that is performed and documented at a later date.

Step 1.0 Subsystem Familiarization

- 1.1 Define subsystem functions**
- 1.2 Define subsystem components**
- 1.3 Define subsystem specific ground rules and assumptions**

Step 2.0 Define subsystem analysis diagram

- 2.1 Define subsystem**
- 2.2 Define major assemblies**
- 2.3 Develop detailed subsystem representations**

Step 3.0 Failure events definition

- 3.1 Construct matrix of failure modes**
- 3.2 Document IOA analysis results**

Step 4.0 Compare IOA analysis data to NASA FMEA/CIL

4.1 Resolve differences

4.2 Review in-house

4.3 Document assessment issues

4.4 Forward findings to Project Manager

2.4 D&C Ground Rules and Assumptions

The D&C ground rules and assumptions used in the IOA are defined in Appendix B.

3.0 SUBSYSTEM DESCRIPTION

3.1 Design and Function

The function of the D&C hardware is to provide the crew with the monitor, command, and control capabilities required for management of all normal and contingency mission and flight operations.

Figure 2 is an overview of the D&C hardware for which failure modes analysis was performed. For the analysis, the hardware was divided into the following five categories:

- I. FLIGHT DISPLAYS AND ANNUNCIATORS - These categories includes the displays that allows manual control of the vehicle, provide monitoring of automatic control performance, and provide display of critical flight parameters. The components of this category are:

(1) G-METER	(6) PQI
(2) AMI	(7) SPI
(3) AVVI	(8) HSI
(4) ADI	(9) FLT CNTL PWR
(5) HUD	

Figures 3 - 10 provide a hardware breakdown of each of the above components.

- II. CAUTION AND WARNING - This category consists of those components that inform the crew of out-of-limit conditions of the vehicle. This category consist of the following:

(1) ANNUNCIATOR (CWA)	(3) ELECTRONIC UNIT (CWE)
(2) LIMIT MODULE (CWLM)	

Figure 11 provides a hardware breakdown of each of the above components.

- III. DISPLAY DRIVER UNIT - This category consists of the electronic unit that provides the interface between the GPC and the primary flight displays. The function of this unit is to 1) decode data signals from the GPC and convert these signals to display driver commands, 2) provide ac and dc operating power to the ADI, and 3) set flag on the dedicated displays. The hardware in this category is the DDU.

Figure 12 is a hardware breakdown of this component.

- IV. TIMING DISPLAYS - This category provide the crew with time referenced to GMT or GET and consist of the following components:
- (1) MISSION TIMER
 - (2) EVENT TIMER

Figures 13 - 14 provides a hardware breakdown of these components.

- V. LIGHTING - This category consist of the components that allows illumination of displays and controls, payload bay operations, EVA's, RMS operations, and docking operations. The components of this category are:
- (1) INTERIOR LIGHTING
 - (2) EXTERIOR LIGHTING

Figures 15 - 16 provides a hardware breakdown of these components.

A brief description of the flight displays and annunciators, caution and warning, display driver unit, timing displays, and lighting is provided below.

1. One self contained G-METER located on panel F7. It senses linear acceleration along the Z-body axis of the vehicle.
2. Two AMI's one at the CDRs station and one at the PLTs station. These provide angle of attack, mach/velocity, equivalent airspeed, and acceleration information to the crew.
3. Two AVVIs, located on panels F6 and F8. They provide altitude acceleration, altitude rate, barometric altitude, and radar altitude information to the crew.
4. Three ADI located on panel F6, F8, and A6. These provide simultaneous display of attitude, attitude angular rate, and attitude error information to the crew.
5. Two HUDs located at the CDR and PLT stations. These provide the crew with information required for landing.
6. Two Propellant Quantity Indicators located on panel F6 and F8 to provide the crew with the amount of propellant remaining.
7. Two SPIs located at CDR and PLT stations. The Surface Position Indicators allows the crew to view the status of the aerosurfaces of the vehicle.
8. Caution and Warning - The function of this system is to inform the crew of out-of-limit conditions of predetermined parameters of the vehicle.
9. Annunciator Control Assembly - This system provides visual indication of Orbiter status (emergency/warning - RED, caution - YELLOW, and advisory - WHITE).
10. Display Driver Unit - The function of this unit is to provide the interface between the GPC and the primary flight displays.

11. Timing displays provide the crew with time referenced to Greenwich Mean Time, liftoff, or to a particular event.
12. Lighting - The function of this system is to provide illumination of the controllers, numeric displays, interior, and exterior of the vehicle.

3.2 Interfaces and Locations

The D&C hardware is located through the Orbiter. The precise location for each component/switch/circuit is provided on the analysis worksheets in Working Paper No. 1.0-WP-VA87001-06.

The D&C hardware is interfaced with the software via the flight critical MDMs. Switch and power status is monitored via the flight critical MDMs and operational instrumentation.

3.3 Hierarchy

Figure 2 illustrates the breakdown of the D&C into its hardware components, and Figures 3 - 16 are the detailed systems representations.

D&C SUBSYSTEM OVERVIEW

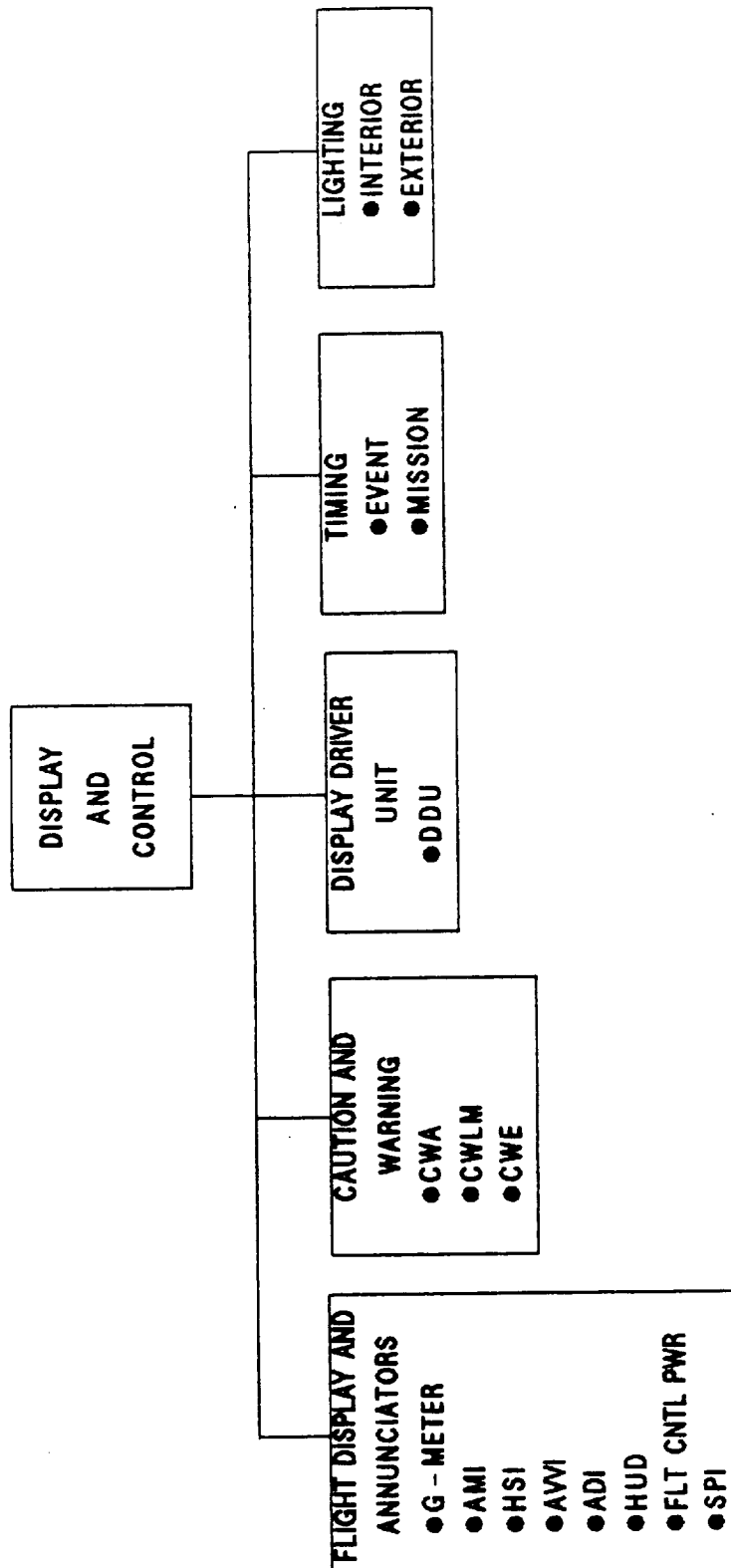


Figure 2 - D&C SUBSYSTEM OVERVIEW

ACCELERATION INDICATOR

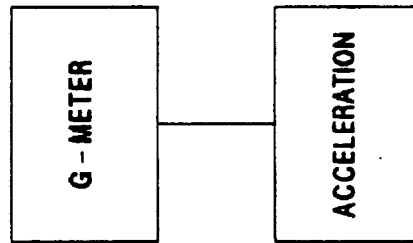


Figure 3 - D&C ACCELERATION INDICATOR (G-METER)

HEAD UP DISPLAY

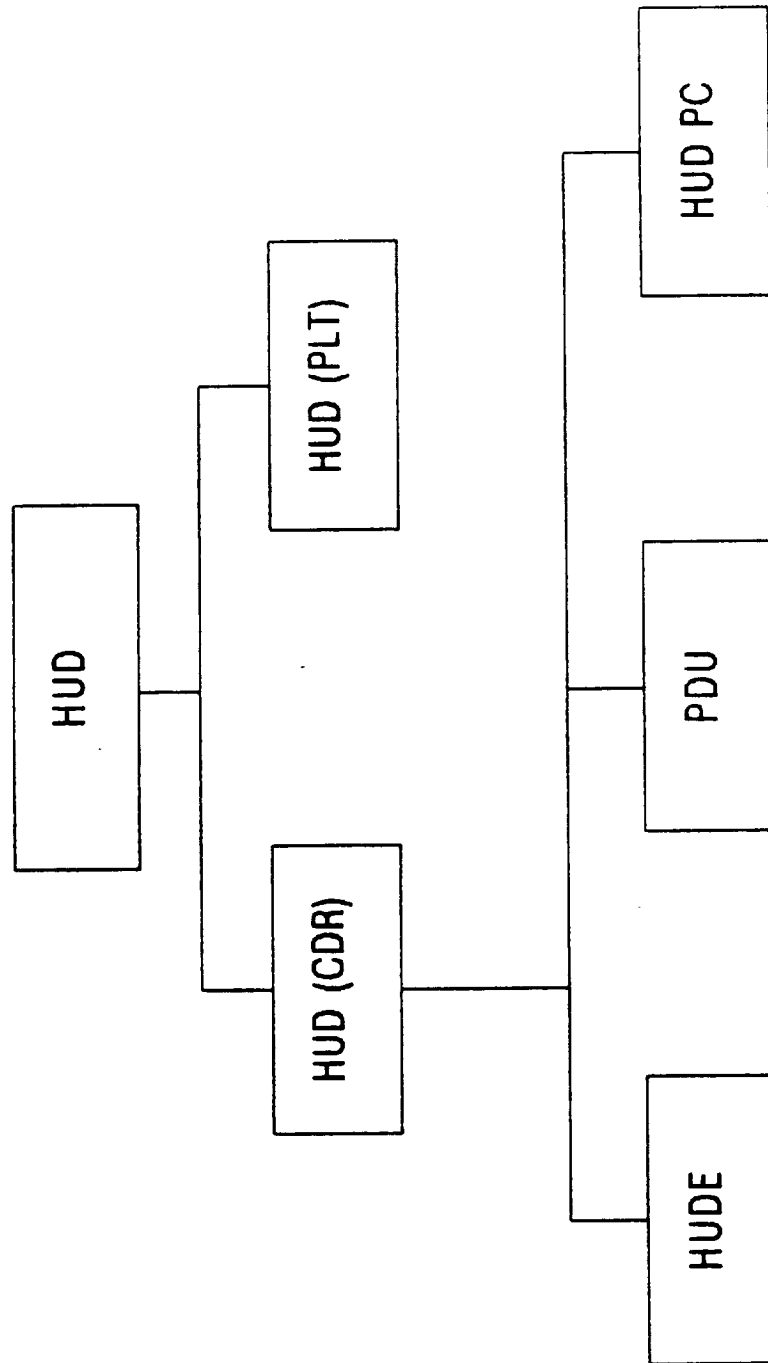


Figure 4 - D&C HEADS UP DISPLAY (HUD)

ALPHA/MACH INDICATOR

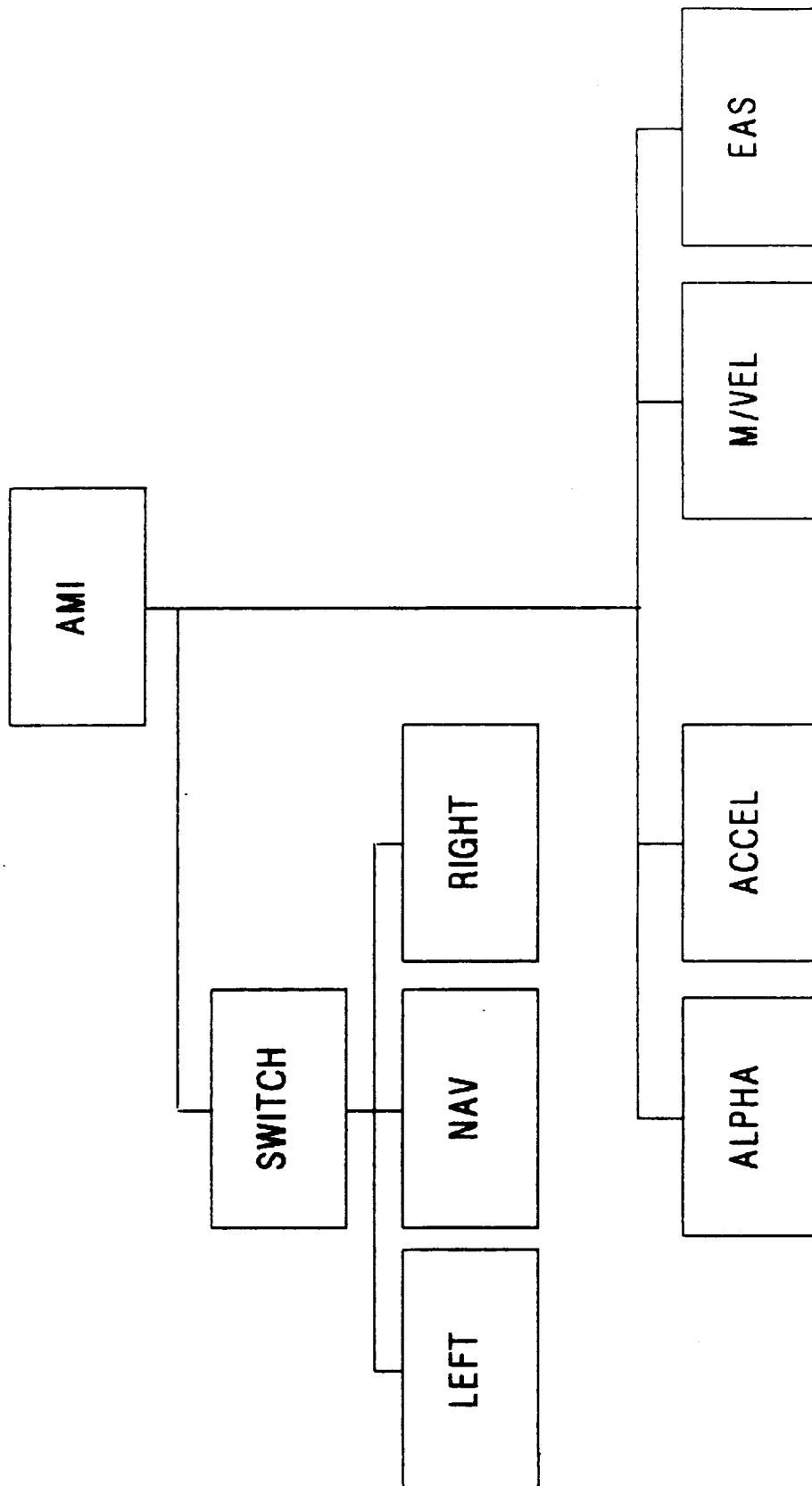


Figure 5 - D&C ALPHA/MACH INDICATOR (AMI)

HORIZONTAL SITUATION INDICATOR

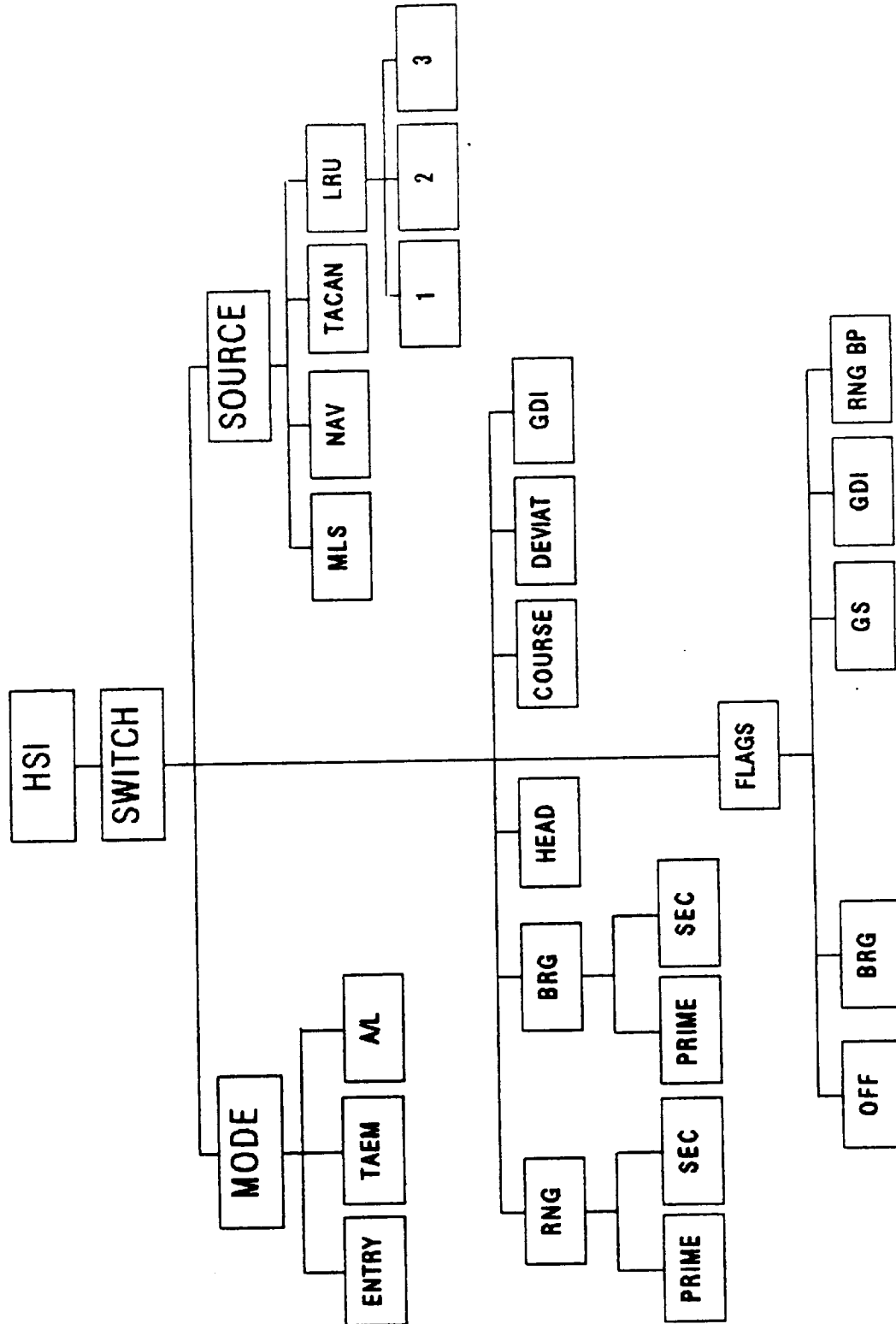


Figure 6 - D&C HORIZONTAL SITUATION INDICATOR (HSI)

ATTITUDE DIRECTOR INDICATOR

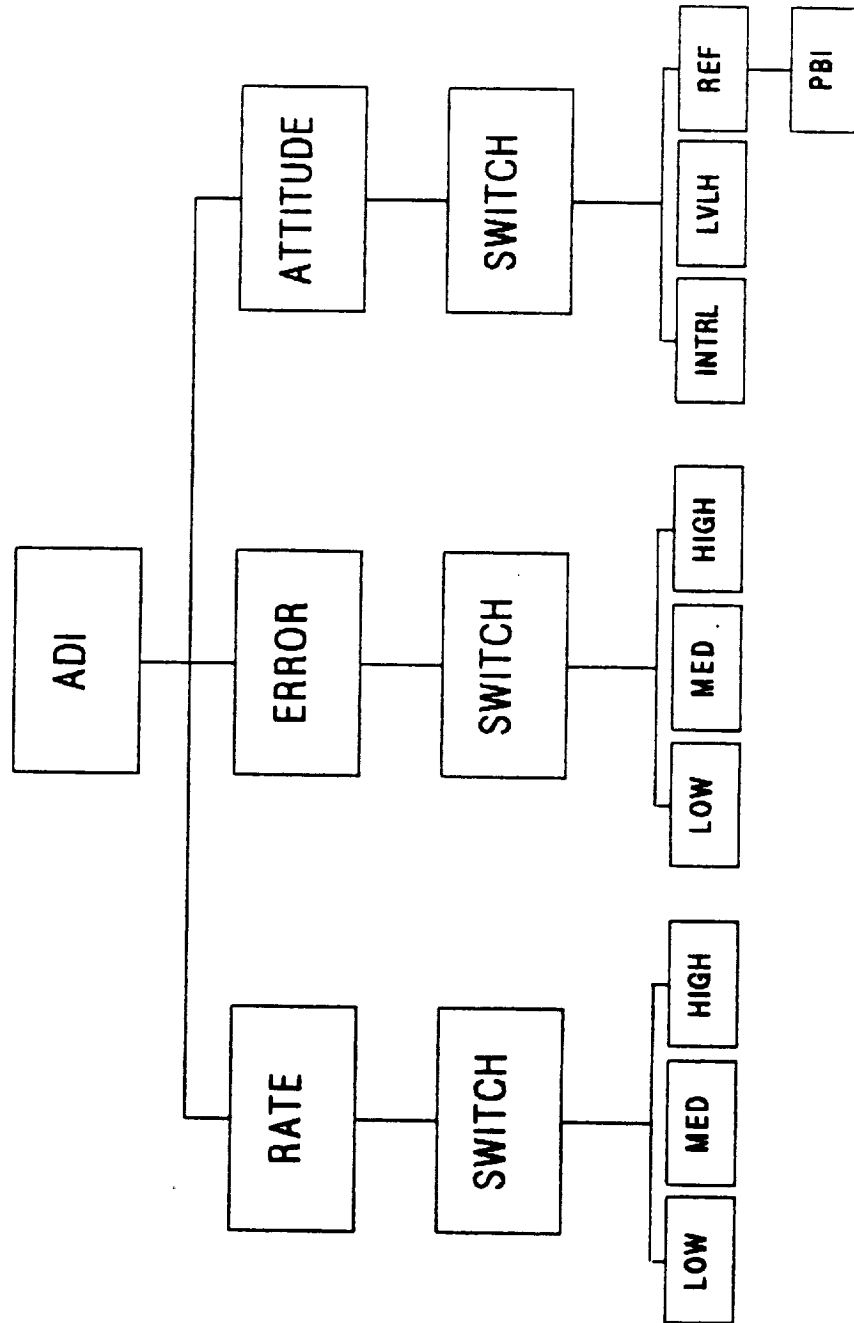


Figure 7 - D&C ATTITUDE DIRECTOR INDICATOR (ADI)

O/S/RCS PROPELLANT QUANTITY INDICATOR

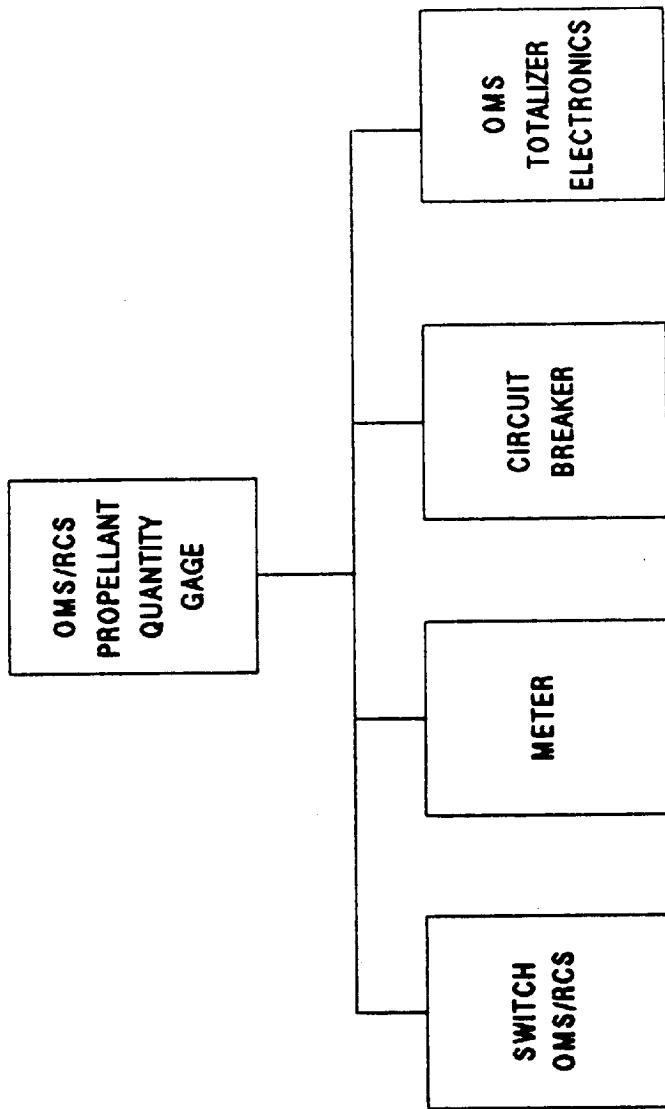


Figure 8 - D&C PROPELLANT QUANTITY INDICATOR (PQI)

SURFACE POSITION INDICATOR

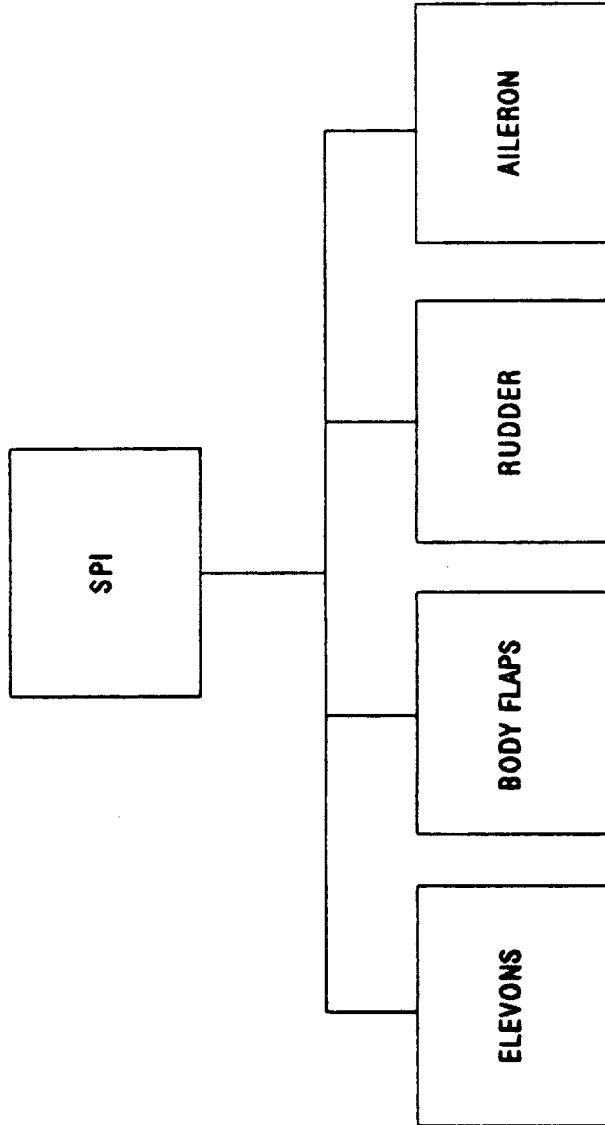


Figure 9 - D&C SURFACE POSITION INDICATOR (SPI)

ALTITUDE/VERTICAL VELOCITY INDICATOR

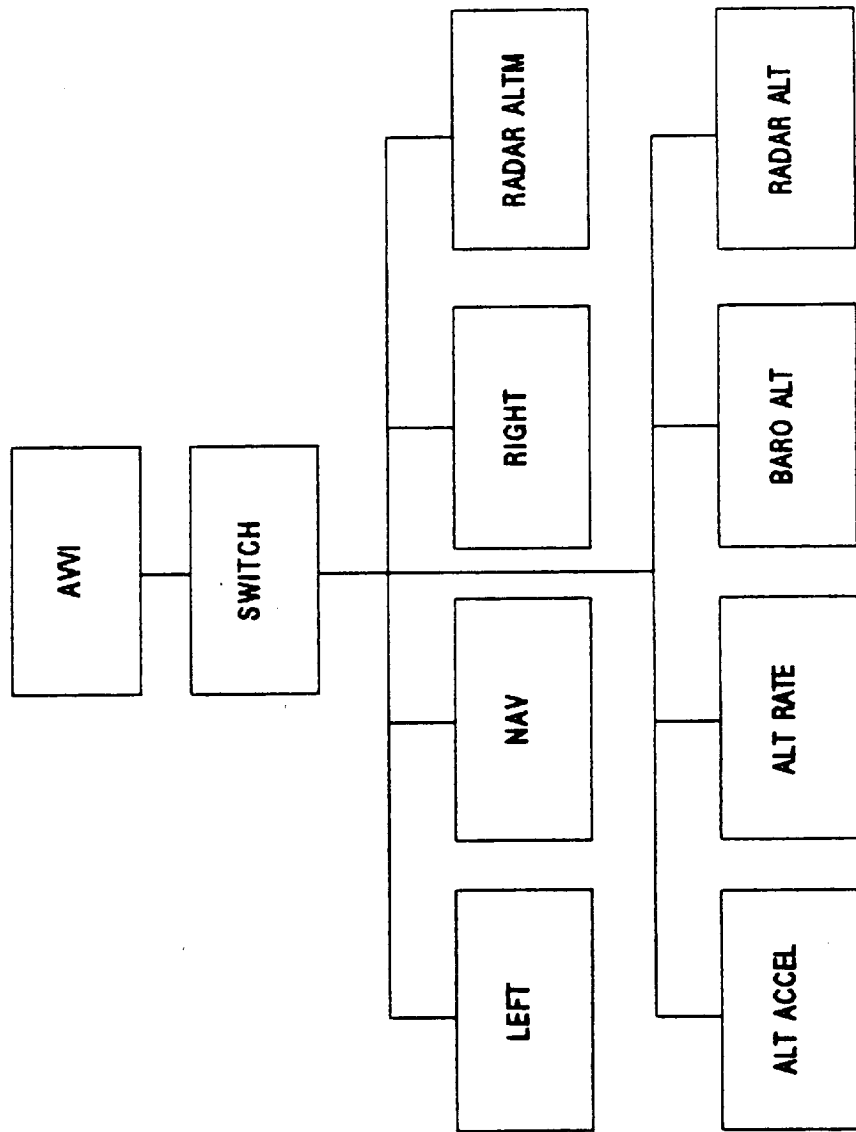


Figure 10 - D&C ALT/VERTICAL VELOCITY INDICATOR (AVVI)

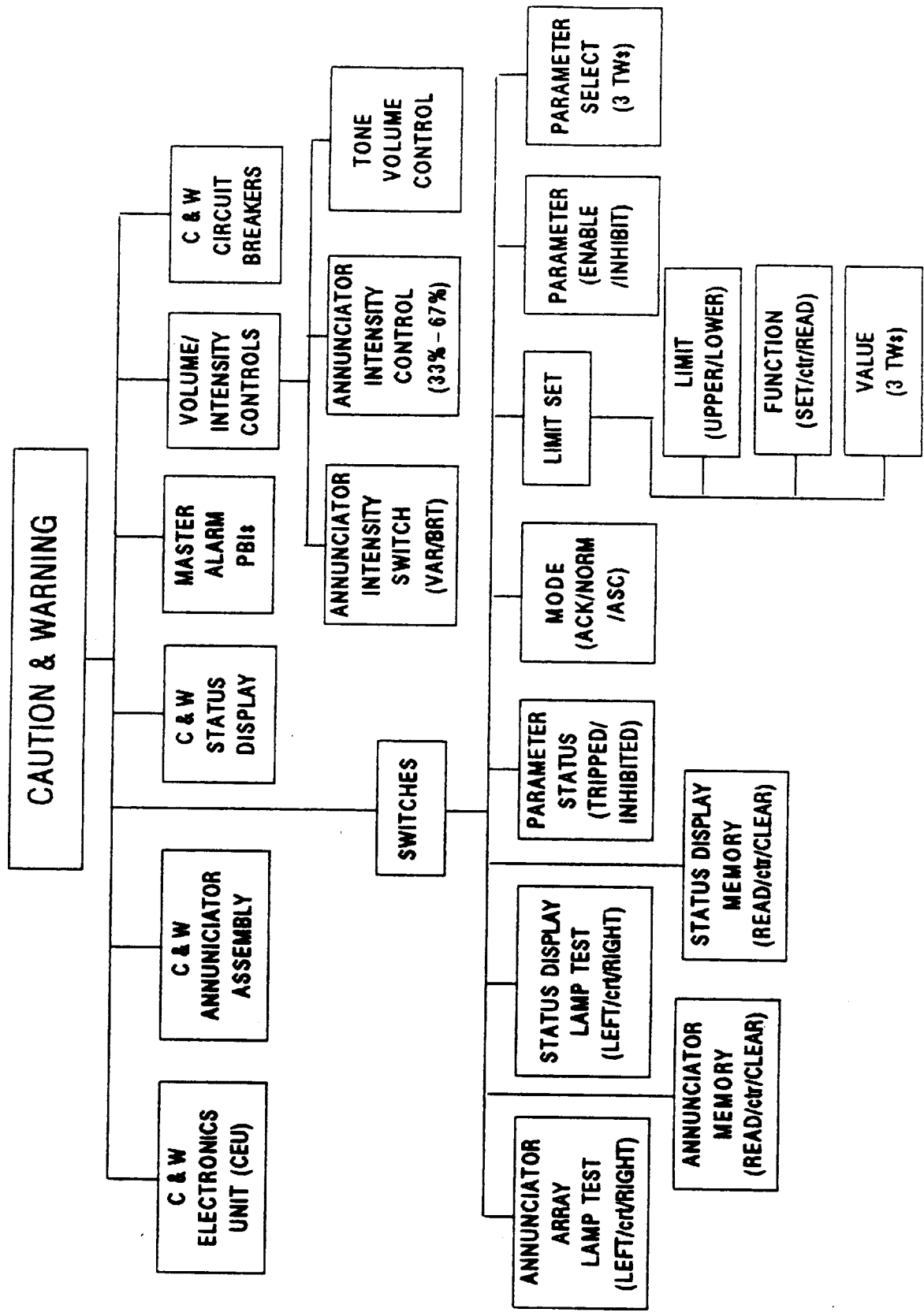


Figure 11 - D&C CAUTION AND WARNING ASSEMBLY (CWA)

DISPLAY DRIVER UNIT (DDU)

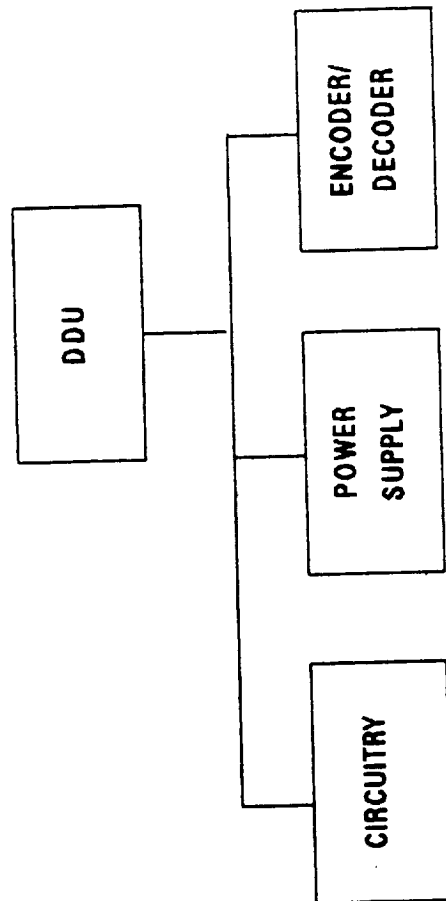


Figure 12 - DISPLAY DRIVER UNIT (DDU)

EVENT TIMER

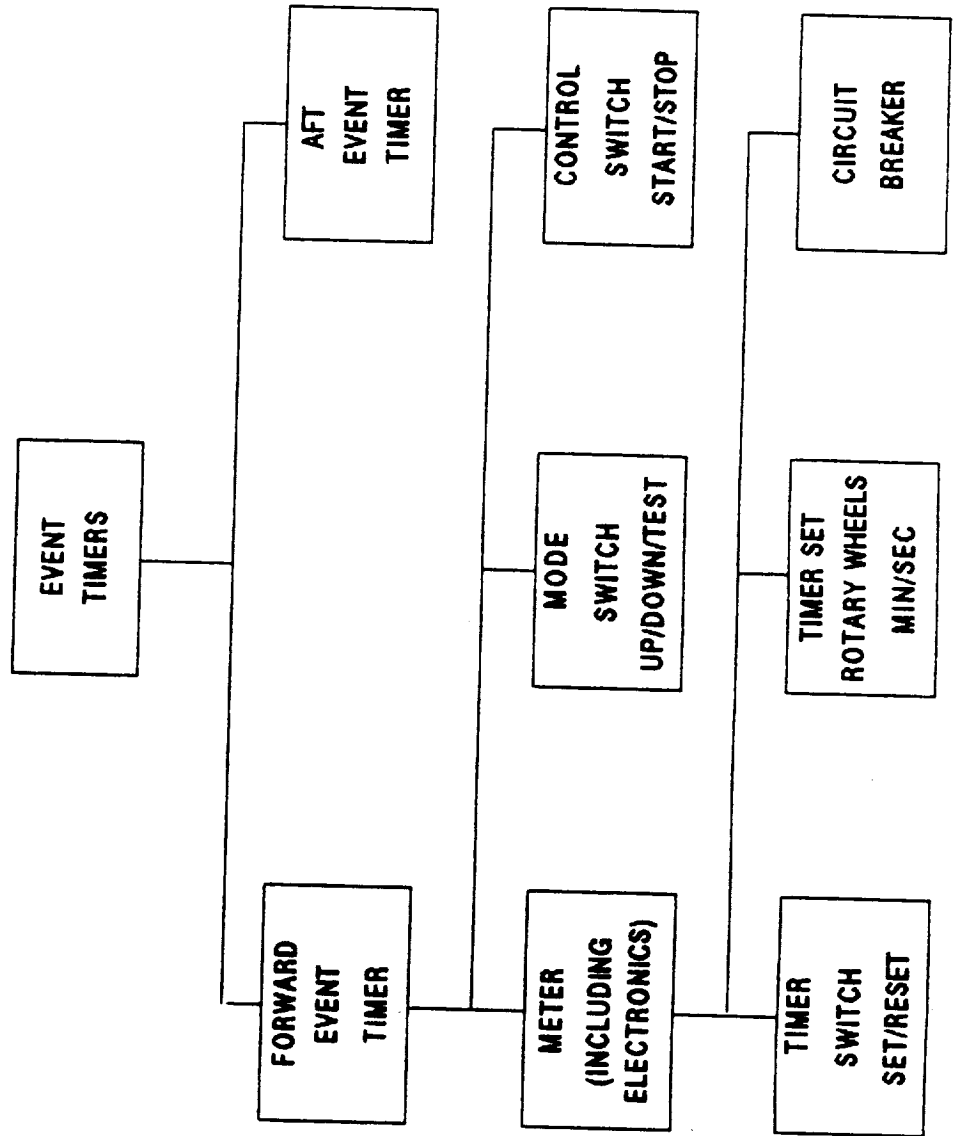


Figure 13 - D&C EVENT TIMER (ET)

MISSION TIMER

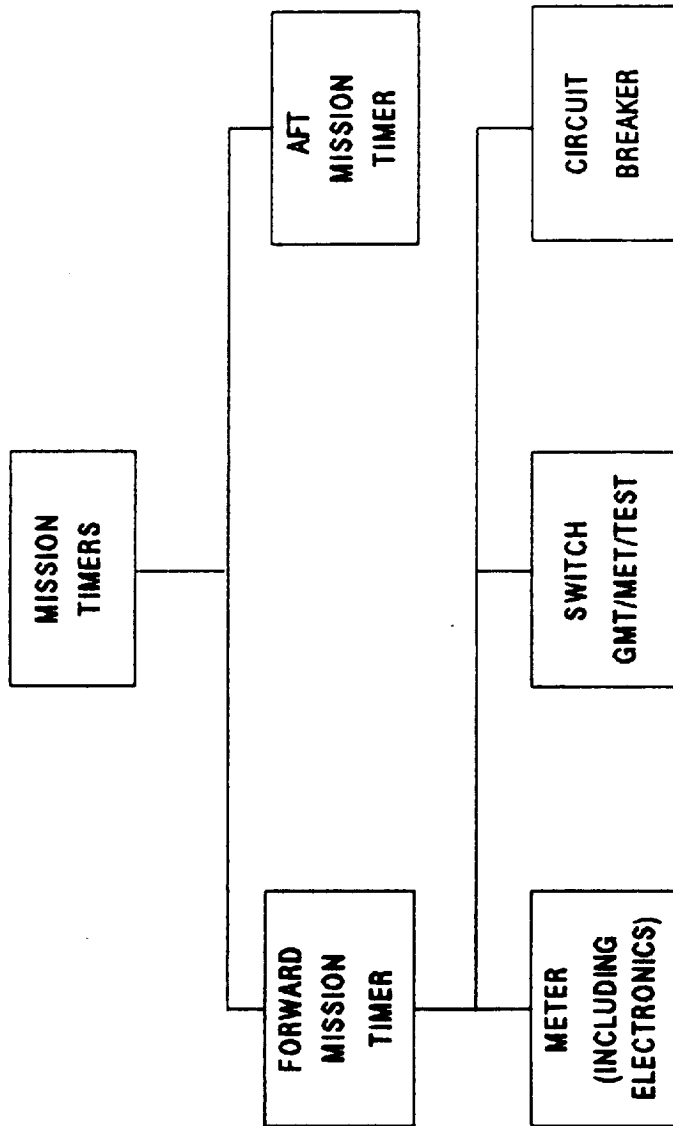


Figure 14 - D&C MISSION TIMER (MT)

INTERIOR LIGHTING

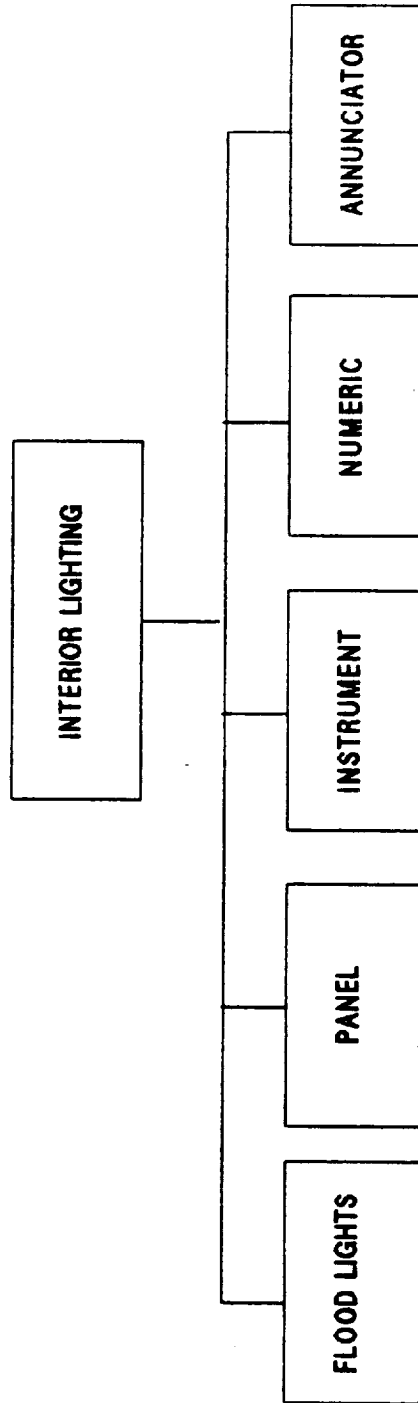


Figure 15 - D&C INTERIOR LIGHTING

EXTERIOR LIGHTING

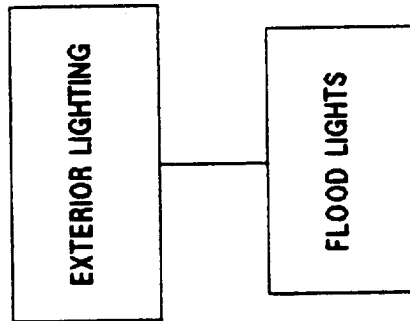


Figure 16 - D&C EXTERIOR LIGHTING

4.0 ASSESSMENT RESULTS

The IOA analysis of the D&C hardware initially generated one hundred thirty four failure mode worksheets and identified eight Potential Critical Items (PCIs) before starting the assessment process. In order to facilitate comparison, thirty additional failure mode analysis worksheets were generated. These analysis results were compared to the NASA Post 51-L baseline of two-hundred sixty-four (264) FMEAs and twenty one CIL items, which were generated using the 10 October 1986 FMEA/CIL instructions. Upon completion of the assessment two-hundred-nineteen (219) of the FMEAs were in agreement. Of the forty-five (45) that remained, all had minor discrepancies that did not affect criticality.

The D&C assessment was divided into the following five categories:

- I. FLIGHT DISPLAYS AND ANNUNCIATORS
- II. CAUTION AND WARNING
- III. DISPLAY DRIVER UNIT
- IV. TIMING DISPLAYS
- V. LIGHTING

A summary of the quantity of NASA FMEAs assessed, versus the recommended IOA baseline, and any issues identified is presented in Table I.

Table I Summary of IOA FMEA Assessment			
Component	NASA	IOA	Issues
ALL	264	171	45

A summary of the quantity of NASA CIL items assessed, versus the recommended IOA baseline, and any issues identified is presented in Table II.

Table II Summary of IOA CIL Assessment			
Component	NASA	IOA	Issues
ALL	21	21	0

Table III presents a summary of IOA recommended failure criticalities for the D&C subsystem for the Post 51-L FMEA baseline.

Table III Summary of IOA Recommended Failure Criticalities							
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
Number :	0	16	0	53	6	96	171

Table IV presents a summary of the IOA recommended CIL items for the D&C subsystem for the Post 51-L baseline.

Table IV Summary of IOA Recommended Critical Items							
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
Number :	0	16	0	5	0	0	21

Appendix C presents the detailed assessment worksheets for each failure mode identified and assessed.

Appendix D highlights the NASA Critical Items and corresponding IOA worksheet ID.

Appendix E contains new IOA analysis worksheets that cover failure modes that were not included in the original analysis. These worksheets were added in order to make a comparison with the NASA FMEAs on these failure modes.

Appendix F provides a cross reference between the NASA FMEA and corresponding IOA worksheet(s). IOA recommendations are also summarized.

The scheme for assigning IOA assessment (Appendix C) and analysis (Appendix E) worksheet numbers is shown in Table V.

Table V		IOA Worksheet Numbers
Component		IOA ID Number
1.	HUD	D&C-101 to 115
2.	DDU	D&C-201 to 205
3.	G-METER	D&C-301 to 305
4.	AMI	D&C-401 to 415
5.	HSI	D&C-501 to 515
6.	AVVI	D&C-601 to 612
7.	SPI	D&C-701 to 705
8.	EVENT TIMER	D&C-1101 to 1110
9.	ADI	D&C-1201 to 1215
10.	MISSION TIMER	D&C-1301 to 1308
11.	CAUTION AND WARNING	D&C-1401 to 1440
12.	ACA	D&C-1601 to 1605
13.	PROP QUANT INDICATOR	D&C-1701 to 1706
14.	INT & EXT LIGHTING	D&C-1801 to 1812
15.	INST PWR CKT	D&C-1901 to 1902, 2401
16.	MEAS ISO RESISTOR	D&C-2001 to 2002
17.	PWR CHT - FUSES	D&C-2201 to 2203
18.	CROSS POINTER INDICATOR	D&C-2301 to 2301

The five categories are discussed in the following sections along with issues, and the recommendations for the Post 51-L FMEA/CIL.

4.1 ASSESSMENT RESULTS - D&C FLIGHT DISPLAYS AND ANNUNCIATORS

Nine components were included in this category. A summary of the quantity of NASA FMEAs assessed for the D&C FLIGHT DISPLAYS and ANNUNCIATORS, versus the recommended baseline, and any issues identified is presented in Table VI.

Component	NASA	IOA	Issues
1. G-METER	2	2	0
2. AMI	10	11	4
3. HSI	20	17	6
4. AVVI	10	9	4
5. ADI	13	12	4
6. HUD	11	13	2
7. PQI	5	6	3
9. FLT CNL PWR	10	4	0
9. SPI	3	3	0
TOTAL	84	77	23

The issues are the results of failure modes analyzed by IOA that were not covered by NASA. The results of these analyses did not raise the criticalities of the components. IOA recommends that NASA consider these failures for FMEA's.

A summary of the quantity of NASA CIL assessed for the D&C flight displays and annunciators, versus the recommended IOA baseline, and any issues identified is presented in Table VII.

Component	NASA	IOA	Issues
1. G-METER	0	0	0
2. AMI	0	0	0
3. HSI	0	0	0
4. AVVI	0	0	0
5. ADI	2	2	0
6. HUD	7	7	0
7. PQI	0	0	0
9. FLT CNL PWR	0	0	0
9. SPI	0	0	0
TOTAL	9	9	0

Table VIII presents a summary of the IOA recommended failure criticalities for the D&C flight displays and annunciators for the Post 51-L FMEA baseline.

TABLE VIII D&C FLIGHT DISPLAYS AND ANNUNCIATOR Summary of IOA Recommended Failure Criticalities							
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
1. G-METER	-	-	-	-	-	2	2
2. AMI	-	-	-	9	-	2	11
3. HSI	-	-	-	7	-	10	17
4. AVVI	-	-	-	6	-	3	9
5. ADI	-	2	-	7	-	3	12
6. HUD	-	7	-	4	-	2	13
8. PQI	-	-	-	-	-	6	6
9. FLT CNL PWR	-	-	-	2	-	2	4
9. SPI	-	-	-	-	-	3	3
TOTAL	-	9	-	35	-	33	77

Table IX presents a summary of the IOA recommended CIL items for the D&C Flight Displays and Annunciator for the Post 51-L baseline.

TABLE IX D&C FLIGHT DISPLAY AND ANNUNCIATOR Summary of IOA Recommended Critical Items							
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
1. G-METER	-	-	-	-	-	-	-
2. AMI	-	-	-	-	-	-	-
3. HSI	-	-	-	-	-	-	-
4. AVVI	-	-	-	-	-	-	-
5. ADI	-	2	-	-	-	-	2
6. HUD	-	7	-	-	-	-	7
8. PQI	-	-	-	-	-	-	-
9. FLT CNL PWR	-	-	-	-	-	-	-
9. SPI	-	-	-	-	-	-	-
TOTAL	-	9	-	-	-	-	9

4.2 ASSESSMENT RESULTS - D&C CAUTION AND WARNING

Three groups make up this category. A summary of the quantity of NASA FMEAs assessed versus the recommended baseline, and any issues identified is presented in table X.

TABLE X D&C CAUTION AND WARNING Summary of IOA FMEA Assessment			
Component	NASA	IOA	Issues
1. CWA	87	46	14
2. CWLM	7	2	2
3. CWE	10	7	3
TOTAL	104	55	19

The issues are the results of analyzing the circuitry as black boxes vs each component of the circuitry. The criticality of these components were not affected.

A summary of the quantity of NASA CIL items assessed, versus the recommended IOA baseline, and any issues identified is presented in Table XI.

TABLE XI D&C CAUTION AND WARNING Summary of IOA CIL Assessment			
Component	NASA	IOA	Issues
1. CWA	2	2	0
2. CWLM	0	0	0
3. CWE	0	0	0
TOTAL	2	2	0

Table XII presents a summary of the IOA recommended failure criticalities for the D&C Caution and Warning components for the Post 51-L FMEA baseline.

TABLE XII D&C CAUTION AND WARNING Summary of IOA Recommended Failure Criticalities							
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
1. CWA	-	1	-	5	-	40	46
2. CWLM	-	-	-	-	-	2	2
3. CWE	-	1	-	-	4	2	7
TOTAL	-	2	-	5	4	44	55

Table XIII presents a summary of the IOA recommended CIL items for the D&C Caution and Warning component for the Post 51-1 baseline.

TABLE XIII D&C CAUTION AND WARNING Summary of IOA Recommended Critical Items							
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
1. CWA	-	1	-	-	-	-	1
2. CWLM	-	-	-	-	-	-	-
3. CWE	-	1	-	-	-	-	1
TOTAL	-	2	-	-	-	-	2

4.3 ASSESSMENT RESULTS - D&C DISPLAY DRIVER UNIT

One group make up this category. A summary of the quantity of NASA FMEAs assessed, versus the recommended baseline, and any issues identified is presented in Table XIV.

TABLE XIV D&C DISPLAY DRIVER UNIT Summary of IOA FMEA Assessment			
Component	NASA	IOA	Issues
1. DDU	22	19	1
TOTAL	22	19	1

The issue arose due to a failure mode analyzed by IOA and not by NASA. The criticality of the component was not affected.

A summary of the quantity of NASA CIL items assessed, versus the recommended IOA baseline, and any issues identified is presented in Table XV.

TABLE XV D&C DISPLAY DRIVER UNIT Summary of IOA CIL Assessment			
Component	NASA	IOA	Issues
1. DDU	10	10	0
TOTAL	10	10	0

Table XVI presents a summary of the IOA recommended failure criticalities for the Display Driver Unit for the Post 51-1 FMEA baseline.

TABLE XVI D&C DISPLAY DRIVER UNIT Summary of IOA Recommended Failure Criticalities						
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	TOTAL
Number :	-	4	-	14	1	19

Table XVII presents a summary of IOA recommended CIL items for the Post 51-L baseline.

TABLE XVII D&C DISPLAY DRIVER UNIT Summary of IOA Recommended Critical Items						
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	TOTAL
Number :	-	4	-	6	-	10

4.4 ASSESSMENT RESULTS - D&C TIMING

Two groups make up this category. A summary of the quantity of NASA FMEAs assessed for the D&C Timing, versus the recommended baseline, and any issues identified is presented in Table XVIII.

TABLE XVIII D&C TIMING Summary of IOA FMEA Assessment			
Component	NASA	IOA	Issues
1. EVENT	8	8	1
2. MISSION	6	6	1
TOTAL	14	14	2

The issues are the results of IOA analyzing a failure mode not covered by NASA. The criticality of the components were not affected.

A summary of the quantity of NASA CIL items assessed, versus the recommended baseline, and any issues identified is presented in Table XIX.

TABLE XIX D&C TIMING Summary of IOA CIL Assessment			
Component	NASA	IOA	Issues
1. EVENT	0	0	0
2. MISSION	0	0	0
TOTAL	0	0	0

Table XX presents a summary of the IOA recommended failure criticalities of the D&C Timing component for the Post 51-L FMEA baseline.

TABLE XX D&C TIMING Summary of IOA Recommended Failure Criticalities							
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
1. EVENT	-	-	-	-	-	8	8
2. MISSION	-	-	-	-	-	6	6
TOTAL	-	-	-	-	-	14	14

Table XXI presents a summary of the IOA recommended CIL items for the D&C Timing component for the Post 51-L baseline.

TABLE XXI D&C TIMING Summary of IOA Recommended Critical Items						
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	TOTAL
Number :	-	-	-	-	-	-

4.5 ASSESSMENT RESULTS - LIGHTING

Two groups make up this category. A summary of the quantity of NASA FMEAs assessed for the D&C Lighting component, versus the recommended baseline, and any issues identified is presented in Table XII.

Component	NASA	IOA	Issues
1. INTERIOR	30	4	0
2. EXTERIOR	10	2	0
TOTAL	40	6	0

A summary of the quantity of NASA CIL items assessed, versus the recommended IOA baseline, and any issues identified is presented in Table XXIII.

Component	NASA	IOA	Issues
1. INTERIOR	0	0	0
2. EXTERIOR	0	0	0
TOTAL	0	0	0

Table XXIV presents a summary of the IOA recommended failure criticalities for the D&C Lighting component for the Post 51-L FMEA baseline.

Criticality:	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
1. INTERIOR	-	-	-	-	-	4	4
2. EXTERIOR	-	-	-	-	1	1	2
TOTAL	-	-	-	-	1	5	6

Table XXV presents a summary of the IOA recommended CIL items for the Post 51-L baseline.

TABLE XXV D&C LIGHTING Summary of IOA Recommended Critical Items						
Criticality:	1/1	2/1R	2/2	3/1R	3/2R	TOTAL
Number :	-	-	-	-	-	-

5.0 REFERENCES

Reference documentation available from NASA and Rockwell was used in the analysis. The documentation used included the following:

1. JSC-18863, Guidance and Control Systems Briefs, 9-30-85
2. CONT 2102, Dedicated Display workbook, 2-1-82
3. SSSH System Drawing 1 G&C DISP 1 DWG 9.1
4. JSC-12820, STS operational Flight Rules, PCN-1, 2-14-86
5. CONT 2102, Caution and Warning Workbook 8-5-83
6. JSC- 11174 SSSH System Drawing 20 HUD, DWG 9.20A
7. VS70-973009 Integrated Schematic HEAD UP DISPLAY 10-22-80
8. DISPLAY and CONTROL FSSR STS83-0020C
9. MC409-0023 DDU Specification 6-6-77
10. JSC - 11174 SSSH System Drawing 10 TIM DWG 8.10
11. VS70-730129, Schematic Diagram, Caution & Warning
11-12-80
12. Shuttle Flight Operation Manual 8-31-84
13. JSC - 11174, SSSH System Drawing C&W DWG 5.2
14. JSC - 18691, FDF Malfunction Procedures 10-10-85
15. VS70-973099, Schematic Diagram, Event & Mission Timers
16. JSC - 11174 SSSH System Drawing OMS GAUGE DWG 11.2
17. JSC - 11174 SSSH System Drawing 3 ANNUN DWG 4.2 5-21-85

**APPENDIX A
ACRONYMS**

AA - Accelerometer Assembly
ACA - Annunciator Control Assembly
ACCEL - Acceleration
A/D - Analog to Digital
ADI - Attitude Direction Indicator
ADTA - Air Data Transducer Assembly
AID - Analog Input Differential
A/L - Autoland
ALC - Aft Load Controller
ALPHA - Angle of Attack
ALT - Altitude
ALTM - Altimeter
AMI - Alpha Mach Indicator
AOA - Abort Once Around
APC - Aft Power Controller
ASA - Aerosurface Servo Amplifier
ASC - Ascent
ATO - Abort To Orbit
ATVC - Ascent Thrust Vector Control
AVVI - Altitude Vertical Velocity Indicator
BARO - Barometric
BF - Body Flap
BFS - Backup Flight System
BITE - Built-In Test Equipment
BP - Barber Pole
BRG - Bearing
BRT - Bright
CB - Circuit Breaker
CDR - Commander
CEU - Caution and Warning Electronic Unit
CIL - Critical Items List
CKT - Circuit
CNL - Control
CNTLR - Controller
COAS - Crew Optical Alignment Sight
CRIT - Criticality
CRT - Cathode Ray Tube
CSS - Control Stick Steering
CTR - Center
CWA - Caution and Warning Annunciator
CWE - Caution and Warning Electronic
CWLM - Caution and Warning Limit Module
C&W - Caution and Warning System
DAP - Digital Auto Pilot
DDU - Display Driver Unit
DEU - Display Electronics Unit
DU - Display Unit

ACRONYMS

DEVIAT-	Deviation
DISC -	Discrete
DPS -	Data Processing System
EAS -	Equivalent Air Speed
EIU -	Engine Interface Unit
EVA -	Extra Vehicular Activity
FA -	Flight Aft
FCOS -	Flight Control Operating System
FCS -	Flight Control System
FDIR -	Fault Detection, Identification, Reconfiguration
FF -	Flight Forward
FLT -	Flight
FM -	Failure Mode
FMEA -	Failure Mode and Effects Analysis
FSM -	Fault Summary Message
FSSR -	Functional Subsystem Software Requirements
FSW -	Flight Software
FUNC -	Function
GDI -	Glideslope Deviation Indicator
GMT -	Greenwich Mean Time
GPC -	General Purpose Computer
GS -	Glideslope
GSE -	Ground Support Equipment
HEAD -	Heading
HSI -	Horizontal Situation Indicator
HUD -	Head Up Display
HUDE -	Head Up Display Electronics
H/W -	Hardware
IMU -	Inertial Measurement Unit
INTRL -	Inertial
IOA -	Independent Orbiter Assessment
LF -	Launch Forward
LL -	Launch Left
LPS -	Launch Processing System
LR -	Launch Right
LRU -	Line Replaceable Unit
LVLH -	Local Vertical Local Horizontal
MAN -	Manual
MC -	Memory Configuration
MCC -	Mission Control Center
MCDS -	Multifunction CRT Display System
MDAC -	McDonnell Douglas Astronautics Company
MDM -	Multiplexer/Demultiplexer
MEC -	Main Engine Controller
MED -	Medium
MET -	Mission Elapsed Time
MIN -	Minimum
MLS -	Microwave Landing System

ACRONYMS

MM	-	Major Mode
MSK	-	Manual Select Keyboard
M/VEL	-	Mach/Velocity
MVS	-	Mid Value Select
NA	-	Not Applicable
NASA	-	National Aeronautics and Space Administration
NAV	-	Navigation
NORM	-	Normal
NSTS	-	National Space Transportation System
OA	-	Operational Aft
OF	-	Operational Forward
OMRSD	-	Operational Maintenance Requirements and Specifications Document
OMS	-	Orbital Maneuvering System
OPS	-	Operational Sequence
P	-	Pitch
PBI	-	Pushbutton Indicator
PCI	-	Potential Critical Item
PCM	-	Pulse Code Modulation
PDU	-	Pilot Display Unit
PLT	-	Pilot
POS	-	Position
PWR	-	Power
R	-	Roll
REF	-	Reference
RCS	-	Reaction Control System
RGA	-	Rate Gyro Assembly
RHC	-	Rotational Hand Controller
RI	-	Rockwell International
RJD	-	Reaction Jet Driver
RM	-	Redundancy Management
RNG	-	Range
ROT	-	Rotation
RPC	-	Remote Power Controller
RPTA	-	Rudder Pedal Transducer Assembly
RS	-	Redundant Set
RTLS	-	Return To Landing Site
SBTC	-	Speed Brake Thrust Controller
SEC	-	Secondary
SF	-	Selection Filter
SM	-	Systems Management
SOP	-	Subsystem Operating Program
SPI	-	Surface Position Indicator
SRB	-	Solid Rocket Booster
SSME	-	Space Shuttle Main Engine
ST	-	Star Tracker
STS	-	Space Transportation System
SW	-	Switch

ACRONYMS

S/W - Software
TACAN - Tactical Air Navigation
TAL - Transatlantic Abort Landing
TAME - Terminal Area Energy Management
TD - Touch Down
THC - Translational Hand Controller
TRANS - Translation
TVC - Thrust Vector Control
TW - Thumbwheel
VAR - Variable
VDC - Volts Direct Current
VERN - Vernier
Y - Yaw

APPENDIX B

DEFINITIONS, GROUND RULES, AND ASSUMPTIONS

- B.1 Definitions
- B.2 Project Level Ground Rules and Assumptions
- B.3 Subsystem-Specific Ground Rules and Assumptions

**APPENDIX B
DEFINITIONS, GROUND RULES, AND ASSUMPTIONS**

B.1 Definitions

Definitions contained in NSTS 22206, Instructions For Preparation of FMEA/CIL, 10 October 1986, were used with the following amplifications and additions.

INTACT ABORT DEFINITIONS:

RTLS - begins at transition to OPS 6 and ends at transition to OPS 9, post-flight

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

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

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

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

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

EARLY MISSION TERMINATION - termination of onorbit phase prior to planned end of mission

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

HIGHEST CRITICALITY - the highest functional criticality determined in the phase-by-phase analysis

MAJOR MODE (MM) - major sub-mode of software operational sequence (OPS)

MC - Memory Configuration of Primary Avionics Software System (PASS)

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

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

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

OPS - software operational sequence

PRIMARY MISSION OBJECTIVES - worst case primary mission objectives are equal to mission objectives

PHASE DEFINITIONS:

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

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

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

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

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

**APPENDIX B
DEFINITIONS, GROUND RULES, AND ASSUMPTIONS**

B.2 IOA Project Level Ground Rules and Assumptions

The philosophy embodied in NSTS 22206, Instructions for Preparation of FMEA/CIL, 10 October 1986, was employed with the following amplifications and additions.

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

**APPENDIX B
DEFINITIONS, GROUND RULES, AND ASSUMPTIONS**

B.3 D&C - Specific Ground Rules and Assumptions

1. The failure analyses will be conducted to the black box level for components whose output serves only one function unless a lower level is required to be consistent with the existing FMEAs.

RATIONALE: The definition credible failure modes are oriented toward the black box functional output.

2. For black boxes whose output serves more than one function, the analysis will go to a level that effects each of the different functions.

RATIONALE: The defined credible failure modes are oriented toward the black box functional output.

3. Credible failure modes for most black boxes are defined to be

- (1) No output
- (2) Erroneous output (Output that redundancy management will detect as a failure.)
- (3) Premature output (Output occurs without command. This may not be credible for all black boxes.)

RATIONALE: Covers worst case effects on function.

4. Credible failures for switches are defined to be

- (1) Fails on (Power cannot be shut off by switch.)
- (2) Fails off (Power cannot be turned on.)
- (3) Short to ground
- (4) Internal short (Short across switch contacts.)

RATIONALE: Covers worst case effects on function.

5. Power circuits analysis does not include the resistors that reside between the power circuit and a MDM.

RATIONALE: These resistors provide signal conditioning for the MDM and are not a part of the power circuit.

**APPENDIX C
DETAILED ASSESSMENT**

This section contains the IOA assessment worksheets generated during the Assessment of the Display and Controls Subsystem. The information on these worksheets facilitates the comparison of the NASA FMEA/CIL (Pre and Post 51-L) to the IOA detailed analysis worksheets included in Appendix E. Each of these worksheets identifies the NASA FMEA being assessed, corresponding MDAC Analysis Worksheet ID (Appendix E), hardware item, criticality, redundancy screens, and recommendations. For each failure mode, the highest assessed hardware and functional criticality is compared and discrepancies noted as "N" in the compare row under the column where the discrepancy occurred.

LEGEND FOR IOA ASSESSMENT WORKSHEETS

Hardware Criticalities:

- 1 = Loss of life or vehicle
- 2 = Loss of mission or next failure of any redundant item (like or unlike) could cause loss of life/vehicle
- 3 = All others

Functional Criticalities:

- 1R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of life or vehicle
- 2R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of mission

Redundancy Screens A, B and C:

- P = Passed Screen
- F = Failed Screen
- NA = Not Applicable

NASA Data :

- Baseline = NASA FMEA/CIL
- New = Baseline with Proposed Post 51-L Changes

CIL Item :

- X = Included in CIL

Compare Row :

- N = Non compare for that column (deviation)

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-101
 NASA FMEA #: 05-3-12601-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 101
 ITEM: HUDE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[1 /1]	[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:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS OUTPUT. AFTER ADDITIONAL ANALYSIS, IOA AGREES WITH NASA'S CRITICALITY. CRIT 2/1R IF FAILURE DETECTED PRIOR TO COMMITTING TO NIGHT LANDING. ADDITIONAL HAZARD ANALYSIS SHOULD BE PERFORMED ON FAILURES AFTER COMMITTING TO NIGHT LANDINGS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-102
 NASA FMEA #: 05-3-12601-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 102
 ITEM: HUDE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[1 /1]	[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:

NASA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE; LOSS OF OUTPUT. AFTER ADDITIONAL ANALYSIS, IOA AGREES WITH NASA'S CRITICALITY. CRIT 2/1R IF FAILURE DETECTED PRIOR TO COMMITTING TO NIGHT LANDING. ADDITIONAL HAZARD ANALYSIS SHOULD BE PERFORMED ON FAILURES AFTER COMMITTING TO NIGHT LANDINGS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-103
 NASA FMEA #: 05-3-12602-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 103
 ITEM: PDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[1 /1]	[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:

NASA FAILURE MODE; ERRONEOUS OUTPUT, ERRATIC DISP. IOA FAILURE MODE; ERROENOUS OUTPUT. AFTER ADDITIONAL ANALYSIS, IOA AGREES WITH NASA'S CRITICALITY. CRIT 2/1R IF FAILURE DETECTED PRIOR TO COMITTING TO NIGHT LANDING. ADDITIONAL HAZARD ANALYSIS SHOULD BE PERFORMED ON THE FAILURE OCCURRING AFTER COMITTING TO A NIGHT LANDING.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-104
 NASA FMEA #: 05-3-12602-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 104
 ITEM: PDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT, DEFECTIVE CRT. IOA FAILURE MODE; LOSS OF OUTPUT. AFTER ADDITIONAL ANALYSIS, IOA AGREES WITH NASA'S CRITICALITY. CRIT 2/1R IF FAILURE DETECTED PRIOR TO COMMITTING TO NIGHT LANDING. ADDITIONAL HAZARD ANALYSIS SHOULD BE PERFORMED ON A FAILURE AFTER COMMITTING TO NIGHT LANDING.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-105
 NASA FMEA #: 05-3-12603-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 105
 ITEM: SWITCH, DATA BUS SELECT 1,2,3,4

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN, CLOSE, SHORT. IOA FAILURE MODE;
 FAIL TO TRANSFER. NO FMEA REQUIRED DUE TO CRITICALITY OF 3/3.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-106
 NASA FMEA #: 05-6Q-2505-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 106
 ITEM: RESISTOR, CURRENT LIMITING

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN. IOA FAILURE MODE; FAIL OPEN. AFTER
 ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITY. CRIT
 2/1R IF FAILURE DETECTED PRIOR TO COMMITTING TO NIGHT LANDING.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-107
 NASA FMEA #: 05-6Q-2214-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 107
 ITEM: SWITCH - ON/OFF

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAILS OPEN-1. IOA FAILURE MODE; FAIL OPEN.
 CRIT 2/1R IF FAILURE DETECTED PRIOR TO COMMITTING TO NIGHT
 LANDING. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S
 CRITICALITY. ADDITIONAL HAZARD ANALYSIS SHOULD BE PERFORMED ON
 THE FAILURE OCCURRING AFTER COMMITTING TO A NIGHT LANDING.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-107A
 NASA FMEA #: 05-6Q-2214-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 107
 ITEM: SWITCH - ON/OFF

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[1 /1]	[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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 CRIT 2/1R IF FAILURE DETECTED PRIOR TO COMMITTING TO NIGHT
 LANDING. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S
 CRITICALITY, ADDITIONAL HAZARD ANALYSIS SHOULD BE PERFORMED ON
 FAILURES OCCURRING AFTER COMMITTING TO NIGHT LANDINGS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-108
 NASA FMEA #: 05-6Q-2214-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 108
 ITEM: SWITCH - ON/OFF

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[] *
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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE. CIRCUIT
 NORMALLY CLOSED DURING FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-109
 NASA FMEA #: 05-6Q-2307-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 109
 ITEM: RPC

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAILED CLOSED. IOA FAILURE MODE; FAILED
 CLOSED. NOT CRITICAL FOR FLIGHT. RPC NORMALLY CLOSED WHEN USE
 OF HUD IS CRITICAL.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-110
 NASA FMEA #: 05-6Q-2307-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 110
 ITEM: RPC

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[1 /1]	[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:

NASA FAILURE MODE; LOSS OF OUTPUT, SHORT TO GROUND. IOA FAILURE MODE; LOSS OF OUTPUT. CRIT 2/1R IF FAILURE DETECTED PRIOR TO COMMITTING TO NIGHT LANDING. ADDITIONAL HAZARD ANALYSIS OF THIS FAILURE OCCURS AFTER COMMITTING TO A NIGHT LANDING. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITIES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-201
 NASA FMEA #: 05-3-12130-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 201
 ITEM: DDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE; NO OUTPUT.
 AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITY. NO
 DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-201A
 NASA FMEA #: 05-3-12130-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 201
 ITEM: DDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT TO BFC. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-201B
 NASA FMEA #: 05-3-12130-4

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 201
 ITEM: DDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
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:

NASA FAILURE MODE; LOSS OF PWR OUTPUT TO NWS. IOA FAILURE MODE;
 NO OUTPUT. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE
 DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW
 RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-201C
 NASA FMEA #: 05-3-12130-6

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 201
 ITEM: DDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF PWR TO 1 OF 3 PWR SUPPLIES. IOA
 FAILURE MODE; LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-202
 NASA FMEA #: 05-3-12130-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 202
 ITEM: DDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS OUTPUT. AFTER ADDITIONAL ANALYSIS, IOA AGREES WITH NASA'S CRITICALITY. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-202A
 NASA FMEA #: 05-3-12130-5

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 202
 ITEM: DDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
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:

NASA FAILURE MODE; ERRONEOUS OUTPUT TO NWS. IOA FAILURE MODE;
 ERRONEOUS OUTPUT. ERRONEOUS OUTPUT ON ALL REDUNDANT ITEMS MAY
 CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS OF VEHICLE STATUS
 REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-202B
 NASA FMEA #: 05-3-12130-7

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 202
 ITEM: DDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS OUTPUT TO 1 OF 3 PWR SUPPLIES. IOA
 FAILURE MODE; ERRONEOUS OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-202C
 NASA FMEA #: 05-3-12130-8

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 202
 ITEM: DDU

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS
 OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-203
 NASA FMEA #: 05-6Q-2103-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 203
 ITEM: DDU - DATA BUS SWITCH, & CB

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN, FAIL TO CONDUCT. IOA
 FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87	NASA DATA:
ASSESSMENT ID: D&C-203A	BASELINE []
NASA FMEA #: 05-3-12131-1	NEW [X]

SUBSYSTEM: D&C/EPD&C
MDAC ID: 203
ITEM: DDU - DATA BUS SWITCH, & CB

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAILED OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS OF VEHICLE STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: D&C-204
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C/EPD&C
MDAC ID: 204
ITEM: DDU - DATA BUS SWITCH, & CB

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

NASA FAILURE MODE; NONE. IOA FAILURE MODE; FAILED CLOSED, SHORT CONTACT TO CONTACT SWITCH AND CB NORMALLY CLOSED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/14/88
 ASSESSMENT ID: D&C-205X
 NASA FMEA #: 05-3-12200A-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 205
 ITEM: DDU-CDR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF POWER OUTPUT. IOA FAILURE MODE; LOSS OF POWER OUTPUT. NO DIFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
 ASSESSMENT ID: D&C-206X
 NASA FMEA #: 05-3-12200A-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 206
 ITEM: DDU-CDR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS
 OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
 ASSESSMENT ID: D&C-207X
 NASA FMEA #: 05-3-12200B-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 207
 ITEM: DDU-PLT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF POWER OUTPUT. IOA FAILURE MODE; LOSS OF POWER OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
 ASSESSMENT ID: D&C-208X
 NASA FMEA #: 05-3-12200B-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 208
 ITEM: DDU-PLT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS POWER OUTPUT. IOA FAILURE MODE;
 ERRONEOUS POWER OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
 ASSESSMENT ID: D&C-209X
 NASA FMEA #: 05-6Q-2103A-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 209
 ITEM: PWR CKT-CB

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL OPEN, (CDR). IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
 ASSESSMENT ID: D&C-210X
 NASA FMEA #: 05-6Q-2103B-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 210
 ITEM: PWR CKT-CB

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL OPEN, (PLT). IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
 ASSESSMENT ID: D&C-211X
 NASA FMEA #: 05-6Q-2203A-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 211
 ITEM: PWR CKT-SW (CDR)

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[] *
IOA	[2 /1R]	[P]	[P]	[P]	[]
COMPARE	[/]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL CLOSED IN OFF, SHORT TO CASE AT ON, POLE TO POLE SHORT, (CDR). IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/15/88
 ASSESSMENT ID: D&C-212X
 NASA FMEA #: 05-6Q-2203B-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 212
 ITEM: PWR CKT-SW (PLT)

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[] *
IOA	[2 /1R]	[P]	[P]	[P]	[]
COMPARE	[/]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL CLOSED IN OFF, SHORT TO CASE AT ON, POLE TO POLE SHORT. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-301
 NASA FMEA #: 05-3-12102-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 301
 ITEM: G-METER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE; NO OUTPUT.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-302
 NASA FMEA #: 05-3-12102-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 302
 ITEM: G-METER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS
 OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-401
 NASA FMEA #: 05-3-12110-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 401
 ITEM: AMI-ALPHA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE; NO OUTPUT.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: D&C-402
NASA FMEA #: NONE

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 402
ITEM: AMI-ALPHA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

NASA FAILURE MODE; NONE. IOA FAILURE MODE; ERRONEOUS OUTPUT.
LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF VEHICLE DUE TO LOSS OF
VISIBILITY OF VEHICLE'S TRUE AUGHE-OF-ATTACKS REQUIRING CREW
RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-403
 NASA FMEA #: 05-3-12110-4

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 403
 ITEM: AMI-M/VEL

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF MACH/VEL. IOA FAILURE MODE; NO OUTPUT.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: D&C-404
NASA FMEA #: NONE

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 404
ITEM: AMI-M/VEL

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

NASA FAILURE MODE; NONE. IOA FAILURE MODE; ERRONEOUS OUTPUT.
LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF VEHICLE DUE TO LOSS OF
VISIBILITY OF VEHICLE'S TRUE M/VEL REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-405
 NASA FMEA #: 05-3-12110-5

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 405
 ITEM: AMI-ACCEL

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF DRAG ACCEL. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
ASSESSMENT ID: D&C-406
NASA FMEA #: NONE

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 406
ITEM: AMI-ACCEL

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

NASA FAILURE MODE; NONE. IOA FAILURE MODE; ERRONEOUS OUTPUT.
LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF VEHICLE DUE TO LOSS OF
VISIBILITY OF VEHICLE'S TRUE ACCELERATION REQUIRING CREW
RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-407
 NASA FMEA #: 05-3-12110-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 407
 ITEM: AMI-EAS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF EAS. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
 ASSESSMENT ID: D&C-408
 NASA FMEA #: NONE

NASA DATA:
 BASELINE []
 NEW []

SUBSYSTEM: D&C
 MDAC ID: 408
 ITEM: AMI-EAS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NONE. IOA FAILURE MODE; ERRONEOUS OUTPUT.
 LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF VEHICLE DUE TO LOSS OF
 VISIBILITY OF VEHICLE'S TRUE EAS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-409A
 NASA FMEA #: 05-3-12111-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 409
 ITEM: AMI-ADTA SW, RESISTOR, & FUSES

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL OPEN, SHORT TO GROUND, CONT TO CONT. IOA
 FAILURE MODE; FAIL OPEN. AFTER ADDITIONAL ANALYSIS IOA AGREES
 WITH NASA'S CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87	NASA DATA:
ASSESSMENT ID: D&C-409B	BASELINE []
NASA FMEA #: 05-3-12111-3	NEW [X]
SUBSYSTEM: D&C/EPD&C	
MDAC ID: 409	
ITEM: AMI-ADTA SW, RESISTOR, & FUSES	
LEAD ANALYST: W.H. TRAHAN	

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITY. NO
DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-409C
 NASA FMEA #: 05-3-12156-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 409
 ITEM: AMI-ADTA SW, RESISTOR, & FUSES

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN, ELEMENT OPEN. IOA FAILURE MODE; FAILED
 OPEN. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S
 CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87 NASA DATA:
ASSESSMENT ID: D&C-410 BASELINE []
NASA FMEA #: 05-3-12111-2 NEW [X]

SUBSYSTEM: D&C/EPD&C
MDAC ID: 410
ITEM: AMI-ADTA SW, RESISTOR, & FUSES

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
NO DIFFERENCES.

C-2

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-501
 NASA FMEA #: 05-3-12120-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 501
 ITEM: HSI-BEARING

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE; NO OUTPUT.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-502
 NASA FMEA #: 05-3-12120-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 502
 ITEM: HSI-BEARING

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-503
 NASA FMEA #: 05-3-12120-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 503
 ITEM: HSI-HEADING

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE; NO OUTPUT.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-504
 NASA FMEA #: 05-3-12120-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 504
 ITEM: HSI-HEADING

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS
 OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-505
 NASA FMEA #: 05-3-12120-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 505
 ITEM: HSI-COURSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE; NO OUTPUT.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-506
 NASA FMEA #: 05-3-12120-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 506
 ITEM: HSI-COURSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-507
 NASA FMEA #: 05-3-12120-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 507
 ITEM: HSI-RNG

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE; NO OUTPUT.
 RANGE NOT A CRITICAL DISPLAY REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-508
 NASA FMEA #: 05-3-12120-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 508
 ITEM: HSI-RNG

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS
 OUTPUT. RNG NOT CRITICAL TO FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-509
 NASA FMEA #: 05-3-12121-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 509
 ITEM: HSI-MODE SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL OPEN, SHORT TO GROUND. IOA FAILURE MODE;
 FAIL OPEN. NO DIFFERENCES. AFTER ADDITIONAL ANALYSIS IOA AGREES
 WITH NASA'S CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-510
 NASA FMEA #: 05-3-12121-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 510
 ITEM: HSI-MODE SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-510A
 NASA FMEA #: 05-3-12121-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 510
 ITEM: HSI-MODE SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT CONTACT TO CONTACT. IOA FAILURE MODE;
 FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-511
 NASA FMEA #: 05-3-12122-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 511
 ITEM: HSI-SOURCE SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAILED OPEN, SHORT TO GROUND. IOA FAILURE MODE; FAILED OPEN. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-511A
 NASA FMEA #: 05-3-12158-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 511
 ITEM: HSI-SOURCE SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:
 NASA FAILURE MODE; OPEN, ELEMENT OPEN. IOA FAILURE MODE; FAILED
 OPEN. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S
 CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-511B
 NASA FMEA #: 05-3-12159-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 511
 ITEM: HSI-SOURCE SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN, ELEMENT OPEN. IOA FAILURE MODE; FAILED
 OPEN. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S
 CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-511C
 NASA FMEA #: 05-3-12160-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 511
 ITEM: HSI-SOURCE SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN, ELEMENT OPEN. IOA FAILURE MODE; FAILED OPEN. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-512
 NASA FMEA #: 05-3-12122-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 512
 ITEM: HSI-SOURCE SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAILED CLOSED. IOA FAILURE MODE; FAILED
 CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-512A
 NASA FMEA #: 05-3-12122-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 512
 ITEM: HSI-SOURCE SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT CONTACT TO CONTACT. IOA FAILURE MODE;
 FAILED CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-513
 NASA FMEA #: 05-6Q-2006-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 513
 ITEM: HSI-SOURCE SEL SW, RESISTOR, & FUSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPENS, PREMATURELY OPENS. IOA FAILURE MODE;
 FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-513A
 NASA FMEA #: 05-3-12123-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 513
 ITEM: HSI-SOURCE SEL SW, RESISTOR, & FUSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL OPEN. IOA FAILURE MODE; FAIL OPEN.
 AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITY. NO
 DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-514
 NASA FMEA #: 05-3-12123-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 514
 ITEM: HSI-SOURCE SEL SW, RESISTOR, & FUSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-514A
 NASA FMEA #: 05-3-12123-3

NASA DATA:
 BASELINE []
 NEW [.X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 514
 ITEM: HSI-SOURCE SEL SW, RESISTOR, & FUSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL SHORT CONTACT TO CONTACT. IOA FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-601
 NASA FMEA #: 05-3-12115-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 601
 ITEM: AVVI - ALT ACCEL

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-601A
 NASA FMEA #: 05-3-12115-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 601
 ITEM: AVVI - ALT ACCEL

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 10/22/87
ASSESSMENT ID: D&C-602
NASA FMEA #: NONE

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 602
ITEM: AVVI - ALT ACCEL

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
		NASA [/]	[]	[]	
IOA [3 /1R]	[P]	[P]	[P]	[]	
COMPARE [N /N]	[N]	[N]	[N]	[]	

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

NASA FAILURE MODE; NONE. IOA FAILURE MODE; ERRONEOUS OUTPUT.
LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS
OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-603
 NASA FMEA #: 05-3-12115-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 603
 ITEM: AVVI - ALT RATE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (if applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-604
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 604
ITEM: AVVI - ALT RATE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-605
 NASA FMEA #: 05-3-12115-5

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 605
 ITEM: AVVI - ALT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-606
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 606
ITEM: AVVI - ALT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-607
 NASA FMEA #: 05-3-12115-4

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 607
 ITEM: AVVI - RDR ALT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-608
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 608
ITEM: AVVI - RDR ALT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-609
 NASA FMEA #: 05-6Q-2005-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 609
 ITEM: AVVI - RDR ALT SW, RESISTOR, & FUSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPENS, OPENS PREMATURELY. IOA FAILURE MODE;
 FAIL OPEN. ALT NOT CRITICAL TO FLIGHT. CRIT NOT RAISED. NO
 ACTION REQUIRED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-609A
 NASA FMEA #: 05-3-12116-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 609
 ITEM: AVVI - RDR ALT SW, RESISTOR, & FUSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN, SHORT TO GROUND. IOA FAILURE MODE;
 FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-609B
 NASA FMEA #: 05-3-12116-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 609
 ITEM: AVVI - RDR ALT SW, RESISTOR, & FUSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; OPEN, ELEMENT OPEN. IOA FAILURE MODE; FAIL
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-610
 NASA FMEA #: 05-3-12116-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 610
 ITEM: AVVI - RDR ALT SW, RESISTOR, & FUSE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT CONTACT TO CONTACT. IOA FAILURE MODE;
 FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-701
 NASA FMEA #: 05-3-12101-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 701
 ITEM: SPI

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE; NO OUTPUT.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-702
 NASA FMEA #: 05-3-12101-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 702
 ITEM: SPI

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS
 OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-703
 NASA FMEA #: 05-6Q-2003-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 703
 ITEM: SPI-PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; OPEN. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87	NASA DATA:
ASSESSMENT ID: D&C-1101	BASELINE []
NASA FMEA #: 05-3-12135-2	NEW [X]

SUBSYSTEM: D&C
MDAC ID: 1101
ITEM: METER, EVENT TIMER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1102
 NASA FMEA #: 05-3-12135-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1102
 ITEM: METER, EVENT TIMER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; NO OUTPUT. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1103
 NASA FMEA #: 05-3-12137-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1103
 ITEM: SWITCH - UP/DOWN/TEST

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN, CLOSED. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1103A
 NASA FMEA #: 05-3-12137-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1103
 ITEM: SWITCH - UP/DOWN/TEST

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND, CONT TO CONT. IOA FAILURE
 MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:		NASA DATA:
ASSESSMENT ID: D&C-1104		BASELINE []
NASA FMEA #:		NEW []

SUBSYSTEM: D&C
MDAC ID: 1104
ITEM: CIRCUIT BREAKER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS		CIL ITEM
		A B C		
NASA	[/]	[]	[]	[] *
IOA	[3 / 3]	[NA]	[NA]	[]
COMPARE	[N / N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE	[]
INADEQUATE	[]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1105
 NASA FMEA #: 05-6Q-2109-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1105
 ITEM: CIRCUIT BREAKER-EVENT TIMER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN, INADVERTENTLY OPENS.
 IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1106
 NASA FMEA #: 05-3-12136-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1106
 ITEM: SWITCH - START/STOP

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAIL
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1107
 NASA FMEA #: 05-3-12138-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1107
 ITEM: SWITCH - SET/RESET

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAIL
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87	NASA DATA:
ASSESSMENT ID: D&C-1108	BASELINE []
NASA FMEA #: 05-3-12139-1	NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1108
 ITEM: SWITCH - THUMBWHEEL - MIN/SEC

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS OUTPUT, OPEN OR SHORT TO GROUND.
 IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1201
 NASA FMEA #: 05-3-12125-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1201
 ITEM: ADI-ATTITUDE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF ADI FUNCTION. IOA FAILURE MODE; NO OUTPUT. AFTER FURTHER ANALYSIS IOA AGREE WITH NASA CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1201A
 NASA FMEA #: 05-3-12155-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1201
 ITEM: ADI-ATTITUDE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
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:

NASA FAILURE MODE; OPEN, ELEMENT OPEN. IOA FAILURE MODE; FAIL OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1202
 NASA FMEA #: 05-3-12125-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1202
 ITEM: ADI-ATTITUDE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS OUTPUT. AFTER FURTHER ANALYSIS IOA AGREE WITH NASA CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-1203
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 1203
ITEM: ADI-RATES

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	* []
IOA	[3 /1R]	[P]	[P]	[P]	
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-1204
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 1204
ITEM: ADI-RATES

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: NASA DATA:
 ASSESSMENT ID: D&C-1205 BASELINE []
 NASA FMEA #: NEW []

SUBSYSTEM: D&C
 MDAC ID: 1205
 ITEM: ADI-ERRORS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-1206
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 1206
ITEM: ADI-ERRORS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
COMPARE	[N /N]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1207
 NASA FMEA #: 05-3-12126-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1207
 ITEM: ADI-ERR SEL SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
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:

NASA FAILURE MODE; FAIL OPEN, SHORT TO GROUND. IOA FAILURE MODE;
 FAIL OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE
 DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW
 RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1207A
 NASA FMEA #: 05-3-12153-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1207
 ITEM: ADI-ERR SEL SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
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:

NASA FAILURE MODE; OPEN, ELEMENT OPEN. IOA FAILURE MODE; FAIL OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1208
 NASA FMEA #: 05-3-12126-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1208
 ITEM: ADI-ERR SEL SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1208A
 NASA FMEA #: 05-3-12126-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1208
 ITEM: ADI-ERR SEL SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT CONTACT TO CONTACT. IOA FAILURE MODE;
 FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1209
 NASA FMEA #: 05-3-12127-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1209
 ITEM: ADI-RATE SEL SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1209A
 NASA FMEA #: 05-3-12127-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1209
 ITEM: ADI-RATE SEL SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT CONTACT TO CONTACT. IOA FAILURE MODE;
 FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1210
 NASA FMEA #: 05-3-12127-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1210
 ITEM: ADI-RATE SEL SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
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:

NASA FAILURE MODE; FAIL OPEN. IOA FAILURE MODE; FAIL OPEN. LOSS
 OF ALL REDUNDANCY MAY CAUSE LOSS OF VEHICLE DUE TO LOSS OF
 VISIBILITY OF STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1210A
 NASA FMEA #: 05-3-12154-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1210
 ITEM: ADI-RATE SEL SW & RESISTOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
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:

NASA FAILURE MODE; OPEN, ELEMENT OPEN. IOA FAILURE MODE; FAIL OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF VEHICLE DUE TO LOSS OF VISIBILITY OF STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1211
 NASA FMEA #: 05-3-12128-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1211
 ITEM: ADI-MODE SEL SW

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[P]	[]
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:

NASA FAILURE MODE; FAIL OPEN, SHORT TO GROUND. IOA FAILURE MODE;
 FAIL OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF VEHICLE DUE
 TO LOSS OF VISIBILITY OF STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1212
 NASA FMEA #: 05-3-12128-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1212
 ITEM: ADI-MODE SEL SW

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1212A
 NASA FMEA #: 05-3-12128-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1212
 ITEM: ADI-MODE SEL SW

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT CONTACT TO CONTACT. IOA FAILURE MODE;
 FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1301
 NASA FMEA #: 05-3-12140-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1301
 ITEM: METER, MISSION TIMER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:
 NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS
 OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1302
 NASA FMEA #: 05-3-12140-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1302
 ITEM: METER, MISSION TIMER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; NO OUTPUT. IOA FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1303
 NASA FMEA #: 05-3-12141-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1303
 ITEM: SWITCH - GMT/MET/TEST

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED IN
 A POSITION OTHER THAN THE ONE SELECTED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1303A
 NASA FMEA #: 05-3-12141-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1303
 ITEM: SWITCH - GMT/MET/TEST

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-1304
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 1304
ITEM: CIRCUIT BREAKER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
ASSESSMENT ID: D&C-1305
NASA FMEA #: 05-6Q-2108-1

NASA DATA:
BASELINE []
NEW [X]

SUBSYSTEM: D&C/EPD&C
MDAC ID: 1305
ITEM: CIRCUIT BREAKER-MISSION TIMER

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN, INADVERTENTLY OPENS.
IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1306
 NASA FMEA #: 05-3-12141-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1306
 ITEM: SWITCH - GMT/MET/TEST

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND, CONT TO CONT. IOA FAILURE
 MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1401
 NASA FMEA #: 05-3-12309-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1401
 ITEM: CAUTION & WARNING ELECTRONICS UNIT (CEU)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[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:

NASA FAILURE MODE; LOSS OF ONE OF 38 CHNLS, DRV FAI. IOA FAILURE MODE; NO OUTPUT. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1401A
 NASA FMEA #: 05-3-12309-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1401
 ITEM: CAUTION & WARNING ELECTRONICS UNIT (CEU)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[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:

NASA FAILURE MODE; LOSS OF BACKUP OUTPUT. IOA FAILURE MODE; NO OUTPUT. ADDITIONAL ANALYSIS RESULTED IN AGREEMENT WITH NASA'S CRITICALITY. NO DIFFRENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87	NASA DATA:
ASSESSMENT ID: D&C-1401B	BASELINE []
NASA FMEA #: 05-3-12309-3	NEW [X]

SUBSYSTEM: D&C
MDAC ID: 1401
ITEM: CAUTION & WARNING ELECTRONICS UNIT (CEU)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY	SCREENS	CIL ITEM
		A	B	C
NASA	[3 /2R]	[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:

NASA FAILURE MODE; LOSS OF FAIL ANNUNCIATOR OUTPUT. IOA FAILURE MODE; NO OUTPUT. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1401C
 NASA FMEA #: 05-3-12309-4

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1401
 ITEM: CAUTION & WARNING ELECTRONICS UNIT (CEU)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[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:

NASA FAILURE MODE; LOSS OF MASTER ALARM OUTPUT. IOA FAILURE
 MODE; NO OUTPUT. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH
 NASA'S CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1401D
 NASA FMEA #: 05-3-12309-5

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1401
 ITEM: CAUTION & WARNING ELECTRONICS UNIT (CEU)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF AURAL TONE. IOA FAILURE MODE; NO OUTPUT. LOSS OF AURAL TONE DOSE NOT COMPROMISE THE MISSION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1401E
 NASA FMEA #: 05-3-12309-6

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1401
 ITEM: CAUTION & WARNING ELECTRONICS UNIT (CEU)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF AURAL TONE TO 8-OHM SPEAKERS. IOA
 FAILURE MODE; NO OUTPUT. NO SAFETY IMPACT IF INTERFACING
 SUBSYSTEMS OPERATING WITHIN LIMIT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1401F
 NASA FMEA #: 05-3-12309-7

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1401
 ITEM: CAUTION & WARNING ELECTRONICS UNIT (CEU)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF DISCRETE TELEMETRY OUTPUT. IOA
 FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1401G
 NASA FMEA #: 05-3-12309-8

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1401
 ITEM: CAUTION & WARNING ELECTRONICS UNIT (CEU)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:
 NASA FAILURE MODE; LOSS OF POWER AND/OR SIGNAL. IOA FAILURE
 MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
 ASSESSMENT ID: D&C-1402
 NASA FMEA #: NONE

NASA DATA:
 BASELINE []
 NEW []

SUBSYSTEM: D&C
 MDAC ID: 1402
 ITEM: CAUTION & WARNING ELECTRONICS UNIT (CEU)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

NASA FAILURE MODE; NONE. IOA FAILURE MODE; ERRONEOUS OUTPUT.
 NOT CRITICAL FOR CREW/VEHICLE SAFETY OR MISSION COMPLETION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1403
 NASA FMEA #: 05-3-12310-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1403
 ITEM: C/W ANNUNCIATOR ASSEMBLY

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN LAMP, ONE OF A PAIR OUT. IOA FAILURE;
 FAIL OPEN. NO SAFETY IMPACT IF INTERFACING SUBSYSTEMS ARE
 OPERATING WITHIN LIMITS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-1404
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 1404
ITEM: C/W STATUS DISPLAY

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

IOA FAILURE MODE; LOSS OF OUTPUT. NOT CRITICAL FOR CREW/VEHICLE SAFETY OR MISSION COMPLETION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1405
 NASA FMEA #: 05-3-12313-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1405
 ITEM: C/W STATUS DISPLAY

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS
 OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87	NASA DATA:
ASSESSMENT ID: D&C-1406	BASELINE []
NASA FMEA #: 05-3-12312-1	NEW [X]
SUBSYSTEM: D&C	
MDAC ID: 1406	
ITEM: C/W ANNUNCIATOR MEMORY (READ/ctr/CLEAR)	
LEAD ANALYST: E.E. PRUST	

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC		REDUNDANCY SCREENS				CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87	NASA DATA:
ASSESSMENT ID: D&C-1407	BASELINE []
NASA FMEA #: 05-3-12312-1	NEW [X]

SUBSYSTEM: D&C
MDAC ID: 1407
ITEM: C/W ANNUNCIATOR MEMORY (READ/ctr/CLEAR)

LEAD ANALYST: E.E. PRUST

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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE;
INADVERTENT OPERATIONS. NO DIFFERENCES.. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:	8/17/87	NASA DATA:	
ASSESSMENT ID:	D&C-1408	BASELINE	[]
NASA FMEA #:	05-3-12312-1	NEW	[X]

SUBSYSTEM: D&C
 MDAC ID: 1408
 ITEM: C/W ANNUNCIATOR MEMORY (READ/ctr/CLEAR)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE;
 INADVERTENT OPERATIONS. NO DIFFERENCES.. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1409
 NASA FMEA #: 05-3-12311-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1409
 ITEM: C/W ANNUNCIATOR LAMP TEST (LEFT/ctr/RIGHT)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN. IOA FAILURE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87	NASA DATA:
ASSESSMENT ID: D&C-1409A	BASELINE []
NASA FMEA #: 05-3-12311-3	NEW [X]
SUBSYSTEM: D&C	
MDAC ID: 1409	
ITEM: C/W ANNUNCIATOR LAMP TEST (LEFT/ctr/RIGHT)	
LEAD ANALYST: E.E. PRUST	

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY	SCREENS	CIL ITEM
		A	B	C
NASA	[3 /2R]	[P]	[P]	[P]
IOA	[3 /3]	[NA]	[NA]	[NA]
COMPARE	[/N]	[N]	[N]	[N]

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[NA]	[NA]	[NA]	[]
				(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE	[]
INADEQUATE	[]

REMARKS:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE; FAIL OPEN. NO SAFETY IMPACT IF OPERATING SUBSYSTEMS ARE OPERATING WITHIN LIMITS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1410
 NASA FMEA #: 05-3-12311-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1410
 ITEM: C/W ANNUNCIATOR LAMP TEST (LEFT/ctr/RIGHT)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE; FAIL CLOSED. NO
 SAFETY IMPACT IF OPERATING SUBSYSTEMS ARE OPERATING WITHIN
 LIMITS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1410A
 NASA FMEA #: 05-3-12311-3
 SUBSYSTEM: D&C
 MDAC ID: 1410
 ITEM: C/W ANNUNCIATOR LAMP TEST (LEFT/ctr/RIGHT)
 LEAD ANALYST: E.E. PRUST

NASA DATA:
 BASELINE []
 NEW [X]

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL CONTACT TO CONTACT SHORT. IOA FAILURE;
 FAIL CLOSED. NO SAFETY IMPACT IF OPERATING SUBSYSTEMS ARE
 OPERATING WITHIN LIMITS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1411
 NASA FMEA #: 05-3-12332-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1411
 ITEM: ANNUNCIATOR INTENSITY (VAR/BRT)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODES; FAILED
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1412
 NASA FMEA #: 05-3-12332-1

NASA DATA: ,
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1412
 ITEM: ANNUNCIATOR INTENSITY (VAR/BRT)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODES; FAIL TO SWITCH. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1412
 NASA FMEA #: 05-3-12332-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1413
 ITEM: ANNUNCIATOR INTENSITY KNOB

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODES; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1413
 NASA FMEA #: 05-3-12332-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1414
 ITEM: ANNUNCIATOR INTENSITY KNOB

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODES; FAILED MID-TRAVEL. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1415
 NASA FMEA #: 05-3-12312-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1415
 ITEM: C/W STATUS DISPLAY MEMORY (READ/ctr/CLEAR)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAILED
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1416
 NASA FMEA #: 05-3-12312-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1416
 ITEM: C/W STATUS DISPLAY MEMORY (READ/ctr/CLEAR)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE;
 INADVERTENT OPERATIONS. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1417
 NASA FMEA #: 05-3-12312-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1417
 ITEM: C/W STATUS DISPLAY MEMORY (READ/ctr/CLEAR)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE;
 INADVERTENT OPERATIONS. NO DIFFERENCES.

C-3

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1418
 NASA FMEA #: 05-3-12319-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1418
 ITEM: C/W STATUS DISPLAY LAMP TEST (LEFT/ctr/RIGHT)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1419
 NASA FMEA #: 05-3-12319-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1419
 ITEM: C/W STATUS DISPLAY LAMP TEST (LEFT/ctr/RIGHT)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE;
 INADVERTENT OPERATION. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87	NASA DATA:
ASSESSMENT ID: D&C-1420	BASELINE []
NASA FMEA #: NONE	NEW []

SUBSYSTEM: D&C
MDAC ID: 1420
ITEM: C/W MODE (ACK/NORM/ASC)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY	SCREENS	CIL ITEM
		A	B	C
NASA	[/]	[]	[]	[] *
IOA	[3 / 3]	[NA]	[NA]	[]
COMPARE	[N / N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE	[]
INADEQUATE	[]

REMARKS:

NASA FAILURE MODE; NONE. IOA FAILURE MODE; OPEN CIRCUIT. NO SAFETY IMPACT ON CREW/VEHICLE OR MISSION COMPLETION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1421
 NASA FMEA #: 05-3-12316-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1421
 ITEM: C/W MODE (ACK/NORM/ASC)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAILED CLOSED IN ONE POSITION. IOA FAILURE MODE; FAILED TO SWITCH. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1421A
 NASA FMEA #: 05-3-12316-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1421
 ITEM: C/W MODE (ACK/NORM/ASC)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; SHORT TO CASE. IOA FAILURE MODE; FAILED TO SWITCH. NO SAFETY IMPACT IF INTERFACING SUBSYSTEMS ARE OPERATING WITHIN LIMITS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1422
 NASA FMEA #: 05-3-12314-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1422
 ITEM: C/W PARAMETER SELECT

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS OUTPUT, NO OUTPUT, SHT TO GND. IOA
 FAILURE MODE; FAILS TO SWITCH. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1423
 NASA FMEA #: 05-3-12307-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1423
 ITEM: C/W LIMIT SET FUNCTION (SET/ctr/READ)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
		NASA [3 / 3]	[NA]	[NA]	
IOA [3 / 3]	[NA]	[NA]	[NA]	[]	
COMPARE [/]	[]	[]	[]	[]	

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAILS OPEN, CLOSED, CONT TO CONT SHT TO GND.
 IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1424
 NASA FMEA #: 05-3-12308-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1424
 ITEM: C/W LIMIT SET LIMIT (UPPER/LOWER)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAILS OPEN, CLOSED, CONT TO CONT SHT TO GND.
 IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1425
 NASA FMEA #: 05-3-12306-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1425
 ITEM: C/W LIMIT SET VALUE

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; NO OUTPUT, ERR OUTPUT, SHT TO GND. IOA
 FAILURE MODE; NO OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1426
 NASA FMEA #: 05-3-12317-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1426
 ITEM: C/W PARAMETER STATUS (TRIPPED/ctr/INHIBITED)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAIL
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87	NASA DATA:
ASSESSMENT ID: D&C-1427	BASELINE []
NASA FMEA #: 05-3-12317-1	NEW [X]
SUBSYSTEM: D&C	
MDAC ID: 1427	
ITEM: C/W PARAMETER STATUS (TRIPPED/ctr/INHIBITED)	
LEAD ANALYST: E.E. PRUST	

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS	A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[NA]	[] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[NA]	[]
COMPARE	[/]	[]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

[/]	[]	[]	[]	[]	[]	(ADD/DELETE)
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* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE	[]
INADEQUATE	[]

REMARKS:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE;
INADVERTENT OPERATION. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1428
 NASA FMEA #: 05-3-12318-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1428
 ITEM: C/W PARAMETER (ENABLE/ctr/INHIBIT)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:
 NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAILED
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1429
 NASA FMEA #: 05-3-12318-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1429
 ITEM: C/W PARAMETER (ENABLE/ctr/INHIBIT)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE;
 INADVERTENT OPERATION. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1430
 NASA FMEA #: 05-3-12333-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1430
 ITEM: C/W TONE VOLUME A (B)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAILED
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1431
 NASA FMEA #: 05-3-12333-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1431
 ITEM: C/W TONE VOLUME A (B)

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAIL
 MID-TRAVEL. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1432
 NASA FMEA #: 05-3-12305-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1432
 ITEM: MASTER ALARM

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[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:

NASA FAILURE MODE; OPEN, SHORT TO GROUND. IOA FAILURE MODE; FAIL
 OPEN. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S
 CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1432A
 NASA FMEA #: 05-3-12305-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1432
 ITEM: MASTER ALARM

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[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:

NASA FAILURE MODE; FAIL OPEN. IOA FAILURE MODE; FAIL OPEN.
 AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S CRITICALITY. NO
 DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1433
 NASA FMEA #: 05-3-12305-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1433
 ITEM: MASTER ALARM

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NORMAL MODE OF OPERATION IS IN THE CLOSED POSITION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1433A
 NASA FMEA #: 05-3-12305-4

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1433
 ITEM: MASTER ALARM

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; PREMATURE CLOSE. IOA FAILURE MODE; FAIL
 CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1433B
 NASA FMEA #: 05-3-12305-5

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1433
 ITEM: MASTER ALARM

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; CONTACT TO CONTACT SHORT. IOA FAILURE MODE;
 FAIL CLOSED. SWITCH NORMALLY IN CLOSE POSITION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
 ASSESSMENT ID: D&C-1434
 NASA FMEA #: 05-3-12305-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1434
 ITEM: MASTER ALARM

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[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:

NASA FAILURE MODE; FAILS OPEN. IOA FAILURE MODE; FAILS TO CLOSE.
 AFTER ADDITIONAL ANALYSIS, IOA AGREES WITH NASA CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1435
 NASA FMEA #: 05-6Q-2112-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1435
 ITEM: C/W A, C/W B

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[] *
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:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN, FAIL TO CONDUCT. IOA
 FAILURE MODE; FAIL OPEN. AFTER ADDITIONAL ANALYSIS IOA AGREES
 WITH NASA'S CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
 ASSESSMENT ID: D&C-1436
 NASA FMEA #: NONE

NASA DATA:
 BASELINE []
 NEW []

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1436
 ITEM: C/W A, C/W B, PWR CKT

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

NASA FAILURE MODE; NONE. IOA FAILURE MODE; FAIL TO OPEN CIRCUIT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/19/88
 ASSESSMENT ID: D&C-1437
 NASA FMEA #: NONE

NASA DATA:
 BASELINE []
 NEW []

SUBSYSTEM: D&C
 MDAC ID: 1437
 ITEM: C/W LIMIT MODULE

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

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

NASA FAILURE MODE; NONE. IOA FAILURE MODE; LOSS OF OUTPUT. LOSS OF PARAMETER ALUES HAVE NO SAFETY IMPACT ON MISSION OR CREW/VEHICLE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-1438
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 1438
ITEM: C/W LIMIT MODULE

LEAD ANALYST: E.E. PRUST

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[/]	[]	[]	[]	[] *
IOA	[/]	[]	[]	[]	[]
COMPARE	[/]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
 ASSESSMENT ID: D&C-1439X
 NASA FMEA #: 05-3-12309-9

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1439
 ITEM: CEU-PWR SUPPLY

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF ONE OF TWO POWER SUPPLY. IOA FAILURE
 MODE; LOSS OF POWER SUPPLY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1601
 NASA FMEA #: 05-3-12367-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1601
 ITEM: ACA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1601A
 NASA FMEA #: 05-3-12368-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1601
 ITEM: ACA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1601B
 NASA FMEA #: 05-3-12379-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1601
 ITEM: ACA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1601C
 NASA FMEA #: 05-3-12384-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1601
 ITEM: ACA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1601D
 NASA FMEA #: 05-3-12385-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1601
 ITEM: ACA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1601E
 NASA FMEA #: 05-3-12386-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1601
 ITEM: ACA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1601F
 NASA FMEA #: 05-3-12372-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1601
 ITEM: ACA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1601G
 NASA FMEA #: 05-3-12375-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1601
 ITEM: ACA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1602
 NASA FMEA #: 05-6Q-2111-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /1R]	[P]	[P]	[P]	[] *
IOA	[3 /1R]	[P]	[P]	[]	[]
COMPARE	[/]	[]	[]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN, FAIL TO CONDUCT. IOA
 FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1602A
 NASA FMEA #: 05-6Q-2601-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL OPEN, FAIL TO CONDUCT. IOA FAILURE MODE;
 FAIL OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE
 DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW
 RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1602B
 NASA FMEA #: 05-6Q-2601-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS
 OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
ASSESSMENT ID: D&C-1602C
NASA FMEA #: 05-6Q-2602-1

NASA DATA:
BASELINE []
NEW [X]

SUBSYSTEM: D&C/EPD&C
MDAC ID: 1602
ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[]	[]
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:

NASA FAILURE MODE; FAIL OPEN, SHORT TO GROUND, FAIL TO CONDUCT.
IOA FAILURE MODE; FAIL OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE
LOSS OF CREW/VEHICLE DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS
REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1602D
 NASA FMEA #: 05-3-12304-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN, SHORT TO GROUND. IOA FAILURE MODE; FAIL
 OPEN. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S
 CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-1602E
 NASA FMEA #: 05-3-12331-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /1R]	[P]	[P]	[P]	[] *
IOA	[3 /1R]	[P]	[P]	[]	[]
COMPARE	[/]	[]	[]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAILED OPEN. IOA FAILURE MODE; FAILED OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1602F
 NASA FMEA #: 05-3-12331-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAILED OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1602G
 NASA FMEA #: 05-3-12331-7

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /3]	[NA]	[NA]	[NA]	[] *
IOA	[3 /1R]	[P]	[P]	[]	[]
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:

NASA FAILURE MODE; FAIL OPEN PREMATURELY. IOA FAILURE MODE;
 FAILED OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF
 CREW/VEHICLE DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS
 REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1602H
 NASA FMEA #: 05-3-12345-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /1R]	[P]	[P]	[P]	[] *
IOA	[3 /1R]	[P]	[P]	[]	[]
COMPARE	[/]	[]	[]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF A PAIR OUT. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1602I
 NASA FMEA #: 05-3-12360-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAILED OPEN. IOA FAILURE MODE; FAILED OPEN.
 LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS
 OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1602J
 NASA FMEA #: 05-3-12365-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /1R]	[P]	[P]	[P]	[] *
IOA	[3 /1R]	[P]	[P]	[]	[]
COMPARE	[/]	[]	[]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1602K
 NASA FMEA #: 05-3-12360-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; SHORTS. IOA FAILURE MODE; FAILED OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS OF VISIBILITY OF VEHICLE STATUS REQUIRING CREW RESPONSE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1602L
 NASA FMEA #: 05-3-12390-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /1R]	[P]	[P]	[P]	[] *
IOA	[3 /1R]	[P]	[P]	[]	[]
COMPARE	[/]	[]	[]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1602M
 NASA FMEA #: 05-3-12390-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1602
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /1R]	[P]	[P]	[P]	[] *
IOA	[3 /1R]	[P]	[P]	[]	[]
COMPARE	[/]	[]	[]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1603
 NASA FMEA #: 05-6Q-2601-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1603
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3]	[NA]	[NA]	[NA]	[]
				(ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL CLOSE, POLE TO POLE, CONTACT TO CONTACT.
 IOA FAILURE MODE; FAIL CLOSE. CIRCUIT NORMALLY CLOSED DURING
 FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1603A
 NASA FMEA #: 05-6Q-2602-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1603
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:
 NASA FAILURE MODE; FAIL CLOSED, POLE TO POLE, CONTACT TO CONTACT.
 IOA FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1603B
 NASA FMEA #: 05-3-12331-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1603
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; SHORT POLE TO POLE. IOA FAILURE MODE; FAILED
 CLOSED. CKT NORMALLY CLOSED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1603C
 NASA FMEA #: 05-3-12331-4

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1603
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; SHORT CONTACT TO CONTACT. IOA FAILURE MODE;
 FAILED CLOSED. CKT NORMALLY CLOSED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1603D
 NASA FMEA #: 05-3-12331-5

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1603
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAILED CLOSED. IOA FAILURE MODE; FAILED
 CLOSED. CKT NORMALLY CLOSED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1603E
 NASA FMEA #: 05-3-12331-6

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1603
 ITEM: ACA PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAILED CLOSED PREMATURELY. IOA FAILURE MODE;
 FAILED CLOSED. CKT NORMALLY CLOSED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604
 NASA FMEA #: 05-3-12335-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF A PAIR OUT. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604A
 NASA FMEA #: 05-3-12340-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF A PAIR OUT. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604B
 NASA FMEA #: 05-3-12350-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAILED ANNUNCIATOR. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604C
 NASA FMEA #: 05-3-12362-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN LIGHT BULB, ONE OF PAIR OUT. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604D
 NASA FMEA #: 05-3-12364-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604E
 NASA FMEA #: 05-3-12366-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87	NASA DATA:
ASSESSMENT ID: D&C-1604F	BASELINE []
NASA FMEA #: 05-3-12369-1	NEW [X]
SUBSYSTEM: D&C/EPD&C	
MDAC ID: 1604	
ITEM: ACA PWR CKT-EVENT	
LEAD ANALYST: W.H. TRAHAN	

ASSESSMENT:

		CRITICALITY	REDUNDANCY SCREENS			CIL ITEM
		FLIGHT	A	B	C	
		HDW/FUNC				
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *	
IOA	[3 / 3]	[P]	[P]	[]	[]	
COMPARE	[/]	[N]	[N]	[N]	[]	

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604G
 NASA FMEA #: 05-3-12370-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87	NASA DATA:
ASSESSMENT ID: D&C-1604H	BASELINE []
NASA FMEA #: 05-3-12371-1	NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE	[]
INADEQUATE	[]

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604I
 NASA FMEA #: 05-3-12373-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604J
 NASA FMEA #: 05-3-12374-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604K
 NASA FMEA #: 05-3-12376-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604L
 NASA FMEA #: 05-3-12377-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604M
 NASA FMEA #: 05-3-12378-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604N
 NASA FMEA #: 05-3-12380-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-16040
 NASA FMEA #: 05-3-12381-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604P
 NASA FMEA #: 05-3-12382-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604Q
 NASA FMEA #: 05-3-12383-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604R
 NASA FMEA #: 05-3-12385-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604S
 NASA FMEA #: 05-3-12387-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604T
 NASA FMEA #: 05-3-12388-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604U
 NASA FMEA #: 05-3-12389-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604V
 NASA FMEA #: 05-3-12391-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604W
 NASA FMEA #: 05-3-12392-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604X
 NASA FMEA #: 05-3-12393-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; NO OUTPUT, OPEN, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1604Y
 NASA FMEA #: 05-3-12394-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1604
 ITEM: ACA PWR CKT-EVENT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[P]	[P]	[]	[]
COMPARE	[/]	[N]	[N]	[N]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPEN BULB, ONE OF PAIR OUT. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/13/88
 ASSESSMENT ID: D&C-1605X
 NASA FMEA #: 05-3-12376-TBD

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1605
 ITEM: ACA

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS OUTPUT. IOA FAILURE MODE; ERRONEOUS
 OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1701
 NASA FMEA #: 05-6Q-2102-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1701
 ITEM: CIRCUIT BREAKER-PQI

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; OPENS, FAILS OPENS, INADVERTENTLY OPENS. IOA
 FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1702
 NASA FMEA #: 05-3-12103-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1702
 ITEM: SWITCH ROTARY, RCS/OMS PROPELLANT QUANTITY GAUGE

LEAD ANALYST: V.J. BURKEMPER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF DISPLAY. IOA FAILURE MODE; NO OUTPUT.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1703
 NASA FMEA #: 05-3-12103-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1703
 ITEM: METER, RCS/OMS PROPELLANT QUANTITY GAUGE

LEAD ANALYST: V.J. BURKEMPER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS DISPLAY. IOA FAILURE MODE;
 ERRONEOUS OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1703A
 NASA FMEA #: 05-3-12103-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1703
 ITEM: METER, RCS/OMS PROPELLANT QUANTITY GAUGE

LEAD ANALYST: V.J. BURKEMPER

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS DISPLAY. IOA FAILURE MODE;
 ERRONEOUS OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-1704
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 1704
ITEM: TOTALIZER

LEAD ANALYST: C.D. PRUST

ASSESSMENT:

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

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE:
ASSESSMENT ID: D&C-1705
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 1705
ITEM: TOTALIZER

LEAD ANALYST: C.D. PRUST

ASSESSMENT:

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

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: ,
ASSESSMENT ID: D&C-1706
NASA FMEA #:

NASA DATA:
BASELINE []
NEW []

SUBSYSTEM: D&C
MDAC ID: 1706
ITEM: TOTALIZER

LEAD ANALYST: C.D. PRUST

ASSESSMENT:

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

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1801
 NASA FMEA #: 05-6Q-2402-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL MODES. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1801A
 NASA FMEA #: 05-3-12402-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, DIM CAP, INSUF LIGHT. IOA
 FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1801B
 NASA FMEA #: 05-3-12407-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; NO ILLUMINATION, INSUFF ILLUM. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1801C
 NASA FMEA #: 05-3-12410-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; NO ILLUMINATION, INSUFF ILLUM, NO DIM CAP.
 IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1801D
 NASA FMEA #: 05-3-12413-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF ILLUM, INSUFF ILLUM. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1801E
 NASA FMEA #: 05-3-12414-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF ILLUM, INSUFF ILLUM. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1801F
 NASA FMEA #: 05-3-12415-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, PWR, SHT TO GND. IOA FAILURE
 MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1801G
 NASA FMEA #: 05-3-12416-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF ILLUM, INSUF ILLUM. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1801H
 NASA FMEA #: 05-3-12506-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF ILLUM, NO LIGHT OUTPUT. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1801I
 NASA FMEA #: 05-3-12701-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1801
 ITEM: ILLUMINATION-FLD LTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF ILLUM, NO LIGHT OUTPUT. IOA FAILURE MODE; LOSS OF OUTPUT. IOA FAILURE MODE DOES NOT RAISE THE CRITICALITY OF THE COMPONENT. NO ACTION REQUIRED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1802
 NASA FMEA #: 05-3-12404-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1802
 ITEM: ILLUMINATION-POT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, DIM CAP, INSUF LIGHT. IOA
 FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1802A
 NASA FMEA #: 05-3-12404-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1802
 ITEM: ILLUMINATION-POT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHT TO GDN, NO DIM CAP. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1802B
 NASA FMEA #: 05-3-12411-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1802
 ITEM: ILLUMINATION-POT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; OPEN. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1802C
 NASA FMEA #: 05-3-12411-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1802
 ITEM: ILLUMINATION-POT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; WIPER SHORT TO GND. IOA FAILURE MODE; FAILED
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1803
 NASA FMEA #: 05-3-12363-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1803
 ITEM: ILLUMINATION CONTROL CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAILED
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1803A
 NASA FMEA #: 05-3-12501-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1803
 ITEM: ILLUMINATION CONTROL CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OPEN, SHORT TO GROUND. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-1803B
 NASA FMEA #: 05-3-12503-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1803
 ITEM: ILLUMINATION CONTROL CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OPEN, SHORT TO GROUND. IOA FAILURE MODE;
 FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-1804
 NASA FMEA #: 05-3-12705-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1804
 ITEM: ILLUMINATION-SPOTLIGHTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[P]	[P]	[P]	[] *
IOA	[3 /2R]	[P]	[P]	[P]	[]
COMPARE	[/]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF ILLUM, NO LIGHT OUTPUT. IOA FAILURE
 MODE; LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-1804A
 NASA FMEA #: 05-3-12709-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1804
 ITEM: ILLUMINATION-SPOTLIGHTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[P]	[P]	[P]	[] *
IOA	[3 /2R]	[P]	[P]	[P]	[]
COMPARE	[/]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF ILLUM, NO LIGHT OUTPUT. IOA FAILURE
 MODE; LOSS OF OUTPUT. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-1804B
 NASA FMEA #: 05-3-12804-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1804
 ITEM: ILLUMINATION-SPOTLIGHTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 / 2R] [P] [P] [P] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; LOSS OF OUTPUT. LOSS OF ILLUMINATION FOR NIGHT OPERATION MAY CAUSE LOSS OF MISSION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-1804C
 NASA FMEA #: 05-3-12804-5

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1804
 ITEM: ILLUMINATION-SPOTLIGHTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R] [P] [P] [P] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; LOSS OF OUTPUT. LOSS OF ILLUMINATION FOR NIGHT OPERATION MAY CAUSE LOSS OF MISSION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/18/87
 ASSESSMENT ID: D&C-1804D
 NASA FMEA #: 05-3-12805-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1804
 ITEM: ILLUMINATION-SPOTLIGHTS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R] [P] [P] [P] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; LOSS OF OUTPUT. LOSS OF ILLUMINATION FOR NIGHT OPERATION MAY CAUSE LOSS OF MISSION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810
 NASA FMEA #: 05-6Q-2104-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN, INADVERTENTLY OPENS.
 IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810A
 NASA FMEA #: 05-6Q-2105-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN. IOA FAILURE MODE; FAIL
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810AA
 NASA FMEA.#: 05-6Q-2303-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[NA]	[NA]	[NA]	[] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[]
COMPARE	[/N]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; RPC NO OUTPUT, SHORT TO GROUND. IOA FAILURE
 MODE; FAIL OPEN. NOT CRITICAL FOR FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810B
 NASA FMEA #: 05-6Q-2106-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN. IOA FAILURE MODE; FAIL
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810BB
 NASA FMEA #: 05-6Q-2304-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /2R]	[NA]	[NA]	[NA]	[] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[]
COMPARE	[/N]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; RPC LOSS OF OUTPUT, SHORT TO GROUND. IOA
 FAILURE MODE; FAIL OPEN. NOT CRITICAL FOR FLIGHT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810C
 NASA FMEA #: 05-6Q-2107-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN, INADVERTENTLY OPENS.
 IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810CC
 NASA FMEA #: 05-6Q-2305-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810D
 NASA FMEA #: 05-6Q-2110-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; LOSS OF OUTPUT, OPEN, INADVERTENTLY OPENS.
 IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810DD
 NASA FMEA #: 05-6Q-2306-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 / 3]	[NA]	[NA]	[NA]	[] *
IOA	[3 / 3]	[NA]	[NA]	[NA]	[]
COMPARE	[/]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; LOSS OF OUTPUT, SHORT TO GROUND. IOA FAILURE
 MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810E
 NASA FMEA #: 05-6Q-2204-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810EE
 NASA FMEA #: 05-6Q-2501-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL MODES. IOA FAILURE MODE; FAILED OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810F
 NASA FMEA #: 05-6Q-2204-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810FF
 NASA FMEA #: 05-6Q-2502-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; OPEN, SHORT. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810GG
 NASA FMEA #: 05-6Q-2503-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; OPEN, SHORT. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810H
 NASA FMEA #: 05-6Q-2205-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED, OPEN, CONT TO CONT. IOA FAILURE
 MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810HH
 NASA FMEA #: 05-6Q-2504-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL MODES. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810I
 NASA FMEA #: 05-6Q-2205-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1810II
 NASA FMEA #: 05-6Q-2506-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL MODES. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1810JJ
 NASA FMEA #: 05-6Q-2603-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN, FAIL TO CONDUCT SHORT TO GND. IOA
 FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810K
 NASA FMEA #: 05-6Q-2206-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810L
 NASA FMEA #: 05-6Q-2207-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN, POLE TO POLE SHORT. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810M
 NASA FMEA #: 05-6Q-2207-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810N
 NASA FMEA #: 05-6Q-2208-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN, POLE TO POLE SHORT. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-18100
 NASA FMEA #: 05-6Q-2208-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810P
 NASA FMEA #: 05-6Q-2209-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN. IOA FAILURE MODE, FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810Q
 NASA FMEA #: 05-6Q-2209-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORTS TO GROUND. IOA FAILURE MODE; FAILS OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810R
 NASA FMEA #: 05-6Q-2210-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY		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:

NASA FAILURE MODE; FAIL OPEN. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810S
 NASA FMEA #: 05-6Q-2210-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810T
 NASA FMEA #: 05-6Q-2211-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAILS OPEN. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810U
 NASA FMEA #: 05-6Q-2211-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810V
 NASA FMEA #: 05-6Q-2212-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL OPEN. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810W
 NASA FMEA #: 05-6Q-2212-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810Y
 NASA FMEA #: 05-6Q-2215-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAILS OPEN. IOA FAILURE MODE; FAILS OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1810Z
 NASA FMEA #: 05-6Q-2215-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1810
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAILS
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811
 NASA FMEA #: 05-6Q-2204-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION-PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED CONTACT TO CONTACT. IOA FAILURE
 MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811A
 NASA FMEA #: 05-6Q-2206-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL TO TRANSFER OPEN, CLOSE, CNT TO CNT. IOA
 FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811B
 NASA FMEA #: 05-6Q-2207-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED, CONTACT TO CONTACT SHORT. IOA
 FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811C
 NASA FMEA #: 05-6Q-2208-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED, CONTACT TO CONTACT SHORT. IOA
 FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811D
 NASA FMEA #: 05-6Q-2209-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORTS POLE TO POLE, CLOSED, CONTACT TO CONTACT. IOA FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811E
 NASA FMEA #: 05-6Q-2210-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED, CONTACT TO CONTACT SHORT. IOA
 FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811F
 NASA FMEA #: 05-6Q-2211-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED, CONTACT TO CONTACT INADVERTENT
 OPEN OR CLOSED. IOA FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811G
 NASA FMEA #: 05-6Q-2212-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED, CONTACT TO CONTACT SHORT. IOA
 FAILURE MODE; FAILED CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811H
 NASA FMEA #: 05-6Q-2215-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; SHORT POLE TO POLE, CLOSED, CONTACT TO CONTACT. IOA FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811I
 NASA FMEA #: 05-6Q-2303-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811J
 NASA FMEA #: 05-6Q-2304-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811K
 NASA FMEA #: 05-6Q-2305-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED, NO OUTPUT. IOA FAILURE MODE;
 FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1811L
 NASA FMEA #: 05-6Q-2306-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED. IOA FAILURE MODE; FAIL CLOSED.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/13/87
 ASSESSMENT ID: D&C-1811M
 NASA FMEA #: 05-6Q-2603-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 1811
 ITEM: ILLUMINATION

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED, POLE TO POLE, CONT TO CONT. IOA
 FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1901
 NASA FMEA #: 05-6Q-2101-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1901
 ITEM: INSTRUMENT PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPENS, FAIL OPEN, INADVERTENTLY OPENS. IOA
 FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1901A
 NASA FMEA #: 05-6Q-2202-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1901
 ITEM: INSTRUMENT PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL TO TRANSFER. IOA FAILURE MODE; FAIL
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1901B
 NASA FMEA #: 05-6Q-2202-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1901
 ITEM: INSTRUMENT PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1901C
 NASA FMEA #: 05-6Q-2213-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1901
 ITEM: INSTRUMENT PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL OPEN. IOA FAILURE MODE; FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1901D
 NASA FMEA #: 05-6Q-2213-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1901
 ITEM: INSTRUMENT PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; SHORT TO GROUND. IOA FAILURE MODE; FAIL OPEN.
 NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-1902
 NASA FMEA #: 05-6Q-2213-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 1902
 ITEM: INSTRUMENT PWR CKT

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

NASA FAILURE MODE; SHORTS-POLE TO POLE. IOA FAILURE MODE; FAIL
 CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-2001A
 NASA FMEA #: 05-3-12356-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 2001
 ITEM: MEASUREMENT ISOLATION RESISTORS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAILED
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/17/87
 ASSESSMENT ID: D&C-2001C
 NASA FMEA #: 05-3-12358-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 2001
 ITEM: MEASUREMENT ISOLATION RESISTORS

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ALL CREDIBLE MODES. IOA FAILURE MODE; FAILED
 OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-2201
 NASA FMEA #: 05-6Q-2002-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 2201
 ITEM: FUSE - MPS INDICATOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		A	B	C	
NASA	[3 /1R]	[NA]	[NA]	[NA]	[] *
IOA	[3 /3]	[NA]	[NA]	[NA]	[]
COMPARE	[/N]	[]	[]	[]	[]

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPENS, FAILS OPEN, PREMATURELY OPENS. IOA FAILURE MODE; FAIL OPEN. IOA'S FAILURE MODE DOES NOT RAISE THE CRITICALITY OF THE ITEM. NO ACTION REQUIRED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-2202
 NASA FMEA #: 05-6Q-2007-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 2202
 ITEM: FUSE - APU & HYD INDICATOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /3] [NA] [NA] [NA] []
 (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; OPENS, PREMATURELY OPENS. IOA FAILURE MODE;
 FAIL OPEN. MONITORING FUEL NOT CRITICAL TO FLIGHT. NO ACTION
 REQUIRED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-2203
 NASA FMEA #: 05-6Q-2008-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C/EPD&C
 MDAC ID: 2203
 ITEM: FUSE - C&W BACKUP TONE

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; OPENS, PREMATURELY OPENS. IOA FAILURE MODE;
 FAIL OPEN. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/14/87
 ASSESSMENT ID: D&C-2302
 NASA FMEA #: 05-3-12150-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 2302
 ITEM: CROSS POINTER INDICATOR

LEAD ANALYST: W.H. TRAHAN

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; ERRONEOUS INDICATION. IOA FAILURE MODE;
 ERRONEOUS OUTPUT. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH
 NASA'S CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-2401
 NASA FMEA #: 05-6Q-2203-3

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 2401
 ITEM: CIRCUIT-FLT CNTLR PWR

LEAD ANALYST: R. O'DONNELL

ASSESSMENT:

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

NASA FAILURE MODE; FAIL SHORTS POLE TO POLE. IOA FAILURE MODE;
 FAIL CLOSED. AFTER ADDITIONAL ANALYSIS IOA AGREES WITH NASA'S
 CRITICALITY. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-2401A
 NASA FMEA #: 05-6Q-2203-2

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 2401
 ITEM: CIRCUIT-FLT CNTLR PWR

LEAD ANALYST: R. O'DONNELL

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS			CIL ITEM
		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:

NASA FAILURE MODE; FAIL CLOSED IN ON POS. IOA FAILURE MODE; FAIL CLOSED. NO DIFFERENCES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-2402
 NASA FMEA #: 05-6Q-2203-4

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 2402
 ITEM: CIRCUIT-FLT CNTLR PWR

LEAD ANALYST: R. O'DONNELL

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL CLOSED IN OFF POS. IOA FAILURE MODE;
 FAIL CLOSED. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF
 CREW/VEHICLE DUE TO INABILITY TO RESPOND TO VEHICLE STATUS
 REQUIRING CREW ACTION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 8/12/87
 ASSESSMENT ID: D&C-2402A
 NASA FMEA #: 05-6Q-2203-1

NASA DATA:
 BASELINE []
 NEW [X]

SUBSYSTEM: D&C
 MDAC ID: 2402
 ITEM: CIRCUIT-FLT CNTLR PWR

LEAD ANALYST: R. O'DONNELL

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE []
 INADEQUATE []

REMARKS:

NASA FAILURE MODE; FAIL CLOSED IN OFF POS. IOA FAILURE MODE;
 FAIL OPEN. LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF
 CREW/VEHICLE.

APPENDIX D

CRITICAL ITEMS

APPENDIX D
CRITICAL ITEMS

NASA FMEA	IOA ID	ITEM NAME	FAILURE MODE
05-3-12130-1	201	DDU	LOSS OF SIGNAL
05-3-12130-2	202	DDU	ERRONEOUS SIGNAL
05-3-12200A-1	205	DDU (CDR)	LOSS OF POWER
05-3-12200A-2	206	DDU (CDR)	ERRONEOUS PWR OUTPUT
05-3-12200B-1	207	DDU (PLT)	LOSS OF POWER
05-3-12200B-2	208	DDU (PLT)	ERRONEOUS PWR OUTPUT
05-6Q-2103A-1	209	DDU (CDR) CB	FAIL OPEN
05-6Q-2103B-1	210	DDU (PLT) CB	FAIL OPEN
05-6Q-2203A-1	211	DDU (CDR) SW	FAIL OPEN
05-6Q-2203B-1	212	DDU (PLT) SW	FAIL OPPEN
05-3-12125-1	1201	ADI	LOSS OF OUTPUT
05-3-12125-2	1202	ADI	ERRONEOUS OUTPUT
05-3-12601-1	102	HUD	LOSS OF OUTPUT
05-3-12601-2	101	HUD	ERRONEOUS OUTPUT
05-3-12602-1	104	HUD PDU	LOSS OF OUTPUT
05-3-12602-2	103	HUD PDU	ERRONEOUS OUTPUT
05-6Q-2214-1	107	HUD PWR SW	FAIL OPEN
05-6Q-2307-1	110	HUD RPC	FAIL OFF (OPEN)
05-6Q-2505-1	106	HUD RESISTOR	FAIL OPEN
05-3-12309-9	1439	C & W	LOSS OF OUTPUT
05-6Q-2112-1	1435	C & W CB	FAIL OPEN

APPENDIX E
DETAILED ANALYSIS

This appendix contains the IOA analysis worksheets supplementing previous results reported in STSEOS Working Paper 1.0-WP-VA87001-06, Analysis of the Displays and Controls Subsystem FMEA/CIL (01 December 1987). Prior results were obtained independently and documented before starting the FMEA/CIL assessment activity. Supplemental analysis was performed to address failure modes not previously considered by the IOA. Each sheet identifies the hardware item being analyzed, parent assembly and function performed. For each failure mode possible causes are identified, and hardware and functional criticality for each mission phase are determined as described in NSTS 22206, Instructions for Preparation of FMEA and CIL, 10 October 1986. Failure mode effects are described at the bottom of each sheet and worst case criticality is identified at the top.

LEGEND FOR IOA ANALYSIS WORKSHEETS

Hardware Criticalities:

- 1 = Loss of life or vehicle
- 2 = Loss of mission or next failure of any redundant item (like or unlike) could cause loss of life/vehicle
- 3 = All others

Functional Criticalities:

- 1R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of life or vehicle.
- 2R = Redundant hardware items (like or unlike) all of which, if failed, could cause loss of mission.

Redundancy Screen A:

- 1 = Is Checked Out PreFlight
- 2 = Is Capable of Check Out PreFlight
- 3 = Not Capable of Check Out PreFlight
- NA = Not Applicable

Redundancy Screens B and C:

- P = Passed Screen
- F = Failed Screen
- NA = Not Applicable

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/14/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: D&C FLIGHT: 3/1R
MDAC ID: 205 ABORT: 3/1R

ITEM: DDU-CDR
FAILURE MODE: LOSS OF PWR OUTPUT

LEAD ANALYST: W.H. TRAHAN SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) DDU-CDR
- 3) POWER OUTPUT
- 4)
- 5)
- 6)
- 7)
- 8)
- 9)

FLIGHT PHASE	CRITICALITIES		
	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/1R
LIFTOFF:	3/1R	TAL:	3/1R
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [F]

LOCATION: FLT DECK
PART NUMBER: MC409-0023-0002, 0003

CAUSES: CONTAMINATION, SHOCK, VIBRATION, PIECE-PART STRUCTURAL
FAILURE, TEMPERATURE

EFFECTS/RATIONALE:

LOSS OF ONE DDU ENVOKE MDF. LOSS OF ALL REDUNDANCY MAY CAUSE
LOSS OF CREW/VEHICLE DUE TO LOSS OF MANUAL CONTROLLERS. CDR AND
PILOT DDU COOLED BY COMMON AIDR DUCT. LOSS OF AIR DUCT MAY CAUSE
LOSS OF BOTH DDU'S.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/14/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: D&C FLIGHT: 3/1R
MDAC ID: 206 ABORT: 3/1R

ITEM: DDU-CDR
FAILURE MODE: ERRONEOUS POWER OUTPUT

LEAD ANALYST: W.H. TRAHAN SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) DDU-CDR
- 3) POWER OUTPUT
- 4)
- 5)
- 6)
- 7)
- 8)
- 9)

CRITICALITIES			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/1R	RTLS:	3/1R
LIFTOFF:	3/1R	TAL:	3/1R
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/1R		

REDUNDANCY SCREENS: A [2] B [P] C [F]

LOCATION: FLT DECK
PART NUMBER: MC409-0023-0002, 0003

CAUSES: CONTAMINATION, SHOCK, VIBRATION, PIECE-PART STRUCTURAL
FAILURE, TEMPERATURE

EFFECTS/RATIONALE:

POSSIBLE LOSS OF CREW/VEHICLE IF ALL REDUNDANCY IS LOST. CDR AND
PLT DDU COOLED BY COMMON AIR DUCT. LOSS OF AIR DUCT MAY CAUSE
LOSS OF BOTH DDU DUE TO OVERHEATING.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/15/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: D&C FLIGHT: 3/1R
MDAC ID: 207 ABORT: 3/1R

ITEM: DDU-PLT
FAILURE MODE: LOSS OF POWER OUTPUT

LEAD ANALYST: W.H. TRAHAN SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) DDU-PLT
- 3) POWER OUTPUT
- 4)
- 5)
- 6)
- 7)
- 8)
- 9)

CRITICALITIES			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/1R
LIFTOFF:	3/1R	TAL:	3/1R
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [F]

LOCATION: FLT DECK
PART NUMBER: MC409-0023-0002, 0003

CAUSES: CONTAMINATION, SHOCK, VIBRATION, PIECE-PART STRUCTURAL
FAILURE, TEMPERATURE

EFFECTS/RATIONALE:

LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS
OF ALL CONTROLLER FUNCTIONS. CDR AND PLT DDU'S ARE COOLED BY
COMMON AIR DUCT. LOSS OF THIS AIR DUCT MAY CAUSE LOSS OF BOTH
DDU'S DUE TO OVERHEATING.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/15/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: D&C FLIGHT: 3/1R
MDAC ID: 208 ABORT: 3/1R

ITEM: DDU-PLT
FAILURE MODE: ERRONEOUS POWER OUTPUT

LEAD ANALYST: W.H. TRAHAN SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) DDU-PLT
- 3) POWER OUTPUT
- 4)
- 5)
- 6)
- 7)
- 8)
- 9)

FLIGHT PHASE	CRITICALITIES		
	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/1R
LIFTOFF:	3/1R	TAL:	3/1R
ONORBIT:	3/1R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [F]

LOCATION: FLT DECK
PART NUMBER: MC409-0023-0002, 0003

CAUSES: CONTAMINATION, SHOCK, VIBRATION, PIECE-PART STRUCTURAL FAILURE, TEMPERATURE

EFFECTS/RATIONALE:

LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE TO LOSS OF ALL CONTROLLER FUNCTIONS. CDR AND PLT DDU'S ARE COOLED BY COMMON AIR DUCT. LOSS OF THIS AIR DUCT MAY CAUSE LOSS OF BOTH DDU'S DUE TO OVERHEATING.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/15/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: D&C/EPD&C FLIGHT: 3/1R
MDAC ID: 209 ABORT: 3/1R

ITEM: PWR CKT-CB
FAILURE MODE: FAIL OPEN

LEAD ANALYST: W.H. TRAHAN

SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) DDU
- 3) POWER CIRCUIT
- 4) CB
- 5)
- 6)
- 7)
- 8)
- 9)

FLIGHT PHASE	CRITICALITIES		HDW/FUNC
	HDW/FUNC	ABORT	
PRELAUNCH:	3/2R	RTLS:	3/1R
LIFTOFF:	3/1R	TAL:	3/1R
ONORBIT:	3/2R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [F] C [P]

LOCATION: PNL 014, 015
PART NUMBER: MC454-0026-2075

CAUSES: CONTAMINATION, VIBRATION, SHOCK

EFFECTS/RATIONALE:

DDU'S REDUNDANTLY POWERED. LOSS OF ICB NOT DETECTED IN FLIGHT,
LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE LOSS OF
CONTROLLER OPERATIONS.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/15/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: D&C/EPD&C FLIGHT: 3/1R
MDAC ID: 210 ABORT: 3/1R

ITEM: PWR CKT-CB
FAILURE MODE: FAIL OPEN

LEAD ANALYST: W.H. TRAHAN SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) DDU
- 3) POWER CIRCUIT
- 4) CB
- 5)
- 6)
- 7)
- 8)
- 9)

FLIGHT PHASE	CRITICALITIES		
	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/2R	RTLS:	3/1R
LIFTOFF:	3/1R	TAL:	3/1R
ONORBIT:	3/2R	AOA:	3/1R
DEORBIT:	3/1R	ATO:	3/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [F] C [P]

LOCATION: PNL 014, 015
PART NUMBER: MC454-0026-2075

CAUSES: CONTAMINATION, VIBRATION, SHOCK

EFFECTS/RATIONALE:

DDU'S REDUNDANTLY POWERED. LOSS OF ICB NOT DETECTED IN FLIGHT,
LOSS OF ALL REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE DUE LOSS OF
CONTROLLER OPERATIONS.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/15/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: D&C FLIGHT: 2/1R
MDAC ID: 211 ABORT: 2/1R

ITEM: PWR CKT-SW (CDR)
FAILURE MODE: FAIL OPEN

LEAD ANALYST: W.H. TRAHAN SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) DDU
- 3) POWER CIRCUIT
- 4) SWITCH
- 5)
- 6)
- 7)
- 8)
- 9)

CRITICALITIES			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/2R	RTLS:	2/1R
LIFTOFF:	2/1R	TAL:	2/1R
ONORBIT:	3/2R	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: F7A5, F8A8
PART NUMBER: ME452-0102-7352

CAUSES: CONTAMINATION, VIBRATION, SHOCK

EFFECTS/RATIONALE:

THE CONTROLLERS IN THE AFFECTED STATION IS LOST. LOSS OF ALL
REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/15/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: D&C FLIGHT: 2/1R
MDAC ID: 212 ABORT: 2/1R

ITEM: PWR CKT-SW (PLT)
FAILURE MODE: FAIL OPEN

LEAD ANALYST: W.H. TRAHAN SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) DDU
- 3) POWER CIRCUIT
- 4) SWITCH
- 5)
- 6)
- 7)
- 8)
- 9)

CRITICALITIES			
FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/2R	RTLS:	2/1R
LIFTOFF:	2/1R	TAL:	2/1R
ONORBIT:	3/2R	AOA:	2/1R
DEORBIT:	2/1R	ATO:	2/1R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C [P]

LOCATION: F7A5, F8A8
PART NUMBER: ME452-0102-7352

CAUSES: CONTAMINATION, VIBRATION, SHOCK

EFFECTS/RATIONALE:
THE CONTROLLERS IN THE AFFECTED STATION IS LOST. LOSS OF ALL
REDUNDANCY MAY CAUSE LOSS OF CREW/VEHICLE.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 7/09/87	HIGHEST CRITICALITY	HDW/FUNC
SUBSYSTEM: D&C/EPD&C	FLIGHT:	3/3
MDAC ID: 1604	ABORT:	3/3

ITEM: ACA PWR CKT-EVENT
FAILURE MODE: FAILED OPEN

LEAD ANALYST: W.H. TRAHAN SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) ACA
- 3) PWR CKT
- 4) EVENTS
- 5)
- 6)
- 7)
- 8)
- 9)

FLIGHT PHASE	CRITICALITIES		HDW/FUNC
	HDW/FUNC	ABORT	
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [2] B [P] C []

LOCATION: PNL 014, 015, 016, 06, A6A1
PART NUMBER: MC434-0075-0012

CAUSES: CONTAMINATION, SHOCK, VIBRATION

EFFECTS/RATIONALE:
LAMPS WILL NOT BE ILLUMINATE. OTHER DISPLAYS, CRT, AND AUDIBLE
ALARM CAN PROVIDE INFORMATION. CKT CONSIST OF CB, BUS SELECT,
SW, RESISTORS, AND TEST SW.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/13/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: D&C/EPD&C FLIGHT: 3/3
MDAC ID: 1605 ABORT: 3/3

ITEM: ACA
FAILURE MODE: ERRONEOUS OUTPUT

LEAD ANALYST: W.H. TRAHAN SUBSYS LEAD: W.H. TRAHAN

BREAKDOWN HIERARCHY:

- 1) D&C
- 2) ACA
- 3)
- 4)
- 5)
- 6)
- 7)
- 8)
- 9)

FLIGHT PHASE	CRITICALITIES		
	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/3
LIFTOFF:	3/3	TAL:	3/3
ONORBIT:	3/3	AOA:	3/3
DEORBIT:	3/3	ATO:	3/3
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [NA] B [NA] C [NA]

LOCATION: PNL 014, 015, 016, 06, A6A1
PART NUMBER: MC434-0283-0003

CAUSES: CONTAMINATION, SHOCK VIBRATION

EFFECTS/RATIONALE:

FALSE INDICATION. COULD RESULT IN THE CREW DOWNMODING WHEN NOT NECESSARY.

REFERENCES:

APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE/RECOMMENDATIONS

This section provides a cross reference between the NASA FMEA and corresponding IOA analysis worksheet(s) included in Appendix E. The Appendix F identifies: NASA FMEA Number, IOA Assessment Number, NASA criticality and redundancy screen data, and IOA recommendations.

Appendix F Legend

Code Definition

None.

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APPENDIX F

NASA FMEA TO IOA WORKSHEET CROSS REFERENCE / RECOMMENDATIONS

IDENTIFIERS		NASA			IOA RECOMMENDATIONS *				
NASA FMEA NUMBER	IOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A B C	CRIT HW/F	SCREENS A B C	OTHER (SEE LEGEND CODE)	ISSUE		
	D&C-1104	/		/					
	D&C-1203	/		/					
	D&C-1204	/		/					
	D&C-1205	/		/					
	D&C-1206	/		/					
	D&C-1304	/		/					
	D&C-1404	/		/					
	D&C-1436	/		/					
	D&C-1704	/		/					
	D&C-1705	/		/					
	D&C-1706	/		/					
	D&C-204	/		/					
	D&C-504	/		/					
	D&C-606	/		/					
	D&C-608	/		/					
05-3-12101-1	D&C-701	3/3	NA NA NA	/					
05-3-12101-2	D&C-702	3/3	NA NA NA	/					
05-3-12102-1	D&C-301	3/3	NA NA NA	/					
05-3-12102-2	D&C-302	3/3	NA NA NA	/					
05-3-12103-1	D&C-1702	3/3	NA NA NA	/					
05-3-12103-2	D&C-1703	3/3	NA NA NA	/					
05-3-12103-3	D&C-1703A	3/3	NA NA NA	/					
05-3-12110-1	D&C-401	3/1R	P P P	/					
05-3-12110-3	D&C-407	3/1R	P P P	/					
05-3-12110-4	D&C-403	3/1R	P P P	/					
05-3-12110-5	D&C-405	3/1R	P P P	/					
05-3-12111-1	D&C-409A	3/3	NA NA NA	/					
05-3-12111-2	D&C-410	3/3	NA NA NA	/					
05-3-12111-3	D&C-409B	3/3	NA NA NA	/					
05-3-12115-1	D&C-601	3/1R	P P P	/					
05-3-12115-2	D&C-601A	3/1R	P P P	/					
05-3-12115-3	D&C-603	3/1R	P P P	/					
05-3-12115-4	D&C-607	3/1R	P P P	/					
05-3-12115-5	D&C-605	3/1R	P P P	/					
05-3-12116-1	D&C-609A	3/3	NA NA NA	/					
	D&C-609B	3/3	NA NA NA	/					
05-3-12116-2	D&C-610	3/3	NA NA NA	/					
05-3-12120-1	D&C-501	3/1R	P P P	/					
	D&C-503	3/1R	P P P	/					
	D&C-505	3/1R	P P P	/					
	D&C-507	3/1R	P P P	3/3	NA NA NA				
05-3-12120-2	D&C-502	3/1R	P P P	/					
	D&C-504	3/1R	P P P	/					
	D&C-506	3/1R	P P P	/					
	D&C-508	3/1R	P P P	3/3	NA NA NA				

C-5

IDENTIFIERS		NBA			IDA			OTHER			ISSUE
NBA	IDA	DATE	SCORES			DATE	SCORES			OTHER	
AREA NUMBER	ASSESSMENT NUMBER	MM/YY	A	B	C	MM/YY	A	B	C	SEE LEGEND CODE	
5-3-12101-1	D&C-510	3/3	NA	NA	NA	/					
5-3-12101-2	D&C-509	3/3	NA	NA	NA	/					
5-3-12101-3	D&C-510A	3/3	NA	NA	NA	/					
5-3-12102-1	D&C-512	3/3	NA	NA	NA	/					
5-3-12102-2	D&C-511	3/3	NA	NA	NA	/					
5-3-12102-3	D&C-512A	3/3	NA	NA	NA	/					
5-3-12103-1	D&C-514	3/3	NA	NA	NA	/					
5-3-12103-2	D&C-513A	3/3	NA	NA	NA	/					
5-3-12103-3	D&C-514A	3/3	NA	NA	NA	/					
5-3-12105-1	D&C-1201	2/18	P	P	P	/					
5-3-12105-2	D&C-1200	2/18	P	P	P	3/18	P	P	P		
5-3-12106-1	D&C-1203	3/3	NA	NA	NA	/					
5-3-12106-2	D&C-1207	3/3	NA	NA	NA	3/18	P	P	P		
5-3-12106-3	D&C-1208A	3/3	NA	NA	NA	/					
5-3-12107-1	D&C-1209	3/3	NA	NA	NA	/					
5-3-12107-2	D&C-1210	3/3	NA	NA	NA	3/18	P	P	P		
5-3-12107-3	D&C-1209A	3/3	NA	NA	NA	/					
5-3-12108-1	D&C-1212	3/3	NA	NA	NA	/					
5-3-12108-2	D&C-1211	3/3	NA	NA	NA	3/18	P	P	P		
5-3-12108-3	D&C-1212A	3/3	NA	NA	NA	/					
5-3-12109-1	D&C-201	2/18	P	P	P	/					
5-3-12109-2	D&C-202	2/18	P	P	P	3/18	P	P	P		
5-3-12109-3	D&C-201A	2/18	P	P	P	/					
5-3-12109-4	D&C-201B	3/3	NA	NA	NA	3/18	P	P	P		
5-3-12109-5	D&C-200A	3/3	NA	NA	NA	3/18	P	P	P		
5-3-12109-6	D&C-201C	3/18	P	P	P	/					
5-3-12109-7	D&C-202B	3/18	P	P	P	/					
5-3-12109-8	D&C-202C	3/18	P	P	P	/					
5-3-12109-9	D&C-203A	3/3	NA	NA	NA	3/18	P	P	P		
5-3-12135-1	D&C-1102	3/3	NA	NA	NA	/					
5-3-12135-2	D&C-1101	3/3	NA	NA	NA	/					
5-3-12136-1	D&C-1106	3/3	NA	NA	NA	/					
5-3-12137-1	D&C-1103	3/3	NA	NA	NA	/					
5-3-12137-2	D&C-1103A	3/3	NA	NA	NA	/					
5-3-12138-1	D&C-1107	3/3	NA	NA	NA	/					
5-3-12139-1	D&C-1108	3/3	NA	NA	NA	/					
5-3-12140-1	D&C-1302	3/3	NA	NA	NA	/					
5-3-12140-2	D&C-1301	3/3	NA	NA	NA	/					
5-3-12141-1	D&C-1303	3/3	NA	NA	NA	/					
	D&C-1303A	3/3	NA	NA	NA	/					
5-3-12141-2	D&C-1306	3/3	NA	NA	NA	/					
5-3-12150-1	D&C-2301	3/28	NA	NA	NA	/					
5-3-12150-2	D&C-2302	3/3	NA	NA	NA	/					
5-3-12153-1	D&C-1207A	3/3	NA	NA	NA	3/18	P	P	P		
5-3-12154-1	D&C-1210A	3/3	NA	NA	NA	3/18	P	P	P		
5-3-12155-1	D&C-1201A	3/3	NA	NA	NA	3/18	P	P	P		
5-3-12155-2	D&C-409C	3/3	NA	NA	NA	/					
5-3-12155-3	D&C-511A	3/3	NA	NA	NA	/					
5-3-12155-4	D&C-511B	3/3	NA	NA	NA	/					
5-3-12160-1	D&C-511C	3/3	NA	NA	NA	/					

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IDENTIFIERS		DATA				ICR RECOMMENDATIONS				ISSUE
NASA SYSTEM NUMBER	ICR ASSESSMENT NUMBER	CRIT RAT	SCREENS			CRIT RAT	SCREENS			OTHER (SEE LEGEND CODE)
			A	B	C		A	B	C	
05-3-12300-1	D&C-14001	3/3	NA	NA	NA	/				
05-3-12300-2	D&C-14002	3/3	P	P	P	/				
05-3-12300-3	D&C-14003	3/3	P	P	P	/				
05-3-12300-4	D&C-14004	3/3	P	P	P	/				
05-3-12300-5	D&C-14005	3/3	P	P	P	/				
05-3-12300-6	D&C-14006	3/3	P	P	P	/				
05-3-12300-7	D&C-14007	3/3	NA	NA	NA	/				
05-3-12300-8	D&C-14008	3/3	P	P	P	3/3	NA	NA	NA	
05-3-12300-9	D&C-14009	3/3	NA	NA	NA	/				
05-3-12300-10	D&C-14010	3/3	NA	NA	NA	/				
05-3-12300-11	D&C-14011	3/3	NA	NA	NA	/				
05-3-12300-12	D&C-14012	3/2R	P	P	P	/				
05-3-12300-13	D&C-14013	3/2R	P	P	P	/				
05-3-12300-14	D&C-14014	3/2R	P	P	P	/				
05-3-12300-15	D&C-14015	3/2R	P	P	P	/				
05-3-12300-16	D&C-14016	3/2R	P	P	P	3/3	NA	NA	NA	
05-3-12300-17	D&C-14017	3/3	NA	NA	NA	/				
05-3-12300-18	D&C-14018	3/3	NA	NA	NA	/				
05-3-12300-19	D&C-14019	3/3	NA	NA	NA	/				
05-3-12300-20	D&C-14020	3/2R	P	P	P	3/3	NA	NA	NA	
05-3-12300-21	D&C-14021	3/3	NA	NA	NA	/				
05-3-12300-22	D&C-14022	3/3	NA	NA	NA	/				
05-3-12300-23	D&C-14023	3/3	NA	NA	NA	/				
05-3-12300-24	D&C-14024	3/3	NA	NA	NA	/				
05-3-12300-25	D&C-14025	3/3	NA	NA	NA	/				
05-3-12300-26	D&C-14026	3/3	NA	NA	NA	/				
05-3-12300-27	D&C-14027	3/3	NA	NA	NA	/				
05-3-12300-28	D&C-14028	3/3	NA	NA	NA	/				
05-3-12300-29	D&C-14029	3/3	NA	NA	NA	/				
05-3-12300-30	D&C-14030	3/3	NA	NA	NA	/				
05-3-12300-31	D&C-14031	3/3	NA	NA	NA	/				
05-3-12300-32	D&C-14032	3/3	NA	NA	NA	/				
05-3-12300-33	D&C-14033	3/2R	P	P	P	3/3	NA	NA	NA	
05-3-12300-34	D&C-14034	3/2R	P	P	P	3/3	NA	NA	NA	
05-3-12300-35	D&C-14035	3/2R	P	P	P	3/3	NA	NA	NA	

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IDENTIFIERS		NAGA			IDA RECOMMENDATIONS			ISBLE
NAGA	IDA	CRIT	SCREENS	CRIT	SCREENS	OTHER		
FXEN NUMBER	ASSESSMENT NUMBER	H/A/F	A B C	H/A/F	A B C	(SEE LEGEND P005)		
1-3-12331-6	D&D-1403E	3/3	P P P	3/3	NA NA NA			
1-3-12331-7	D&D-1403B	3/3	NA NA NA	3/1R	P P P			
1-3-12332-1	D&D-1411	3/3	NA NA NA	/				
	D&D-1412	3/3	NA NA NA	/				
		3/3	NA NA NA	/				
	D&D-1413	3/3	NA NA NA	/				
1-3-12333-1	D&D-1430	3/3	NA NA NA	/				
	D&D-1431	3/3	NA NA NA	/				
1-3-12335-1	D&D-1404	3/3	NA NA NA	/				
1-3-12340-1	D&D-1404A	3/3	NA NA NA	/				
1-3-12345-1	D&D-1402F	3/1R	P P P	/				
1-3-12350-1	D&D-1404B	3/3	NA NA NA	/				
1-3-12356-1	D&D-2001A	3/3	NA NA NA	/				
1-3-12357-1	D&D-2001B	3/3	NA NA NA	/				
1-3-12358-1	D&D-2001E	3/3	NA NA NA	/				
1-3-12360-1	D&D-1602I	3/2R	P P P	3/1R	P P P			
1-3-12360-2	D&D-1602K	3/2R	P P P	3/1R	P P P			
1-3-12361-1	D&D-1601D	3/3	NA NA NA	/				
1-3-12362-1	D&D-1604G	3/3	NA NA NA	/				
1-3-12363-1	D&D-1603	3/3	NA NA NA	/				
1-3-12364-1	D&D-1604D	3/3	NA NA NA	/				
1-3-12365-1	D&D-1602J	3/1R	P P P	/				
1-3-12366-1	D&D-1604E	3/3	NA NA NA	/				
1-3-12367-1	D&D-1601	3/1R	P P P	/				
1-3-12368-1	D&D-1601A	3/1R	P P P	/				
1-3-12369-1	D&D-1604F	3/3	NA NA NA	/				
1-3-12370-1	D&D-1604B	3/3	NA NA NA	/				
1-3-12371-1	D&D-1604H	3/3	NA NA NA	/				
1-3-12372-1	D&D-1601F	3/1R	P P P	/				
1-3-12373-1	D&D-1604I	3/3	NA NA NA	/				
1-3-12374-1	D&D-1604C	3/3	NA NA NA	/				
1-3-12375-1	D&D-1601B	3/1R	NA NA NA	3/1R	P P P			
1-3-12376-1	D&D-1604K	3/3	NA NA NA	/				
1-3-12376-T8D	D&D-1605X	3/3	NA NA NA	/				
1-3-12377-1	D&D-1604L	3/3	NA NA NA	/				
1-3-12378-1	D&D-1604M	3/3	NA NA NA	/				
1-3-12379-1	D&D-1601B	3/1R	P P P	/				
1-3-12380-1	D&D-1604N	3/3	NA NA NA	/				
1-3-12381-1	D&D-1604O	3/3	NA NA NA	/				
1-3-12382-1	D&D-1604P	3/3	NA NA NA	/				
1-3-12383-1	D&D-1604D	3/3	NA NA NA	/				
1-3-12384-1	D&D-1601C	3/1R	P P P	/				
1-3-12385-1	D&D-1601D	3/1R	P P P	/				
1-3-12385-2	D&D-1604R	3/3	NA NA NA	/				
1-3-12386-1	D&D-1601E	3/1R	P P P	/				
1-3-12387-1	D&D-1604S	3/3	NA NA NA	/				
1-3-12388-1	D&D-1604T	3/3	NA NA NA	/				
1-3-12389-1	D&D-1604U	3/3	NA NA NA	/				
1-3-12390-1	D&D-1602L	3/1R	P P P	/				
1-3-12390-2	D&D-1602M	3/1R	P P P	/				

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IDENTIFIERS		NABA			DCA RECOMMENDATIONS						
NABA	IDA	CRIT	SCREENS			CRIT	SCREENS			OTHER	ISSUE
AREA NUMBER	ASSESSMENT NUMBER	HW/F	A	B	D	HW/F	A	B	D	ISSUE LEGEND CODE	
05-3-12381-1	D&C-1804V	3/3	NA	NA	NA	/					
05-3-12382-1	D&C-1804W	3/3	NA	NA	NA	/					
05-3-12383-1	D&C-1804X	3/3	NA	NA	NA	/					
05-3-12384-1	D&C-1804Y	3/3	NA	NA	NA	/					
05-3-12402-1	D&C-1801A	3/3	NA	NA	NA	/					
05-3-12404-1	D&C-1802	3/3	NA	NA	NA	/					
05-3-12404-2	D&C-1802A	3/3	NA	NA	NA	/					
05-3-12407-1	D&C-1801B	3/3	NA	NA	NA	/					
05-3-12410-1	D&C-1801C	3/3	NA	NA	NA	/					
05-3-12411-1	D&C-1800B	3/3	NA	NA	NA	/					
05-3-12411-2	D&C-1800C	3/3	NA	NA	NA	/					
05-3-12413-1	D&C-1801D	3/3	NA	NA	NA	/					
05-3-12413-1	D&C-1801E	3/3	NA	NA	NA	/					
05-3-12415-1	D&C-1801F	3/3	NA	NA	NA	/					
05-3-12418-1	D&C-1801G	3/3	NA	NA	NA	/					
05-3-12501-1	D&C-1803A	3/3	NA	NA	NA	/					
05-3-12507-1	D&C-1803B	3/3	NA	NA	NA	/					
05-3-12508-1	D&C-1801H	3/3	NA	NA	NA	/					
05-3-12601-1	D&C-102	2/1R	P	P	P	/					
05-3-12601-2	D&C-101	2/1R	P	P	P	/					
05-3-12602-1	D&C-104	2/1R	P	P	P	/					
05-3-12602-2	D&C-103	2/1R	P	P	P	/					
05-3-12603-1	D&C-105	3/3	NA	NA	NA	/					
05-3-12701-1	D&C-1801I	3/2R	P	P	P	3/3	NA	NA	NA		
05-3-12705-1	D&C-1804	3/2R	P	P	P	/					
05-3-12709-1	D&C-1804A	3/2R	P	P	P	/					
05-3-12804-1	D&C-1804B	3/3	NA	NA	NA	3/2R	P	P	P		
05-3-12804-5	D&C-1804C	3/3	NA	NA	NA	3/2R	P	P	P		
05-3-12805-1	D&C-1804D	3/3	NA	NA	NA	3/2R	P	P	P		
05-60-2002-1	D&C-2201	3/1R	NA	NA	NA	3/3	NA	NA	NA		
05-60-2003-1	D&C-703	3/3	NA	NA	NA	/					
05-60-2004-1	D&C-409	3/1R	P	P	P	/					
05-60-2005-1	D&C-509	3/1R	P	P	P	3/3	NA	NA	NA		
05-60-2006-1	D&C-513	3/1R	P	P	P	/					
05-60-2007-1	D&C-2202	3/1R	P	P	P	3/3	NA	NA	NA		
05-60-2008-1	D&C-2203	3/3	NA	NA	NA	/					
05-60-2101-1	D&C-1901	3/1R	P	P	P	/					
05-60-2102-1	D&C-1701	3/3	NA	NA	NA	/					
05-60-2103-1	D&C-203	3/1R	P	F	P	3/1R	P	P	P		
05-60-2103A-1	D&C-209X	3/1R	P	F	P	/					
05-60-2103B-1	D&C-210X	3/1R	P	F	P	/					
05-60-2104-1	D&C-1810	3/3	NA	NA	NA	/					
05-60-2105-1	D&C-1810A	3/3	NA	NA	NA	/					
05-60-2106-1	D&C-1810B	3/3	NA	NA	NA	/					
05-60-2107-1	D&C-1810C	3/3	NA	NA	NA	/					
05-60-2108-1	D&C-1305	3/3	NA	NA	NA	/					
05-60-2109-1	D&C-1105	3/3	NA	NA	NA	/					
05-60-2110-1	D&C-1810D	3/3	NA	NA	NA	/					
05-60-2111-1	D&C-1602	3/1R	P	P	P	/					
05-60-2112-1	D&C-1435	2/1R	P	P	P	3/3	NA	NA	NA		

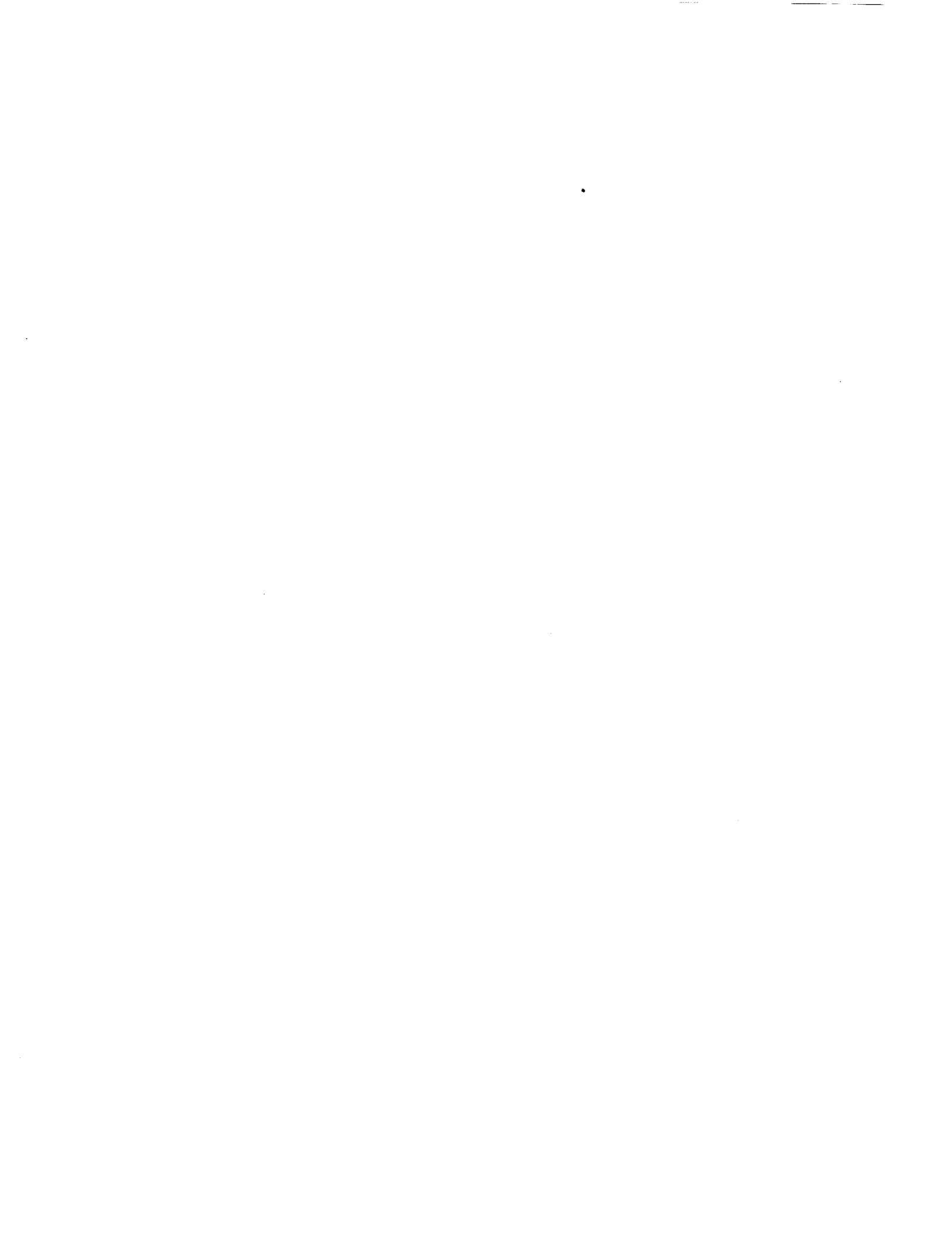
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IDENTIFIERS		NASA			ISA RECOMMENDATIONS			OTHER	ISSUE		
NASA	ISA	DRIT	SCREENS			DRIT	SCREENS			OTHER	ISSUE
FWDA NUMBER	ASSESSMENT NUMBER	HW/F	A	B	C	HW/F	A	B	C	(SEE LEGEND CODE)	
5-60-2202-1	D&C-1901A	3/1R	P	P	P	/					
5-60-2202-2	D&C-1901B	3/1R	P	P	P	/					
5-60-2203-1	D&C-2402A	2/2	P	P	P	3/1R	P	P	P		
5-60-2203-2	D&C-2401A	3/3	NA	NA	NA	/					
5-60-2203-3	D&C-2401	3/1R	P	P	P	/					
5-60-2203-4	D&C-2402	2/2	P	P	P	3/1R	P	P	P		
5-60-2203A-1	D&C-211X	2/1R	P	P	P	/					
5-60-2203B-1	D&C-212X	2/1R	P	P	P	/					
5-60-2204-1	D&C-1810E	3/3	NA	NA	NA	/					
5-60-2204-2	D&C-1810F	3/3	NA	NA	NA	/					
5-60-2204-3	D&C-1811	3/3	NA	NA	NA	/					
5-60-2205-1	D&C-1810H	3/3	NA	NA	NA	/					
5-60-2205-2	D&C-1810I	3/3	NA	NA	NA	/					
5-60-2206-1	D&C-1811A	3/3	NA	NA	NA	/					
5-60-2206-2	D&C-1810K	3/3	NA	NA	NA	/					
5-60-2207-1	D&C-1810L	3/3	NA	NA	NA	/					
5-60-2207-2	D&C-1810M	3/3	NA	NA	NA	/					
5-60-2207-3	D&C-1811B	3/3	NA	NA	NA	/					
5-60-2208-1	D&C-1810N	3/3	NA	NA	NA	/					
5-60-2208-2	D&C-1810O	3/3	NA	NA	NA	/					
5-60-2208-3	D&C-1811C	3/3	NA	NA	NA	/					
5-60-2209-1	D&C-1810P	3/3	NA	NA	NA	/					
5-60-2209-2	D&C-1810Q	3/3	NA	NA	NA	/					
5-60-2209-3	D&C-1811D	3/3	NA	NA	NA	/					
5-60-2210-1	D&C-1810R	3/3	NA	NA	NA	/					
5-60-2210-2	D&C-1810S	3/3	NA	NA	NA	/					
5-60-2210-3	D&C-1811E	3/3	NA	NA	NA	/					
5-60-2211-1	D&C-1810T	3/3	NA	NA	NA	/					
5-60-2211-2	D&C-1810U	3/3	NA	NA	NA	/					
5-60-2211-3	D&C-1811F	3/3	NA	NA	NA	/					
5-60-2212-1	D&C-1810V	3/3	NA	NA	NA	/					
5-60-2212-2	D&C-1810W	3/3	NA	NA	NA	/					
5-60-2212-3	D&C-1811G	3/3	NA	NA	NA	/					
5-60-2213-1	D&C-1901C	3/1R	P	P	P	/					
5-60-2213-2	D&C-1901D	3/1R	P	P	P	/					
5-60-2213-3	D&C-1902	3/1R	P	P	P	/					
5-60-2214-1	D&C-107	2/1R	P	P	P	/					
5-60-2214-2	D&C-107A	2/1R	P	P	P	/					
5-60-2214-3	D&C-108	2/1R	P	P	P	3/3	NA	NA	NA		
5-60-2215-1	D&C-1810Y	3/3	NA	NA	NA	/					
5-60-2215-2	D&C-1810Z	3/3	NA	NA	NA	/					
5-60-2215-3	D&C-1811H	3/3	NA	NA	NA	/					
5-60-2303-1	D&C-1810AA	3/2R	NA	NA	NA	3/3	NA	NA	NA		
	D&C-1811I	3/3	NA	NA	NA	/					
5-60-2304-1	D&C-1810BB	3/2R	NA	NA	NA	3/3	NA	NA	NA		
5-60-2304-2	D&C-1811J	3/3	NA	NA	NA	/					
5-60-2305-1	D&C-1810CC	3/3	NA	NA	NA	/					
5-60-2305-2	D&C-1811K	3/3	NA	NA	NA	/					
5-60-2306-1	D&C-1810DD	3/3	NA	NA	NA	/					
5-60-2306-2	D&C-1811L	3/3	NA	NA	NA	/					

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IDENTIFIERS		NAEP	TOA RECOMMENDATIONS *								
NAEP YEAR NUMBER	TOA ASSESSMENT NUMBER	CRIT HW/F	SCREENS			CRIT HW/F	SCREENS			OTHER (SEE LEGEND CODE)	ISSUE
			A	B	C		A	B	C		
05-60-0507-1	D&C-110	3/15	P	P	P	/					
05-60-0507-2	D&C-109	3/15	P	P	P	3/3	NA	NA	NA		
05-60-1800-1	D&C-1801	3/3	NA	NA	NA	/					
05-60-1801-1	D&C-1810EE	3/3	NA	NA	NA	/					
05-60-1802-1	D&C-1810FF	3/3	NA	NA	NA	/					
05-60-2500-1	D&C-1810GG	3/3	NA	NA	NA	/					
05-60-2504-1	D&C-1810HH	3/3	NA	NA	NA	/					
05-60-2505-1	D&C-106	2/1R	P	P	P	/					
05-60-2506-1	D&C-1810II	3/3	NA	NA	NA	/					
05-60-2601-1	D&C-1600A	3/2R	P	P	P	3/1R	P	P	P		
05-60-2601-2	D&C-1607	3/2R	P	P	P	3/3	NA	NA	NA		
05-60-2601-3	D&C-1602B	3/2R	P	P	P	3/1R	P	P	P		
05-60-2602-1	D&C-1602D	3/3	NA	NA	NA	3/1R	P	P	P		
05-60-2602-2	D&C-1603A	3/3	NA	NA	NA	/					
05-60-2603-1	D&C-1810JJ	3/3	NA	NA	NA	/					
05-60-2603-2	D&C-1811M	3/3	NA	NA	NA	/					
NONE	D&C-1402	/				/					
	D&C-1401	/				/					
	D&C-1476	/				/					
	D&C-1437	/				/					
	D&C-402	/				/					
	D&C-404	/				/					
	D&C-406	/				/					
	D&C-408	/				/					
	D&C-602	/				/					







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