INDEPENDENT ORBITER ASSESSMENT

ASSESSMENT OF THE ATMOSPHERIC REVITALIZATION PRESSURE CONTROL SUBSYSTEM

19 FEBRUARY 1988

MCDONNELL DOUGLAS ASTRONAUTICS COMPANY
HOUSTON DIVISION

SPACE TRANSPORTATION SYSTEM ENGINEERING AND OPERATIONS SUPPORT

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INDEPENDENT ORBITER ASSESSMENT ASSESSMENT OF THE ATMOSPHERIC REVITALIZATION PRESSURE CONTROL SUBSYSTEM FMEA/CIL

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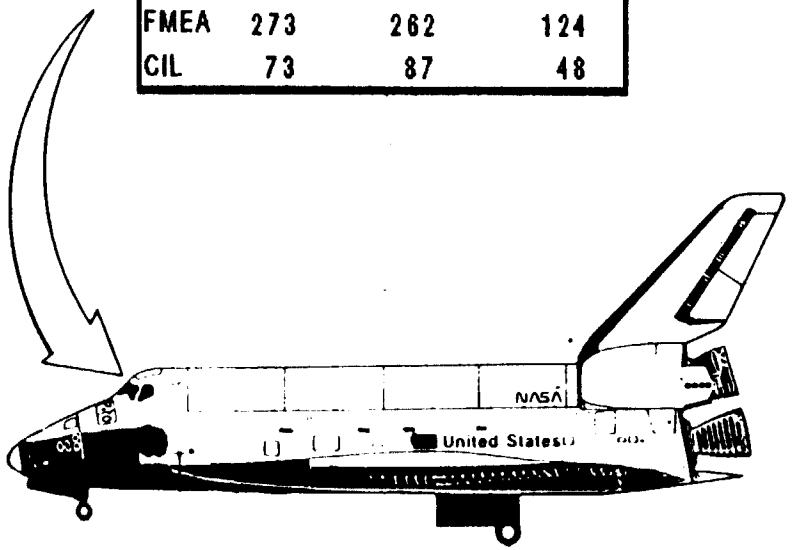
1.0 EXECUTIVE SUMMARY

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 (Reference 10) of the Atmospheric Revitalization Pressure Control Subsystem (ARPCS) 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 proposed Post 51-L updates based upon the CCB/PRCB presentations (Reference 8) and an informal criticality summary listing (Reference 9). A discussion of each discrepancy from the comparison is provided through additional analysis as required. However, due to the cancellation of the IOA task, the resolution of these discrepancies were not attempted. These discrepancies were flagged as issues, and recommendations were made based on the FMEA data available at the time. This report documents the results of that comparison for the Orbiter ARPCS hardware.

The IOA product for the ARPCS analysis consisted of 273 failure mode "worksheets" that resulted in 73 potential critical items being identified. Comparison was made to the NASA baseline (as of 24 December 1987) which consisted of 262 FMEAs and 87 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 124 FMEAs which caused differences in 48 CIL items. Figure 1 presents a comparison of the proposed Post 51-L NASA baseline, with the IOA recommended baseline, and any issues.

ARPCS ASSESSMENT SUMMARY			
	IOA	NASA	ISSUES
FMEA	273	262	124
CIL	73	87	48



AUXILIARY OXYGEN ASSEMBLY			
	IOA	NASA	ISSUES
FMEA	31	32	6
CIL	2	7	5

OXYGEN ASSEMBLY			
	IOA	NASA	ISSUES
FMEA	76	76	36
CIL	34	43	19

CABIN VENT ASSEMBLY			
	IOA	NASA	ISSUES
FMEA	16	6	13
CIL	3	6	2

NITROGEN ASSEMBLY			
	IOA	NASA	ISSUES
FMEA	128	128	62
CIL	20	17	18

POSITIVE RELIEF VENT ASSEMBLY			
	IOA	NASA	ISSUES
FMEA	14	13	3
CIL	9	9	2

NEGATIVE RELIEF VENT ASSEMBLY			
	IOA	NASA	ISSUES
FMEA	8	7	4
CIL	5	5	2

Figure 1 - ARPCS FMEA/CIL 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 reevaluating the FMEA/CIL for the Space Shuttle design. The MDAC is providing an independent assessment of the Orbiter FMEA/CIL 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 reevaluation 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 will be 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 ARPCS Ground Rules and Assumptions

The general ground rules and assumptions used in the IOA are defined in Appendix B.2. The ARPCS specific ground rules and assumptions are presented in Appendix B.3.

3.0 SUBSYSTEM DESCRIPTION

3.1 Design and Function

The ARPCS provides shirt-sleeve environment for the crew by pressurizing the cabin to 14.7 psia with approximately 21% oxygen and 79% nitrogen. Cabin pressure can also be maintained at 8.0 psia for emergency (cabin leak) condition.

For the purpose of this study, the ARPCS was divided into two sections and six assemblies as shown in Figure 2 for which a brief discussion is provided below:

A. Atmospheric Make-up and Control (AMC) - This section uses cryogenic oxygen and gaseous nitrogen for cabin pressure maintenance and crew metabolic requirements. The AMC also provides oxygen or nitrogen for EMU/MMU recharges, water tanks pressurization, payload requirements, and cabin/airlock repressurizations. Figure 3 presents an overview of the AMC and its major hardware components.

   This section is further divided into the following three assemblies:

   1. Auxiliary Oxygen Assembly - This assembly provides gaseous oxygen (approximately 50 lbm) to the emergency breathing station under emergency conditions and absence of cryogenic oxygen. This assembly consists of one tank, a 300 psi regulator, a motorized valve, and an isolation valve. The assembly interfaces with the oxygen assembly at the crossover manifold and emergency breathing station as shown in Figure 4.

      This assembly is only installed on vehicle OV102 as a mission kit, and has not been removed.

   2. Oxygen Assembly - The oxygen assembly uses oxygen from the cryogenic oxygen tanks and conditions it for distribution through emergency breathing station, and 14.7 psia cabin regulators. It also provides oxygen for EMU recharges, and spacelab habitable module requirements.

      The emergency breathing station regulates and delivers the oxygen to Launch and Entry Helmets (LEHs) during nominal ascent/entry phase, and continuously to LEH-5 during the on-orbit phase. Under cabin leak conditions, this station will also deliver direct (unregulated) cryogenic oxygen to the cabin through direct bleed orifice.

      The oxygen is nominally provided to the cabin through either of two redundant loops. Oxygen from the cryogenic tanks is warmed to gaseous state and reduced to 100 psig before delivery to O2/N2 control panel.

The panel delivers 100 psig oxygen to the 14.7 psia cabin regulator, and subsequently into the cabin for pressure maintenance and crew usage. This oxygen interfaces with the 200 psig nitrogen on the panel before entering the cabin regulator.

The oxygen in the cabin is controlled either automatically by one of two controllers, or manually by the crew. In the Auto mode, the controllers sense the partial pressure of oxygen in the cabin. If the PPO2 is below 3.2 +/- 0.2 psia, the controllers will close the O2/N2 control valve allowing 100 psig oxygen to flow to the 14.7 psia cabin regulators. Otherwise, the O2/N2 control valve will be open allowing 200 psig nitrogen to flow to the cabin regulator, thus preventing 100 psig oxygen to flow. In the manual mode, this operation is done by the crew based on continous monitoring of the cabin total pressure and partial pressure of oxygen.

3. Nitrogen Assembly - The nitrogen assembly stores gaseous nitrogen in four supply tanks, and uses it for cabin pressure maintenance, MMU recharges, payload requirements, and supply/waste water tanks pressurization.

The nitrogen tanks are loaded prelaunch storing approximately 262 lbm of nitrogen. Tanks 1 and 2, and Tanks 3 and 4 are manifolded together and referred to as System 1 and System 2, respectively. System 1 and System 2 are operated interchangeably through two dedicated nitrogen loops with identical sets of hardware. Capability is provided for a cross-tie operation of the loops.

The nitrogen from the supply tanks are regulated to 200+/-15 psig before flowing to the 14.7 psia cabin regulator, payload, and water tanks. Nitrogen requirement for MMU recharges is taken upstream of the 200 psig regulation. The cabin pressure maintenance is provided by the O2/N2 control panel through combined operation of the 14.7 psia cabin regulator and O2/N2 control valve. The 200 psig nitrogen interfaces with 100 psig oxygen downstream of O2/N2 control valve before entering the cabin regulator as discussed in the oxygen assembly section.

B. Atmospheric Vent and Control (AVC) - The AVC provides capability to maintain cabin structural integrity under excessive positive or negative pressure gradients. It will also provide capability for rapid cabin depressurization and prelaunch checkout.

This section is further divided into the following three assemblies as shown by Figure 5:

1. Positive Relief Vent - The positive relief vent is comprised of two separate and redundant loops which provides capability to vent cabin atmosphere under high (16 psia) cabin pressure. Each loop consists of a motorized valve, and a relief valve. The motorized valves are used to isolate the assembly.

2. Negative Relief Vent - The negative relief vent is comprised of dual redundant lines with self-operating relief valves (one per loop). The relief valves will permit atmospheric air into the cabin when outside pressure rises 0.2 psia above cabin pressure.

3. Cabin Vent - The cabin vent is comprised of two identical motor driven valves which provide capability to rapidly vent and check crew cabin pressure during prelaunch operations. The vent valves are denied power after liftoff (circuit breakers are pulled) to prevent inadvertent decompression of the cabin.

3.2 Interfaces and Locations

The ARPCS hardware is primarily divided between the mid-fuselage and crew module. Figures 3, 4, and 5 show an overall representation and location of these equipment.

The ARPCS interfaces were established and studied to assess their performance impact due to failure modes. The subsystem interfaces were:

A. PRSD - The ARPCS receives cryogenic oxygen from The Power Reactant, Supply, and Distribution Subsystem at high pressure (800 to 850 psia) and low temperature (-280 F to -220 F) for general usage.

B. ATCS - The Active Thermal Control Subsystem provides heat for thermal conditioning of the cryogenic oxygen to gaseous oxygen through restrictors.

C. ECLSS - The ARPCS interfaces with the Environmental Control and Life Support Subsystem by providing oxygen/nitrogen for airlock support activities, and supply/waste water tanks pressurization.

D. Payload - Payload interfaces are accomplished through

oxygen/nitrogen ports for EMU/MMU recharges and spacelab pressurization.

E. EPS - The Electrical Power Subsystem provides bus power to drive electrical components, switches, display, and instrumentation throughout the ARPCS subsystem.

F. ARS - The gaseous oxygen and nitrogen are provided to the Atmospheric Revitalization Subsystem for circulation throughout the crew cabin.

3.3 Hierarchy

For the purpose and ease of this analysis, the ARPCS was divided into two main sections and six assemblies as shown in Figure 2.

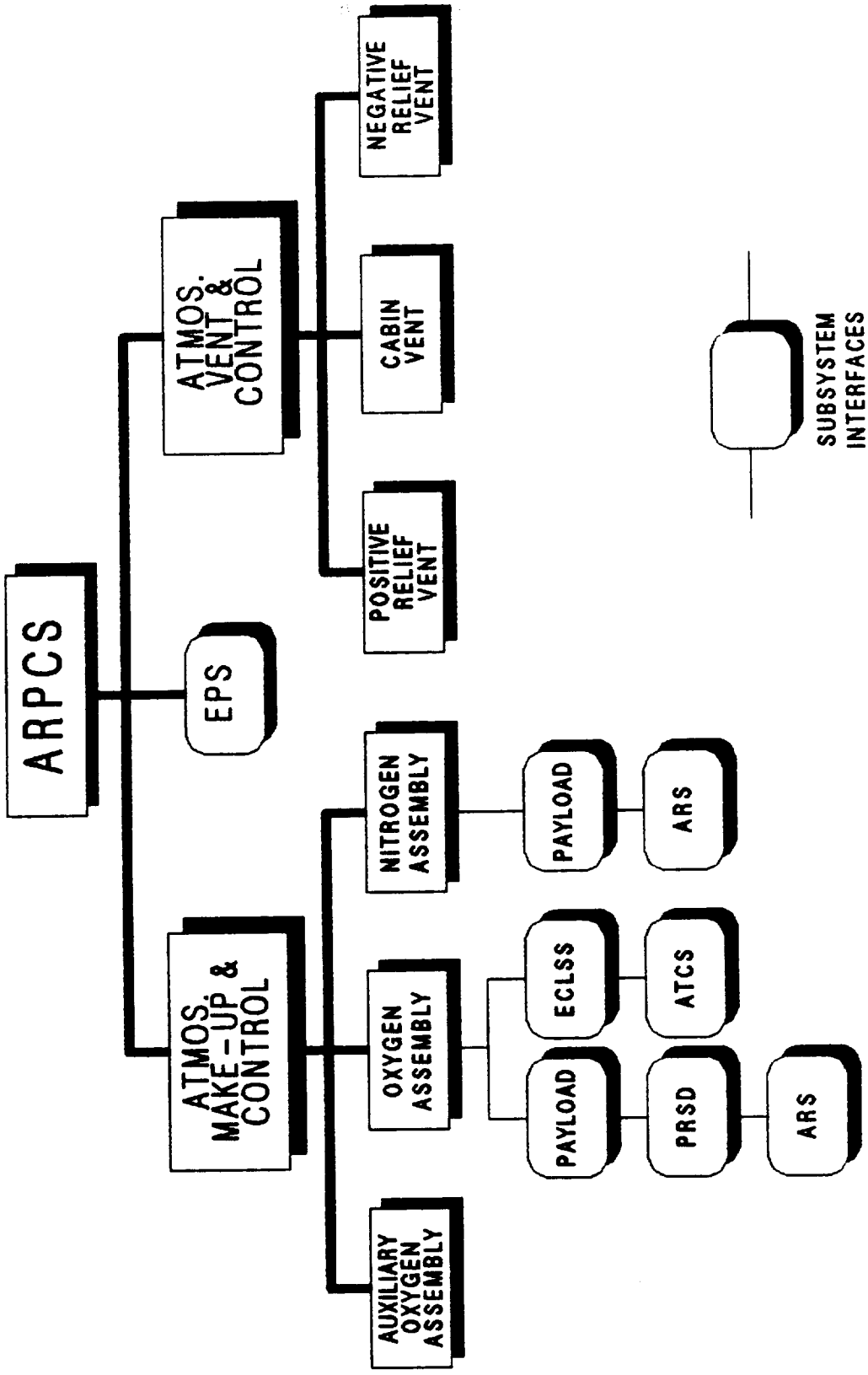


Figure 2 - ARPCS BREAKDOWN

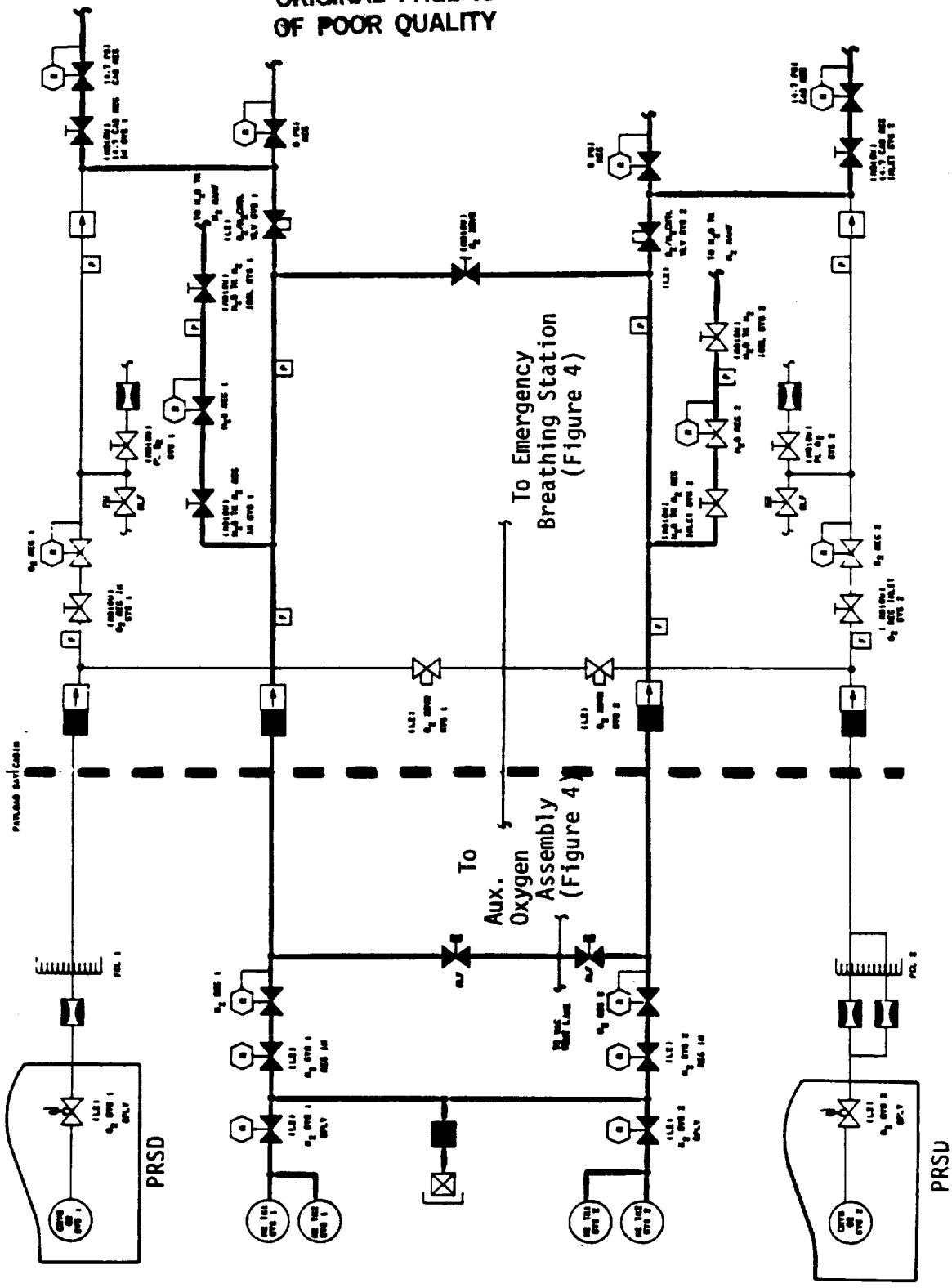


Figure 3 - ATMOSPHERIC MAKE-UP AND CONTROL

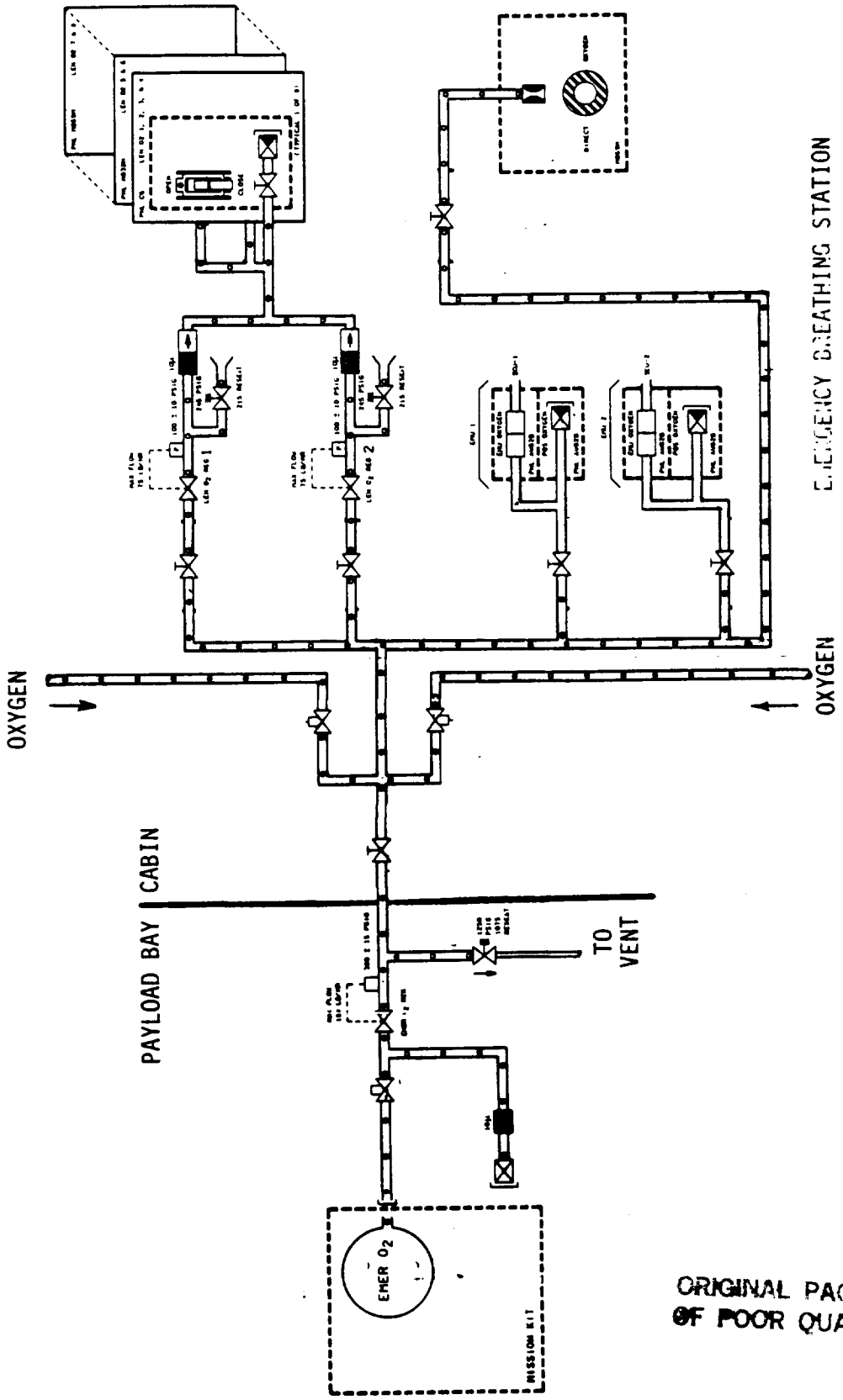


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Figure 4 - AUXILIARY OXYGEN ASSEMBLY

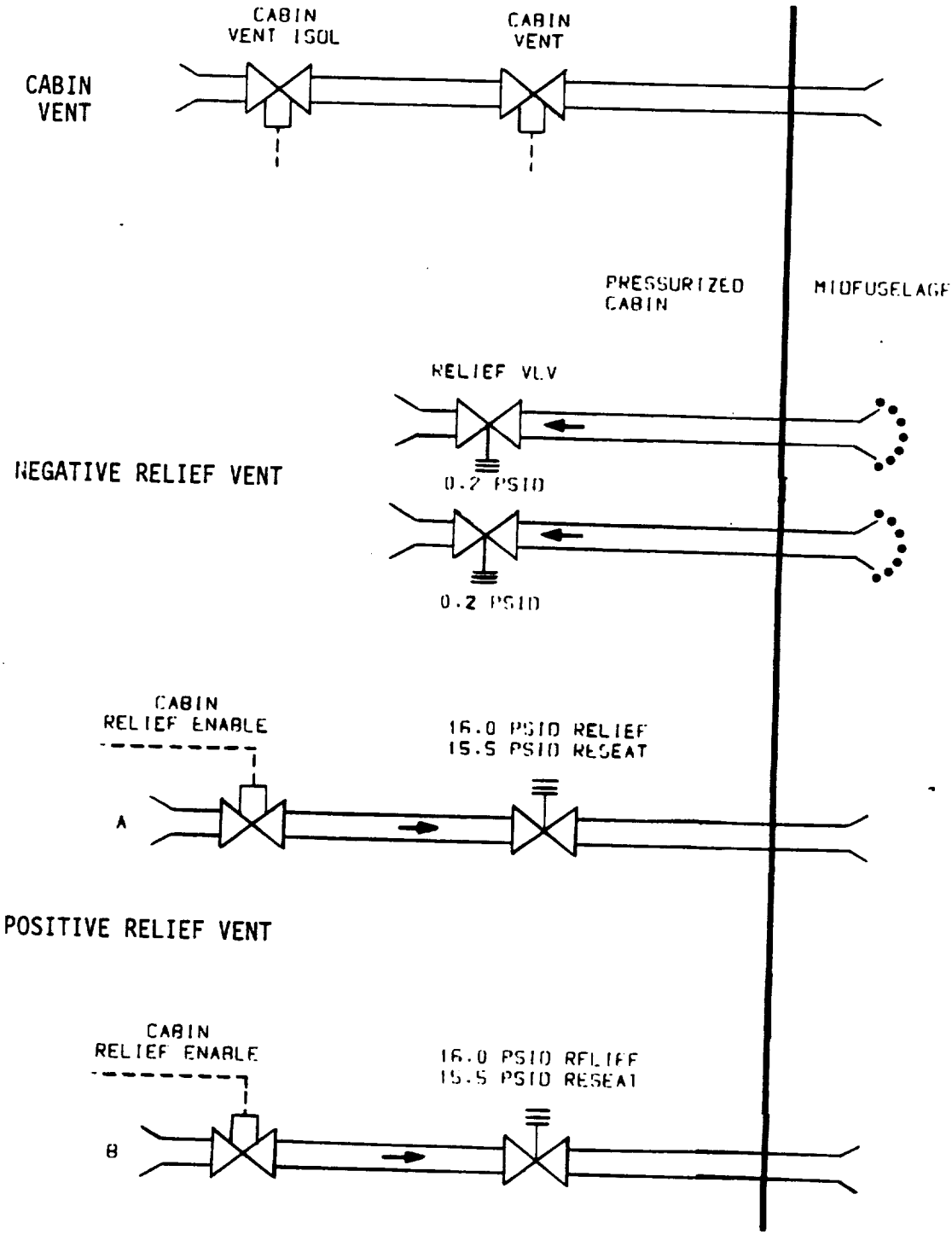

Figure 5 - ATMOSPHERIC VENT AND CONTROL

4.0 ASSESSMENT RESULTS

The IOA assessment was done based on the CCB/PRCB presentations made by Mr. John Whalen and an informal criticality summary listing provided by Mr. Chris Humphry/Boeing dated December 24, 1987. The CCB/PRCB presentations included detailed information on the CIL items which provided for a good comparison of the FMEA and IOA criticality results. For these items if a discrepancy existed, IOA made a specific recommendation either accepting the FMEA results or suggesting a change. The criticality summary listing showed only the criticality, screens, and the failure modes for each mechanical/electrical hardware item. Consequently, it was difficult to understand the rationale behind the criticalities in order to make an adequate assessment between the FMEA and the IOA results. In these cases if a discrepancy was noted, it was flagged as an issue pending receipt of more detailed data. However, due to the termination of the IOA task, this later process was not pursued and the discrepancies remain as marked issues. Also, due to limited time remaining on the task, no FMEA issue was discussed with the subsystem manager in order to resolve them.

Appendix C provides assessment data for each failure mode and respective hardware item. Significant issues noted are discussed below:

- The FMEA considered the LEH panels as emergency systems, and as such it was seen as potential for loss of life/vehicle for any failure which resulted in loss of LEH usage. IOA accepted this assumption with some reservations. First, the LEH panels do not fit into the strict definition of the emergency systems stated in the NSTS-22206 Para. 2.1.e. This definition excludes hardware (such as LEH panels) which performs a function used during any nominal mission phase or during intact abort.

  Second, there is no limitation as how broad this definition will be used throughout the ARPCS. That is, any failure of an item upstream of the LEH panels which negates the use of the LEHs is compounded by the assumption that an emergency condition exists. This approach seems to be too conservative which may result in loss of visibility into an item when studied under nominal conditions.

- The FMEA studied "cracked mounting flange" failure mode for the cabin negative relief valve (FMEA 06-1-0203-3) and the cabin positive relief valve (FMEA 06-1-0201-3). The causes are listed as material defect, mechanical shock, and vibration. IOA did not study this failure mode, and considered the failure mode and cause relationship not credible. The material defect is ruled out based on the IOA general project groundrule (Appendix B.2.4), otherwise this

failure mode should be included for all hardware items. the mechanical shock and vibration are not realistic since their magnitude must be very high and far beyond the structural integrity of the vehicle in order to cause such a failure. Also, this condition presumes a failure already in progress (vehicle undergoing severe and dangerous condition) contrary to the NSTS-22206 hardware criticality groundrules.

- FMEA studied "inability to restrict" as failure of the flow restrictor. IOA considered this failure mode and cause relationship not credible and it was therefore not studied. There was no detailed FMEA information to further investigate this failure mode.

- FMEA studied "restricted flow" for lines and fittings. IOA studied this failure mode for appropriate hardware items on the line. This was done primarily because the causes of flow restriction (contamination, corrosion) most likely will restrict flow at the hardware items (valves, screens,...etc) before the line. Second, the restricted flow of an item at a particular location on the line may yield different effects and criticalities, and hence easier to investigate.

- IOA studied electrical solenoids and motors separately from their associated valves, and did not find any reference to them in the FMEA data. However, a match of these items were made based on the FMEA results for the valve. The electrical solenoids and motors may be either covered separately or the failure modes and causes assessed for the valves should address them.

The IOA analysis of the ARPCS hardware initially generated 266 failure mode worksheets and identified 89 Potential Critical Items (PCIs) before starting the assessment process. In order to facilitate comparison, 22 additional failure mode analysis worksheets were generated. These analysis results were compared to the proposed NASA Post 51-L baseline of 262 FMEAs and 87 CIL items. Upon completion of the assessment, of the 273 total IOA failure modes 124 remained as issues to be resolved. The expansion for these issues are provided on individual assessment sheets in Appendix C.

Appendix D highlights the NASA Critical Items and corresponding IOA worksheet ID. Appendix E contains additional IOA analysis worksheets supplementing previous analysis results (Reference 10) that were used to assess the FMEA/CIL. Appendix F provides a cross reference between the NASA FMEA and corresponding IOA assessment worksheet(s).

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
Aux. oxygen	32	31	6
Oxygen	76	76	36
Nitrogen	128	128	62
Cabin Vent	6	16	13
Pos. Relief Vent	13	14	3
Neg. Relief Vent	7	8	4
TOTAL	262	273	124

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
Aux. oxygen	7	2	5
Oxygen	43	34	19
Nitrogen	17	20	18
Cabin Vent	6	3	2
Pos. Relief Vent	9	9	2
Neg. Relief Vent	5	5	2
TOTAL	87	73	48

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

TABLE III Summary of IOA Recommended Failure Criticalities							
Component	1/1	2/1R	2/2	3/1R	3/2R	3/3	TOTAL
Aux. Oxygen	1	1	-	11	-	18	31
Oxygen	9	23	-	11	14	19	76
Nitrogen	2	14	3	33	25	51	128
Cabin Vent	1	2	-	-	-	13	16
Pos. Relief	-	9	-	-	-	5	14
Neg. Relief	-	5	-	-	1	2	8
TOTAL	13	54	3	55	40	108	273

Of the failure modes analyzed, 73 were determined to be critical items distributed throughout ARPCS as shown in Table IV.

TABLE IV Summary of IOA Recommended Critical Items

Criticality:	1/1	2/1R	2/2	3/1R	3/2R	TOTAL
Aux. Oxygen	1	1	-	-	-	2
Oxygen	9	23	-	-	2	34
Nitrogen	2	14	3	1	-	20
Cabin Vent	1	2	-	-	-	3
Pos. Relief	-	9	-	-	-	9
Neg. Relief	-	5	-	-	-	5
TOTAL	13	54	3	1	2	73

A cross reference for assigning identification numbers to the IOA assessment (Appendix C) and analysis worksheets (Appendix E) is shown in Table V.

Table V IOA Worksheet Numbers

Component	IOA ID Number
Aux. Oxygen	ARPCS-101 to -136, ARPCS-1131X,-1351X
Oxygen	ARPCS-136 to -212, ARPCS-1461X,-1501X,-1621X, -1761X,-1791X & -2021X
Nitrgen	ARPCS-212 to -331, ARPCS-2121X,-2161X,-2631X, -2632X,-2661X,-2731X,-2961X,-3291X, -367X,-368X & -369X
Pos. Relief	ARPCS-331 to -346, ARPCS-3431X
Cabin Vent	ARPCS-346 to -360, ARPCS-3481X
Neg. Relief	ARPCS-360 to -366, ARPCS-3611X

5.0 REFERENCES

1. JSC-ECLSS 2102, Environmental Control and Life Support Systems Workbook, November 21, 1983.

2. JSC-19935, Environmental Systems Console Handbook, Basic Rev. A, October 15, 1985.

3. RI-MC621-0002, Atmospheric Revitalization and Pressure Control System Procurement Specification, April 27, 1982.

4. RI-VS70-960102,-96099,-960103,-960104, Integrated Systems Schematics.

5. JSC-12820, STS Operational Flight Rules, Final PCN-3, June 28, 1985.

6. JSC-V61-File III, Operations and Maintenance Requirements and Specification Document, February 06, 1986.

7. NSTS-22206, Instruction for Preparation of Failure Modes and Effects Analysis (FMEA) and Critical Items List (CIL), October 1986.

8. NASA CCB/PRCB Presentations, Atmospheric Revitalization Pressure Control Subsystem, John Whalen.

9. FMEA/CIL Summary Listing, Informal Data, Chris Humphry, December 24, 1987.

10. MDAC 1.0-TM-VA86001-30, Independent Orbiter Assessment Analysis Of The Atmospheric Revitalization Pressure Control Subsystem, M. J. Saiidi, December 5, 1986.

APPENDIX A
ACRONYMS

AOA	-	Abort Once Around
ARPCS	-	Atmospheric Revitalization and Pressure Control Subsystem
ARS	-	Air Revitalization System
ATCS	-	Active Thermal Control Subsystem
ATO	-	Abort to Orbit
BFS	-	Back-up Flight System
CIL	-	Critical Item List
CO	-	Carbon Monoxide
CO_2	-	Carbon Dioxide
CRT	-	Cathode Ray Tube
C/W	-	Caution and Warning
CRIT	-	Criticality
dc	-	Direct Current
ECLSS	-	Environmental Control and Life Support Subsystem
EMU	-	Extravehicular Mobility Unit
EPS	-	Electrical Power Subsystem
EVA	-	Extravehicular Activity
F	-	Fahrenheit
FES	-	Flash Evaporator System
FM	-	Failure Mode
FMEA	-	Failure Mode and Effect Analysis
GN_2	-	Gaseous Nitrogen
GSE	-	Ground Support Equipment
GPC	-	General Purpose Computer
H_2O	-	Water
IMU	-	Inertial Measurement Unit
IOA	-	Independent Oriber Assessment
LEH	-	Launch and Entry Helmets
LiOH	-	Lithium Hydroxide
MDAC	-	McDonnell Douglas Astronautics Company
NA	-	Not Applicable
NASA	-	National Aeronautics and Space Administration
N_2	-	Nitrogen
NSTS	-	National Space Transportation System
OMRSD	-	Operational Maintenance Requirements and Specifications Document
OPS	-	Operational Sequence
O_2	-	Oxygen
OMS	-	Orbital Maneuvering System
PCI	-	Potential Critical Items
PPO_2	-	Partial Pressure of Oxygen
psi	-	Pounds Per Square Inch
psia	-	Pounds Per Square Inch Absolute
psid	-	Pounds Per Square Inch Differential
psig	-	Pounds Per Square Inch Gage

ACRONYMS

RI	-	Rockwell International
RMS	-	Remote Manipulator System
RTLS	-	Return to Launch Site
RTLS	-	Return to Landing Site
SM	-	Systems Management
SRB	-	Solid Rocket Booster
SSME	-	Space Shuttle Main Engine
STS	-	Space Transportation System
SW	-	Software
TAL	-	Trans-Atlantic Landing
TD	-	Touch Down
WMS	-	Waste Management System

APPENDIX B

DEFINITIONS, 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.

B.3 ARPCS - Specific Ground Rules and Assumptions

The following subsystem ground rules and assumptions were considered in determining component criticalities:

1. The auxiliary oxygen assembly was assigned criticalities based upon its emergency support function not redundant to cryogenics oxygen supply.

   Rationale: The auxiliary oxygen assembly is a mission kit installed on OV102 only. Its usage is under severe cabin leak and loss of cryogenic oxygen.

2. The airlock and wet trash storage vents are considered as part of the Environmental Control and Life Support Subsystem (ECLSS) and therefore not studied in this report.

   Rationale: These subsystem interfaces were discussed and decided by the NASA subsystem manager (Mr. John Whalen) to be part of the ECLSS.

3. A single cabin regulation/distribution loop is considered adequate to maintain nominal pressure throughout the mission.

   Rationale: Flight Data File procedures have been written, and the subsystem designed to operate on one loop with the other loop in standby redundancy.

4. The oxygen and nitrogen contained within cabin volume are adequate without make-up for safe and nominal return.

   Rationale: Under nominal 3.2 psia PPO2 cabin pressure, and return duration (approximately 4 hours from deorbit prep to touchdown), there is adequate oxygen to meet crew metabolic.

5. The PASS/BFS displays are not considered redundant to an on-board meter display when studying the meter failure modes.

   Rationale: The PASS/BFS failure is considered unlikely, and if happened it shall be under multiple failure scenarios.

6. Each LEH panel is considered to be dedicated to a crew person, and as such it is not redundant to the others.

   Rationale: A crew person is not denied oxygen in order to meet the demand of others.

7. During a cabin leak condition, no oxygen flow is considered through 8/14.7 psia regulators. Oxygen is provided to the crew and cabin through LEH's and direct bleed orifice respectively.

   Rationale: Severe cabin leak and oxygen flow through regulators will deplete crogenic oxygen rapidly. Oxygen is only needed to keep the crew alive not to maintain cabin pressure.

8. Pressurization of cabin or any compartment with direct and unregulated oxygen is considered a serious fire hazard, thus creating a potential condition for loss of life/vehicle.

   Rationale: Oxygen by itself will not cause fire, but the condition created is volatile for fire.

9. Pressurization of cabin or any compartment with direct and unregulated nitrogen is considered a potential for structural failure. Furthermore, in an event when ARPCS will be depleted of consumable nitrogen, a potentially critical condition is created due to loss of capability to maintain cabin/water tanks pressure.

   Rationale: The nitrogen tanks are pressurized at approximately 3300 psia, and any enclosed compartment will be excessively pressurized with a direct leakage. The degree of pressurization, location and severity of failure are moot. The author has taken a conservative view on the subject.

10. Cabin pressure will be adequate to maintain water dump and FES (Flash Evaporator System) operations in the event of pressure loss from ARPCS.

    Rationale: Under nominal 14.7 psia cabin pressure, the FES and water dump operations will not be affected, but rather minimized. Adequate pressure exists to expel the water.

11. Nitrogen and oxygen flow sensors are considered mission critical instrumentation needed for quick leak detection and prevention.

Rationale: Loss of these instrumentation creates a condition whereby a cabin leak may not be easily and readily detected for successful completion of the mission.

12. Any voluntary cabin vent is accomplished through airlock/vent valves during on-orbit.

Rationale: Due to high cabin vent rate through the cabin vent/isolation valves, this option is not viable.

13. The prelaunch criticality was considered to be of mission impact only when that failure caused loss of life/vehicle or loss of mission any time from liftoff to landing.

Rationale: No launch was considered performed when a failure may result in loss of life/vehicle or mission after liftoff regardless of time to repair.

APPENDIX C
DETAILED ASSESSMENT

This section contains the IOA assessment worksheets generated during the assessment of this 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: 2/19/88
ASSESSMENT ID: ARPCS-101
NASA FMEA #: 06-1-0112-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 101
ITEM: PRESSURE SENSOR-V61P2166A(1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-102
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 102
ITEM: TEMPERATURE SENSOR- V61T2216A(1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA WITHDRAWS THIS ANALYSIS, SINCE THE AUXILIARY O2 TANK MISSION KIT IS NO LONGER FLOWN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-103
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 103
ITEM: AUX. 02 SUPPLY TANK (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA WITHDRAWS THIS ANALYSIS, SINCE THE AUXILIARY 02 TANK IS NO LONGER FLOWN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-104
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 104
ITEM: AUX. 02 SUPPLY TANK (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA WITHDRAWS THIS ANALYSIS, SINCE THE AUXILIARY OXYGEN TANK IS NO LONGER FLOWN AND AS A RESULT THE FAILURE MORE DOES NOT APPLY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-105
NASA FMEA #: 06-1-0102-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 105
ITEM: PRESSURE SENSOR-V61P2161A (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-106
NASA FMEA #: 06-1-0105-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 106
ITEM: SUPPLY VALVE-LV5(1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-107
NASA FMEA #: 06-1-0105-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 107
ITEM: SUPPLY VALVE-LV5(1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, SINCE THE AUXILIARY O2 TANK IS NO LONGER FLOWN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-108
NASA FMEA #: 06-1-0105-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 108
ITEM: SUPPLY VALVE-LV5(1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, SINCE THE AUXILIARY O2 TANK IS NO LONGER FLOWN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-109
NASA FMEA #: 05-6VA-2015-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 109
ITEM: POSITION INDICATION, DS8 (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, BUT STUDIED THESE ITEMS AT THEIR APPROPRIATE LOCATIONS. SEE ALSO ARPCS-238, -250, AND -334.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-110
NASA FMEA #: 05-6VA-2014-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 110
ITEM: DIODE, DS8 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA, BUT THE DIODES WERE STUDIED AT THEIR APPROPRIATE LOCATIONS, SEE ARPCS-239, 251, AND 341.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-111
NASA FMEA #: 06-1-0105-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 111
ITEM: SINGLE PHASE MOTOR/SHUTOFF VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THE ELECTRICAL MOTOR IN A SEPARATE ANALYSIS FROM THE VALVE, AND ACCEPTS FMEA RESULT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-112
NASA FMEA #: 06-1-0105-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 112
ITEM: SINGLE PHASE MOTOR/SHUTOFF VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED A SEPARATE ANALYSIS FOR THE ELECTRICAL MOTOR. HOWEVER, SINCE THE 02 TANK IS NO LONGER FLOWN, IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-113
NASA FMEA #: 05-6VA-2017-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 113
ITEM: SWITCH-S12

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-114
NASA FMEA #: 05-6VA-2017-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 114
ITEM: SWITCH-S12

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, SINCE THE AUXILIARY O2 TANK IS NO LONGER FLOWN. THE FMEA CRIT SUMMARY SHOWED A MAJOR DISCREPANCY BETWEEN THE JSC AND RI CRITS, AND IOA CHOSE THE JSC CRIT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-115
NASA FMEA #: 05-6VA-2009-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 115
ITEM: RESISTOR, A9R2, 5.1K (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ALSO SEE ARPCS-116, 244, 256, AND 340. THE RESISTORS ARE STUDIED AT APPROPRIATE LOCATIONS.
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-116
NASA FMEA #: 05-6VA-2009-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 116
ITEM: RESISTOR, A9R2, 5.1K (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ALSO SEE ARPCS-115, 244, 256, AND 340. THE RESISTORS ARE STUDIED AT APPROPRIATE LOCATIONS.
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-117
NASA FMEA #: 05-6VA-2016-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 117
ITEM: CIRCUIT BREAKER-CB16

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-118
NASA FMEA #: 05-6VA-2016-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 118
ITEM: CIRCUIT BREAKER-CB16

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-119
NASA FMEA #: 06-1-0106-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 119
ITEM: QUICK DISCONNECT/GSE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, SINCE THE AUXILIARY O2 TANK IS NO LONGER FLOWN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-120
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 120
ITEM: QUICK DISCONNECT/GSE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

THIS FAILURE MODE (INABILITY TO MAKE/DEMATE) ONLY AFFECTS PRELAUNCH SERVICING OF THE TANK. SEE ARPCS-121 FOR INTERNAL LEAKAGE. THIS PROCESS MAY BE OUTSIDE THE MISSION PHASE, AND AS SUCH IT MAY BE DELETED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-121
NASA FMEA #: 06-1-0106-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 121
ITEM: QUICK DISCONNECT/GSE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, SINCE QD AND CAP ARE STUDIED TOGETHER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-122
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 122
ITEM: FILTER, 10 MICRONS (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA WITHDRAWS THIS ANALYSIS, SINCE THE AUXILIARY OXYGEN TANK IS NO LONGER FLOWN AND AS A RESULT THE FAILURE MODE DOES NOT APPLY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-123
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 123
ITEM: FILTER, 10 MICRONS (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA WITHDRAWS THIS ANALYSIS, SINCE THE AUXILIARY OXYGEN TANK IS NO LONGER FLOWN AND AS A RESULT THE FAILURE MODE DOES NOT APPLY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-124
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 124
ITEM: CAP/GSE DISCONNECT

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA WITHDRAWS THIS ANALYSIS, SINCE THE AUXILIARY OXYGEN TANK IS NO LONGER FLOWN AND AS A RESULT THE FAILURE MODE DOES NOT APPLY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-125
NASA FMEA #: 06-1-0107-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 125
ITEM: CAP/GSE DISCONNECT

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA SINCE THE TANK IS NO LONGER FLOWN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-126
NASA FMEA #: 06-1-0109-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 126
ITEM: PRESSURE REGULATOR/300 PSIG (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-126A
NASA FMEA #: 06-1-0109-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 126
ITEM: PRESSURE REGULATOR/300 PSIG (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-127
NASA FMEA #: 06-1-0109-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 127
ITEM: PRESSURE REGULATOR/300 PSIG (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA, SINCE THE AUXILIARY O2 TANK IS NO LONGER FLOWN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-128
NASA FMEA #: 06-1-0109-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 128
ITEM: PRESSURE REGULATOR/300 PSIG (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FAILURE MODE MAY BE CLARIFIED TO REFER TO EITHER 1ST OR 2ND STAGES OF THE REGULATOR. AFTER FURTHER REVIEW AND REMOVAL OF THE AUXILIARY O2 TANK, IOA RECOMMENDS 3/1R CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-129
NASA FMEA #: 06-1-0110-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 129
ITEM: RELIEF VALVE, 1250 PSIG.

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FMEA FAILURE MODE SHOULD SPECIFY THE TYPE OF LEAKAGE. EXTERNAL LEAKAGE MAY REQUIRE A SEPARATE FMEA. SEE ARPCS-131. AFTER FURTHER REVIEW AND REMOVAL OF THE AUXILIARY O2 TANK, THE IOA CRITICALITY IS CHANGED TO 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-130
NASA FMEA #: 06-1-0110-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 130
ITEM: RELIEF VALVE, 1250 PSIG.

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-131
NASA FMEA #: 06-1-0110-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 131
ITEM: RELIEF VALVE, 1250 PSIG.

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CALLS FOR EXTERNAL LEAKAGE SEPARATELY. THIS MAY OR MAY NOT BE AS PART OF THE FMEA, SINCE IT DID NOT SPECIFY THE TYPE OF LEAKAGE. SEE ARPCS-129. AFTER REMOVAL OF THE AUXILIARY O2 TANK, THE IOA CRITICALITY IS CHANGED TO 3/1R.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-132
NASA FMEA #: 06-1-0114-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 132
ITEM: ISOLATION VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED "INABILITY TO CLOSE" AND "INTERNAL LEAKAGE" AS ONE - SEE ALSO ARPCS-132A.
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-132A
NASA FMEA #: 06-1-0114-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 132
ITEM: ISOLATION VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FMEA (INTERNAL LEAKAGE) WAS CONSIDERED SAME AS THE "INABILITY TO CLOSE" - SEE ARPCS-132 (06-1-0114-1). THE TWO FMEA CRITICALITIES SEEM TO BE ASSIGNED INCONSISTANTLY.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-133
NASA FMEA #: 06-1-0114-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 133
ITEM: ISOLATION VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, SINCE THE AUXILIARY O2 TANK IS NO LONGER FLOWN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-134
NASA FMEA #: 06-1-0114-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 134
ITEM: ISOLATION VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[ ]	[ ]	[ ]	[X] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-135
NASA FMEA #: 06-1-1509-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 135
ITEM: LINES AND FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, SINCE THE AUXILIARY O2 TANK IS NO LONGER FLOWN. THIS WILL ONLY APPLY TO THE LINES DOWNSTREAM OF THE ISOLATION VALVE. SEE ISOLATION VALVE EXTERNAL LEAKAGE ARPCS-134.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-136
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 136
ITEM: PRESSURE SENSOR-V64P0202A(1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS ITEM WAS RECLASSIFIED AND MOVED TO ANOTHER SUBSYSTEM, THEREFORE IOA WITHDRAWS ITS RELATED ANALYSIS FROM THE ARPCS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-137
NASA FMEA #: 06-1-0111-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 137
ITEM: CROSSOVER VALVE-LV3 AND LV4 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-138
NASA FMEA #: 06-1-0111-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 138
ITEM: CROSSOVER VALVE-LV3 AND LV4 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA ASSUMING THAT CABIN VOLUME IS AVAILABLE FOR A SAFE RETURN UNDER THIS ITEM FUNCTIONAL LOSS. ALSO, FOR MISSIONS WITH EVA, CAPABILITY TO REPRESS EMUs WILL BE LOST.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-139
NASA FMEA #: 06-1-0111-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 139
ITEM: CROSSOVER VALVE-LV3 AND LV4 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
A LEAKAGE DOWNSTREAM OF THE VALVE WILL FORCE BOTH VALVES TO BE SHUT DOWN CLOSED, THUS DENYING O2 TO THE EMERGENCY BREATHING STATION IF NEEDED. ALSO, FOR FUNCTIONAL CRITICALITY, THE O2 LEAK WILL INCREASE PPO2 IN CABIN POSING SERIOUS FIRE HAZARD - A POTENTIAL FOR LOSS OF LIFE/VEHICLE. OTHERWISE, CABIN VOLUME IS AVAILABLE FOR SAFE RETURN. THESE VALVES ARE NOT CLASSIFIED AS EMERGENCY SYSTEM, AND THUS IT CANNOT BE ASSUMED THAT LEHs ARE IN USE FOR THE EMERGENCY CONDITION STATED IN THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-139A
NASA FMEA #: 06-1-0111-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 139
ITEM: CROSSOVER VALVE-LV3 AND LV4 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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 [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-140
NASA FMEA #: 05-6VA-2011-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 140
ITEM: SWITCH-S15 AND S18 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-141
NASA FMEA #: 05-6VA-2011-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 141
ITEM: SWITCH-S15 AND S18 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-142
NASA FMEA #: 05-6VA-2008-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 142
ITEM: RESISTOR-A12R1 & R2/5.1K (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ALSO SEE ARPCS-304 AND 315. THE RESISTORS ARE STUDIED AT THEIR APPROPRIATE LOCATIONS.
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-143
NASA FMEA #: 05-6VA-2010-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 143
ITEM: CIRCUIT BREAKER-CB19 & CB20 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-144 BASELINE [ ]
NASA FMEA #: 05-6VA-2010-2 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 144
ITEM: CIRCUIT BREAKER-CB19 & CB20 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-145
NASA FMEA #: 06-1-0115-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 145
ITEM: FILTER-10 MICRONS (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA CONCURS WITH FMEA RESULTS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-146
NASA FMEA #: 06-1-0115-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 146
ITEM: FILTER-10 MICRONS (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-147
NASA FMEA #: 06-1-0116-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 147
ITEM: ORIFICE-(ONE 20 LBM/HR IN LOOP1, TWO 10 LBM/HR IN LOOP 2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-148 BASELINE [ ]
NASA FMEA #: 06-1-0116-1 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 148
ITEM: ORIFICE-(ONE 20 LBM/HR IN LOOP1, TWO 10 LBM/HR IN LOOP2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS COMPARISON IS DONE FOR LOOP2 ORIFICE RESTRICTED FLOW. THE FAILURE OF ONE FILTER DOES NOT RESULT IN THE LOSS OF THIS LOOP SINCE THERE ARE TWO ORIFICES - ONE HIGHER DEGREE OF REDUNDANCY THAN LOOP1. FUNCTIONAL LOSS WILL LEAVE CREW WITH CABIN VOLUME TO RETURN. SEE ALSO ARPCS-147.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-149
NASA FMEA #: 06-1-0116-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 149
ITEM: ORIFICE-(ONE 20 LBM/HR IN LOOP1, TWO 10 LBM/HR IN LOOP2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-150
NASA FMEA #: 06-1-1510-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 150
ITEM: LINES AND FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-151
NASA FMEA #: 06-1-0120-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 151
ITEM: LEH O2 SUPPLY VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE DOES NOT RESULT INTO ANY LIFE THREATENING SITUATION. IT WILL ONLY CAUSE THE LOSS OF ABILITY TO ISOLATE EMERGENCY BREATHING STATION. LEH VALVES, AND/OR O2-XOVR VALVES MAY BE USED TO ISOLATE THE STATION. OXYGEN IS STILL AVAILABLE THROUGH CABIN REGULATORS INTO THE CABIN.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-152
NASA FMEA #: 06-1-0120-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 152
ITEM: LEH O2 SUPPLY VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-153
NASA FMEA #: 06-1-0120-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 153
ITEM: LEH O2 SUPPLY VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[ ]	[ ]	[ ]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-154
NASA FMEA #: 06-1-0121-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 154
ITEM: LEH O2 REGULATOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-155
NASA FMEA #: 06-1-0121-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 155
ITEM: LEH O2 REGULATOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-156
NASA FMEA #: 06-1-0121-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 156
ITEM: LEG O2 REGULATOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-157
NASA FMEA #: 06-1-0122-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 157
ITEM: RELIEF VALVE-245 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-158
NASA FMEA #: 06-1-0122-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 158
ITEM: RELIEF VALVE-245 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITILICATY SUMMARY LIST FORM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-159
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 159
ITEM: FILTER-10 MICRONS (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE WILL RESULT IN THE SAME EFFECTS AS DESCRIBED FOR THE REGULATORS, ARPCS-155.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-160
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 160
ITEM: FILTER-10 MICRONS (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THERE IS NO EFFECT EXCEPT FOR POSSIBLE CONTAMINATION OF THE DOWNSTREAM ITEMS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-161
NASA FMEA #: 06-1-0123-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 161
ITEM: CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
THE FMEA CRITICALITY INDICATES A POSSIBLE LOSS OF LIFE/VEHICLE EXISTS WITH FUNCTIONAL LOSS. IOA CONSIDERS NO MAJOR EFFECT WITH FUNCTIONAL LOSS - CONTINUE TO OPERATE ON THE AFFECTED LEG. FMEA ALSO CONSIDERED THIS FAILURE IN COMBINATION WITH A FAILED OPEN RELIEF VALVE TO ARRIVE AT POSSIBILITY OF LOSS OF LIFE. IOA CONCLUDES THAT THIS IS A MULTIPLE FAILURE SCENARIO, AND AT WORST THE LINES WILL BE CLOSED TO STOP OXYGEN FLOW. EVEN WITH THE RELIEF VALVE FAILURE IN MIND, THE TOTAL LOSS OF REDUNDANCIES (BOTH CHECK VALVES) WILL BE ONE STEP AWAY FROM LOSS OF LIFE. THEREFORE, WITH ONLY A SINGULAR FAILURE, HARDWARE CRITICALITY IS INSIGNIFICANT AND, WITH LOSS OF FUNCTION, MISSION IS TERMINATED TO PREVENT ANY POSSIBILITY OF RELIEF VALVE FAILURE. AT WORST, IOA RECOMMEND A 3/2R CRIT.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-162
NASA FMEA #: 06-1-0123-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 162
ITEM: CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

C 2

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-163
NASA FMEA #: 06-1-1501-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 163
ITEM: LEH O2 SHUTOFF VALVE/CREW + PASSENGER (8)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
THE LEHs HAVE DEDICATED SELF-SEALING DISCONNECTS WHICH CLOSES THE O2 FLOW UPON REMOVAL OF THE LEHs. ALSO REGULATOR INLET VALVES, OR THE O2-XOVR VALVES MAY BE USED TO ISOLATE THE LINE. AT ANY RATE, THIS FAILURE WILL FLOW O2 INTO THE CABIN, AND PCS MAY BE OPERATED MANUALLY TO CONTROL O2 LEVEL, OTHERWISE NO MAJOR IMPACT. THE VALVES ARE CONSIDERED NOT REDUNDANT TO EACH OTHER. AT WORST, MANUAL OPERATION OF THE PCS MAY SIGNIFICANTLY IMPACT MISSION TIMELINE (3/2R). THE FMEA REDUNDANCY MIXES INTERNAL LEAKAGE OF THE VALVE WITH THE EXTERNAL LEAKAGE OF THE QD. THE REDUNDANCY IN THIS ANALYSIS SHOULD BE IN REGARD TO THE BLOCKAGE OF THE 02 FLOW. BLOCKAGE OF THE 02 FLOW IS LOST THRU VALVE FAILED OPEN, AND IS COMPENSATED FOR BY THE QD. SUBSEQUENT QD LOSS
WILL BE ALSO INTERNAL LEAKAGE OR FAILED OPEN WHICH WILL FLOW 02 INTO THE HELMET.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-164 BASELINE [ ]
NASA FMEA #: 06-1-1501-1 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 164
ITEM: LEH O2 SHUTOFF VALVE/CREW + PASSENGER (8)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
THIS FMEA WILL RESULT IN EFFECTS AS EXPLAINED IN 06-1-1501-3 (ARPCS-165), AND THEREFORE THE SAME CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-165
NASA FMEA #: 06-1-1501-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 165
ITEM: LEH 02 SHUTOFF VALVE/CREW + PASSENGER (8)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-166
NASA FMEA #: 06-1-1502-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 166
ITEM: QUICK DISCONNECTS (8)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
NASA FMEA'S BREAK PEAP/LEH SERVICE INTO 4 CREW COMP, 4 PASSENGER COMPARTMENT.

SAME EFFECT AS 06-1-1501-3. (ARPCS-165), AND THE SAME CRITICALITY WILL APPLY

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-167
NASA FMEA #: 06-1-1502-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 167
ITEM: QUICK DISCONNECTS (8)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[NA]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE (OPEN) WILL NOT RESULT IN LOSS OF MISSION. IF THE LEH IS IN USE, THEN THERE IS NO PROBLEM WITH THE QD TO BE OPEN, AND IF IT IS NOT IN USE, THE LEH SOV SHOULD BE CLOSED. VALVES WERE ASSUMED NON-REDUNDANT AND DEDICATED PER CREW PERSON. FUNCTIONAL LOSS WILL BE SAME EFFECT AS EXPLAINED IN ARPCS-163.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-168
NASA FMEA #: 06-1-1502-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 168
ITEM: QUICK DISCONNECTS (8)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FOR EXTERNAL LEAKAGE, THIS IS TREATED SAME AS 06-1-1501-3. (ARPCS-165) IF THE LEAKAGE IS EXCESSIVE ENOUGH WHICH DENIES 02 TO THE LEH WHEN NEEDED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-169
NASA FMEA #: 06-1-1502-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 169
ITEM: QUICK DISCONNECTS (8)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[NA]	[P]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FOR, INTERNAL LEAKAGE, TREATED SAME AS 06-1-1501-2 (ARPCS-163). THAT IS NO SIGNIFICANT PROBLEM UNDER A SINGULAR FAILURE, AND FUNCTIONAL LOSS WILL AFFECT PCS OPERATION AS EXPLAINED FOR ARPCS-163.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-170
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 170
ITEM: LEH #5, BLEED ORIFICE

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[3 /3]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA WITHDRAWS THIS FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-171
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 171
ITEM: LEH #5, BLEED ORIFICE

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA WITHDRAWS THIS FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-172
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 172
ITEM: LEH #5, BLEED ORIFICE

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA WITHDRAWS THIS FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-173
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 173
ITEM: CAP/LEH Q.DSCNT (8)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA WITHDRAWS THIS FAILURE MODE - QD & CAPS ARE ANALYZED TOGETHER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-174
NASA FMEA #: 06-1-1512-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 174
ITEM: SHUTOFF VALVE/DIRECT OXYGEN (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: ARPCS-174A
NASA FMEA #: 06-1-1512-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 174
ITEM: SHUTOFF VALVE/DIRECT OXYGEN (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
JUDGING FROM JUST A SUMMARY FMEA DATA PROVIDED, IOA DID NOT DIFFERENTIATE THE EFFECT OF THIS FAILURE MODE FROM 06-1-1512-2 (ARPCS-174).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-175
NASA FMEA #: 06-1-1512-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 175
ITEM: SHUTOFF VALVE/DIRECT OXYGEN (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-176
NASA FMEA #: 06-1-1511-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 176
ITEM: ORIFICE-DIRECT BLEED (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-177
NASA FMEA #: 06-1-0118-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 177
ITEM: FILTER/CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-178
NASA FMEA #: 06-1-0118-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 178
ITEM: FILTER/CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICAL SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-179
NASA FMEA #: 06-1-0118-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 179
ITEM: FILTER/CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-180
NASA FMEA #: 06-1-0119-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 180
ITEM: FLOW SENSOR MT11&MT12 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-181
NASA FMEA #: 05-6VA-2004-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 181
ITEM: SWITCH-O2 FLOW,S5 (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-182
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 182
ITEM: C&W-O2/N2 FLOW (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-183
NASA FMEA #: 06-1-0129-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 183
ITEM: PRESSURE SENSOR, REGULATOR INLET - MT3 & MT4

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-184
NASA FMEA #: 06-1-0125-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 184
ITEM: REGULATOR INLET SOV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-185
NASA FMEA #: 06-1-0125-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 185
ITEM: REGULATOR INLET SOV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-186
NASA FMEA #: 06-1-0125-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 186
ITEM: REGULATOR INLET SOV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-187
NASA FMEA #: 06-1-0126-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 187
ITEM: REGULATOR - 100 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-188
NASA FMEA #: 06-1-0126-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 188
ITEM: REGULATOR - 100 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-189
NASA FMEA #: 06-1-0126-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 189
ITEM: REGULATOR - 100 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA. THE LEAK MAY BE ISOLATED BY THE REGULATOR INLET SOV, AND STILL PROVIDE 02 TO THE EMERGENCY BREATHING STATION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-190
NASA FMEA #: 06-1-0127-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 190
ITEM: RELIEF VALVE, 245 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-191
NASA FMEA #: 06-1-0127-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 191
ITEM: RELIEF VALVE, 245 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-192
NASA FMEA #: 06-1-0132-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 192
ITEM: PRESSURE SENSOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-193
NASA FMEA #: 06-1-0135-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 193
ITEM: CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
SEE ARPCS-366 FOR THE FAILURE WITH SPACELAB.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-194
NASA FMEA #: 06-1-0135-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 194
ITEM: CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-195
NASA FMEA #: 06-1-0135-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 195
ITEM: CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-196
NASA FMEA #: 06-1-0191-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 196
ITEM: LINES & FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-197
NASA FMEA #: 06-1-0134-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 197
ITEM: SHUTOFF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA IS FOR WHEN THE SAPCELAB IS NOT FLOWN. THE FMEA SHOULD BE WRITTEN TO DIFFERENTIATE BETWEEN SPACELAB FLOWN AND NOT FLOW CONDITIONS-SEE ARPCS-198.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIE ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-198
NASA FMEA #: 06-1-0134-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 198
ITEM: SHUTOFF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[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:
IOA CONSIDERED THIS FAILURE FOR SPACELAB MISSIONS. IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-199
NASA FMEA #: 06-1-0134-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 199
ITEM: SHUTOFF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THE CONDITION WITHOUT SPACELAB. FMEA SHOULD BE WRITTEN TO DIFFERENTIATE CONDITIONS WITH AND WITHOUT PAYLOAD. SEE ALSO ARPCS-200.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIE ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-200
NASA FMEA #: 06-1-0134-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 200
ITEM: SHUTOFF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA IF SPACELAB (PAYLOAD) FLOWN WHICH REQUIRES THE VALVE TO BE OPEN - SEE ALSO ARPCS-199.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-201
NASA FMEA #: 06-1-0134-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 201
ITEM: SHUTOFF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-202
NASA FMEA #: 06-1-0138-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 202
ITEM: ORIFICE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-203
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 203
ITEM: ORIFICE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
AN FMEA MATCH WAS NOT FOUND FOR THIS ITEM.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-204
NASA FMEA #: 06-1-0136-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 204
ITEM: PRESSURE SENSOR, MT7 & MT8 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-205
NASA FMEA #: 06-1-0139-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 205
ITEM: 14.7 PSI REG INLET SOV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-206
NASA FMEA #: 06-1-0139-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 206
ITEM: 14.7 PSI REG INLET SOV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-207
NASA FMEA #: 06-1-0139-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 207
ITEM: 14.7 PSI REG INLET SOV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-208
NASA FMEA #: 06-1-0140-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 208
ITEM: 14.7 PSI REGULATOR

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-209
NASA FMEA #: 06-1-0140-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 209
ITEM: 14.7 PSI REGULATOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-210
NASA FMEA #: 06-1-0141-2A

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 210
ITEM: 8 PSI REGULATOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-210A
NASA FMEA #: 06-1-0141-2B

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 210
ITEM: 8 PSI REGULATOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-211
NASA FMEA #: 06-1-0141-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 211
ITEM: 8 PSI REGULATOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH THE FMEA. HOWEVER, UNDER NOMINAL CIRCUMSTANCES THIS FAILURE WILL HAVE NO EFFECT AND CANNOT BE DETECTED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-212
NASA FMEA #: 06-1-0161-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 212
ITEM: N2 TANKS (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 510L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-212A
NASA FMEA #: 06-1-0161-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 212
ITEM: N2 TANKS (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-213
NASA FMEA #: 06-1-0164-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 213
ITEM: TEMPERATURE SENSOR (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-214
NASA FMEA #: 06-1-0191-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 214
ITEM: LINES & FITTINGS - TP27 & TP28

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED N2 LINES FROM THE SUPPLY TANKS TO THE SUPPLY VALVES. THIS LEAK CAN NOT BE STOPPED, AND MAY RESULT IN STRUCTURAL DAMAGE DUE TO OVERPRESSURIZATION OF THE COMPARTMENT AREA. SEE ALSO ARPCS-196 AND 329.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 510L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-215
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 215
ITEM: GSE QUICK DISCONNECT (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA WITHDRAWS THIS FAILURE MODE - OUTSIDE MISSION PHASE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-216
NASA FMEA #: 06-1-0166-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 216
ITEM: GSE QUICK DISCONNECT (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
AFTER FURTHER REVIEW, IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-217
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 217
ITEM: GSE CAP (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA WITHDRAWS THIS FAILURE MODE - OUTSIDE MISSION PHASE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-218
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 218
ITEM: GSE CAP (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITHDRAWS THIS ANALYSIS. THE ITEM IS ANALYZED WITH THE RELATED PD AS PART OF 06-1-0166-4 (ARPCS-2161X).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-219
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 219
ITEM: GSE FILTER (1)-10 MICRONS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS ITEM WAS RECLASSIFIED AND MOVED TO ANOTHER SUBSYSTEM.
THEREFORE IOA WITHDRAWS ITS RELATED ANALYSIS FROM THE ARPCS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-220
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 220
ITEM: GSE FILTER (1)-10 MICRONS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS ITEM WAS RECLASSIFIED AND MOVED TO ANOTHER SUBSYSTEM.
THEREFORE IOA WITHDRAWS ITS RELATED ANALYSIS FROM THE ARPCS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-221
NASA FMEA #: 06-1-0162-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 221
ITEM: PRESSURE SENSOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-222
NASA FMEA #: 06-1-0230-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 222
ITEM: ISOLATION VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-223
NASA FMEA #: 06-1-0230-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 223
ITEM: ISOLATION VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-223A
NASA FMEA #: 06-1-0230-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 223
ITEM: ISOLATION VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[P]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA EXPLANATION, HOWEVER, DISAGREES ON THE ASSIGNMENT OF CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-224
NASA FMEA #: 06-1-0230-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 224
ITEM: ISOLATION VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-225
NASA FMEA #: 05-6Y-2151-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 225
ITEM: POSITION INDICATION, DS8&DS9 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-226
NASA FMEA #: 05-6Y-2152-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 226
ITEM: DIODE, DS8&DS9 (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-227
NASA FMEA #: 05-6Y-203000-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 227
ITEM: RESISTOR, DS8&S9,5.1K (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.
THIS FMEA SHOULD BE BROKEN INTO APPROPRIATE ITEMS AND THEIR FAILURE MODES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-227A
NASA FMEA #: 05-6Y-203000-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 227
ITEM: RESISTOR, DS8&S9,5.1K (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.
THIS FMEA SHOULD BE BROKEN INTO APPROPRIATE ITEMS AND THEIR FAILURE MODES.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-228
NASA FMEA #: 05-6Y-203000-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 228
ITEM: SWITCH-S10&S11, MMU ISOL VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-228A
NASA FMEA #: 05-6Y-203000-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 228
ITEM: SWITCH-S10&S11, MMU ISOL VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-229
NASA FMEA #: 05-6Y-203000-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 229
ITEM: SWITCH-S10&S11, MMU ISOL VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-229AASELINE [ ]
NASA FMEA #: 05-6Y-203000-2 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 229
ITEM: SWITCH-S10&S11, MMU ISOL VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-230
NASA FMEA #: 05-6Y-2002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 230
ITEM: CIRCUIT BREAKER, CB69&CB74-MMU ISOL VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-231
NASA FMEA #: 05-6Y-2002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 231
ITEM: CIRCUIT BREAKER, CB69&CB74-MMU ISOL VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-232
NASA FMEA #: 06-1-0231-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 232
ITEM: LINES & FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-233
NASA FMEA #: 06-1-0165-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 233
ITEM: N2 SYSTEM SUPPLY ISOL. VLV-LV3&LV4 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-234
NASA FMEA #: 06-1-0165-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 234
ITEM: N2 SYSTEM SUPPLY ISOL. VLV-LV3&LV4 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-235
NASA FMEA #: 06-1-0165-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 235
ITEM: N2 SYSTEM SUPPLY ISOL. VLV-LV3&LV4 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-236
NASA FMEA #: 06-1-0165-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 236
ITEM: SINGLE PHASE MOTOR/N2-SYSTEM ISOL. VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA STUDIED THE ELECTRICAL MOTOR SEPARATELY FROM THE VALVE, AND THIS COMPARISON WAS MADE BASED ON THE FMEA ANALYSIS FOR THE VALVE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-237
NASA FMEA #: 06-1-0165-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 237
ITEM: SINGLE PHASE MOTOR/N2-SYSTEM ISOL. VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA STUDIED THE ELECTRICAL MOTOR SEPARATELY FROM THE VALVE, AND THIS COMPARISON WAS MADE BASED ON THE FMEA ANALYSIS FOR THE VALVE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-238
NASA FMEA #: 05-6VA-2015-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 238
ITEM: POSITION INDICATION, DS6&DS10 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA, BUT STUDIED THESE ITEMS AT THEIR APPROPRIATE LOCATIONS-SEE ALSO ARPCS-109, 250, AND -334.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-239
NASA FMEA #: 05-6VA-2014-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 239
ITEM: DIODE, DS6&DS10 (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, BUT STUDIED THESE DIODES AT THEIR APPROPRIATE LOCATIONS-SEE ALSO ARPCS-110, -251 AND -341.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-240
NASA FMEA #: 05-6VA-2013-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 240
ITEM: SWITCH, S13&S21/N2-SYSTEM ISOL VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
THE VALVES ARE DRIVEN OPEN PRELAUNCH, AND CONTINUE TO OPERATE THE PCS WITH THE FAILED SWITCH. WITH FUNCTIONAL REDUNDANCY LOSS, ONLY TWO TANKS REMAIN FOR COMPLETION OF MISSION. THIS MAY NOT BE ADEQUATE FOR SOME MISSION WITH HIGH N2 DEMAND (EVAs). CABIN VOLUME IS AVAILABLE FOR SAFE RETURN. DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-241
NASA FMEA #: 05-6VA-2013-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 241
ITEM: SWITCH, S13&S21/N2-SYSTEM ISOL VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED SWITCH FAILURE TO CLOSE THE VALVE OR A SINGE CONTACT WHICH WOULD DRIVE VALVE CLOSED. IN THIS CASE, ONE N2 LOOP WILL BE LOST, AND ONLY ONE N2 LOOP AND CABIN VOLUME REMAIN. WITH FUNCTIONAL LOSS, CABIN VOLUME IS ADEQUATE FOR SAFE RETURN-ONE STEP AWAY FROM LOSS OF LIFE/VEHICLE IF A RAPID CABIN DECOMPRESSION WERE TO HAPPEN.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-242
NASA FMEA #: 05-6VA-2012-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 242
ITEM: CIRCUIT BREAKER CB17& CB18/N2 SUPPLY ISOL. VLV. (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
FMEA FAILURE ALSO COVERS "INADVERTENT OUTPUT, CONDUCTS PREMATURELY, SHORTS".

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-243
NASA FMEA #: 05-6VA-2012-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 243
ITEM: CIRCUIT BREAKER CB17& CB18/N2 SUPPLY ISOL. VLV. (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF POWER TO THE N2 SUPPLY VALVES, BUT THE VALVES ARE OPENED PRELAUNCH, AND WILL REMAIN OPEN THROUGHOUT MISSION. THEREFORE LOSS OF POWER WILL CAUSE LOSS OF ABILITY TO CLOSE THE LINE IF NEEDED (LEAK DOWNSTREAM). THIS SCENARIO WILL DEPLETE N2, AND MISSION WILL RETURN WITH CABIN VOLUME (3/2R)-MULTIPLE FAILURE. DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-244
NASA FMEA #: 05-6VA-2009-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 244
ITEM: RESISTOR A10R1&A17R1(5.1K)/N2-SUPPLY ISOL. VLV (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ALSO SEE ARPCS-115, 116, 256 AND 340. THE RESISTORS ARE STUDIED AT APPROPRIATE LOCATIONS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-245
NASA FMEA #: 06-1-0171-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 245
ITEM: REGULATOR INLET VALVE LV1 & LV2/ N2 SYSTEM (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-246
NASA FMEA #: 06-1-0171-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 246
ITEM: REGULATOR INLET VALVE LV1 & LV2/ N2 SYSTEM (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-247
NASA FMEA #: 06-1-0171-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 247
ITEM: REGULATOR INLET VALVE LV1 & LV2/ N2 SYSTEM (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-248
NASA FMEA #: 06-1-0171-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 248
ITEM: SINGLE PHASE MOTOR/N2 REGULATOR INLET VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THE MOTOR SEPARATELY FROM THE VALVE (ARPCS-246), BUT BASE ON THE VALVE THE FMEA MATCH IS MADE. IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-249 BASELINE [ ]
NASA FMEA #: 06-1-0171-3 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 249
ITEM: SINGLE PHASE MOTOR/N2 REGULATOR INLET VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA STUDIED THE MOTOR SEPARATELY FROM THE VALVE. THE FMEA SHOWN IS FOR THE VALVE (ARPCS-245).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-250
NASA FMEA #: 05-6VA-2015-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 250
ITEM: POSITION INDICATION, DS7 & DS11 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, BUT STUDIED THES ITEMS AT THE APPROPRIATE LOCATIONS-SEE ALSO ARPCS-109, -238, AND -334.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-251
NASA FMEA #: 05-6VA-2014-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 251
ITEM: DIODE, DS7 & DS11 (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, BUT STUDIED THESE DIODES AT THEIR APPROPRIATE LOCAITONS - SEE ALSO APRCS-110, -239, -341.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-252
NASA FMEA #: 05-6VA-2019-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 252
ITEM: SWITCH, S14 & S22/REG. INLET VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-253 BASELINE [ ]
NASA FMEA #: 05-6VA-2019-2 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 253
ITEM: SWITCH, S14 & S22/REG. INLET VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
THIS FAILURE MODE RESULTS IN THE SAME SCENARIO AS WAS DISCUSSED IN THE FMEA 06-1-0171-1 (ARPCS-246). UNDER FUNCTIONAL REDUNDANCY, CABIN VOLUME (UNLIKE REDUNDANCY) IS AVAILABLE FOR A SAFE RETURN. FOUR N2 TANKS ARE STILL AVAILABLE TO CONTINUE THE MISSION WITH ONE N2 LOOP.
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-254
NASA FMEA #: 05-6VA-2018-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 254
ITEM: CIRCUIT BREAKER CB20 & CB21/REG. INLET VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
FMEA ALSO COVERS "CONDUCTS PREMATURELY, SHORTS". IOA IS IN AGREEMENT WITH FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-255
NASA FMEA #: 05-6VA-2018-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 255
ITEM: CIRCUIT BREAKER CB20 & CB21/REG. INLET VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF POWER TO THE MOTOR DRIVEN VALVE. HOWEVER VALVE WILL REMAIN IN ITS NOMINAL OPEN POSITION PRIOR TO FAILURE. LOSS OF ABILITY TO DRIVE THE VALVE TO CLOSED POSITION AFTER A FIALURE (SUCH AS LEAK) DOWNSTREAM. FUNCTIONAL REDUNDANCY LOSS WILL LEAVE ONLY ONE N2-LOOP TO MAINTAIN NOMINAL MISSION. THIS MAY NOT BE ADEQUATE TO SUPPORT A MISSION WITH HIGH N2 DEMANDING ACTIVITIES (EVA) AND LEAVE ADEQUATE RESERVES FOR EMERGENCY DEORBIT.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-256
NASA FMEA #: 05-6VA-2009-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 256
ITEM: RESISTOR, A18R1 & A11R1 (5.1K)/REG. INLET VALVE LATCH (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ALSO SEE ARPCS-115, 116, 244, AND 340. THE RESITORS ARE STUDIED AT THEIR APPROPRIATE LOCATIONS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-257
NASA FMEA #: 06-1-0172-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 257
ITEM: NITROGEN REGULATOR VALVE (200 PSIG)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-258
NASA FMEA #: 06-1-0172-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 258
ITEM: NITROGEN REGULATOR VALVE (200 PSIG)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-259
NASA FMEA #: 06-1-0172-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 259
ITEM: NITROGEN REGULATOR VALVE (200 PSIG)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-260
NASA FMEA #: 06-1-0172-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 260
ITEM: NITROGEN REGULATOR VALVE (200 PSIG)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE AFFECTED REGULATOR CAN CONTINUE TO OPERATE WITHOUT ANY PROBLEM OR SWITCH TO THE REDUNDANT LEG. SECOND STAGE REGULATOR WILL REGULATE THE PRESSURE TO SPEC LEVEL.
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-261 BASELINE [ ]
NASA FMEA #: 06-1-0173-2 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 261
ITEM: NITROGEN RELIEF VALVE (275 PSIG) (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-262
NASA FMEA #: 06-1-0173-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 262
ITEM: NITROGEN RELIEF VALVE (275 PSIG) (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[3 /2R]	[P]	[P]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
FUNCTIONAL LOSS WILL RESULT IN LOSS OF BOTH N2 LOOPS FOR CABIN PRESSURIZATION IF THE HIGH PRESSURE LINES COULD NOT BE CONTROLLED. BUT CABIN VOLUME IS ADEQUATE FOR SAFE RETURN. HIGH N2 PRESSURE IS CONTAINED IN THE LINE(S).
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-263
NASA FMEA #: 06-1-0192-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 263
ITEM: LINES & FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-263A
NASA FMEA #: 06-1-0193-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 263
ITEM: LINES & FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-264 BASELINE [ ]
NASA FMEA #: 06-1-0174-2 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 264
ITEM: FILTER/CHECK VALVE, AFTER N2 REGULATOR VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-265
NASA FMEA #: 06-1-0174-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 265
ITEM: FILTER/CHECK VALVE AFTER N2 REGULATOR VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA. THE FAILURE IN THE STANDBY ITEM WILL NOT BE DETECTED UNTIL THAT LOOP BECOMES OPERATIONAL.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-266
NASA FMEA #: 06-1-0174-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 266
ITEM: FILTER/CHECK VALVE AFTER N2 REGULATOR VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-267
NASA FMEA #: 06-1-0180-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 267
ITEM: FLOW SENSOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-268
NASA FMEA #: 06-1-0175-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 268
ITEM: PRESSURE SENSOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-269
NASA FMEA #: 06-1-0152-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 269
ITEM: SHUTOFF VALVE (2) (PNL M010W)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-270
NASA FMEA #: 06-1-0152-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 270
ITEM: SHUTOFF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-271
NASA FMEA #: 06-1-0152-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 271
ITEM: SHUTOFF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-272
NASA FMEA #: 06-1-0158-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 272
ITEM: ORIFICE 10 LBM/HR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-273
NASA FMEA #: 06-1-0158-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 273
ITEM: ORIFICE 10 LBM/HR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-274
NASA FMEA #: 06-1-0178-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 274
ITEM: CROSSOVER VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-275
NASA FMEA #: 06-1-0178-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 275
ITEM: CROSSOVER VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-276
NASA FMEA #: 06-1-0178-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 276
ITEM: CROSSOVER VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[2 /2]	[ ]	[ ]	[ ]	[A] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
AT WORST CASE THE LEAK MAY BE FROM BOTH LOOPS IN WHICH CASE IT CAN BE ISOLATED BY CLOSING BOTH N2 SUPPLY VALVES AND RETURN ON CABIN VOLUME.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FORM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-277
NASA FMEA #: 06-1-0221-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 277
ITEM: SHUTOFF VALVE, H20 TANK REGULATOR INLET VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R] [P] [NA] [P] [ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
LOSS OF CAPABILITY TO ISOLATE N2-LINE UPSTREAM OF THE WATER TANK N2 ISOLATION VALVE. THE ENTIRE N2-LOOP COULD BE CLOSED AND WATER PRESSURIZATION SUPPLIED BY THE REDUNDANT N2-LOOP OR CABIN PRESSURE IF THERE IS A LEAK. OTHERWISE AND UNDER NOMINAL CIRCUMSTANCES THERE IS NO MAJOR IMPACT SINCE THE VALVE IS GENERALLY LEFT OPEN. SEE ALSO ARPCS-279.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYESS ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-278
NASA FMEA #: 06-1-0221-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 278
ITEM: SHUTOFF VALVE, H20 TANK REGULATOR INLET VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
CABIN VOLUME IS ALSO CONSIDERED FOR PRESSURIZING THE TANKS. BUT WITH COMPLETE FUNCTIONAL LOSS, THE FES CANNOT BE OPERATED. DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYESS ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-279
NASA FMEA #: 06-1-0221-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 279
ITEM: SHUTOFF VALVE, H20 TANK REGULATOR INLET VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA FOR EXTERNAL LEAKAGE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-280
NASA FMEA #: 06-1-0222-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 280
ITEM: REGULATOR, 15.5-17 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-281
NASA FMEA #: 06-1-0222-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 281
ITEM: REGULATOR, 15.5-17 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FORM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-282
NASA FMEA #: 06-1-0222-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 282
ITEM: REGULATOR, 15.5-17 PSIG (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-283
NASA FMEA #: 06-1-0223-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 283
ITEM: RELIEF VALVE

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-284
NASA FMEA #: 06-1-0223-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 284
ITEM: RELIEF VALVE

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [X]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-285
NASA FMEA #: 06-1-0224-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 285
ITEM: PRESSURE SENSOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-286 BASELINE [ ]
NASA FMEA #: 06-1-0227-2 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 286
ITEM: ISOLATION VALVE-REGULATOR OUTLET

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-287
NASA FMEA #: 06-1-0227-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 287
ITEM: ISOLATION VALVE-REGULATOR OUTLET

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-288
NASA FMEA #: 06-1-0227-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 288
ITEM: ISOLATION VALVE-REGULATOR OUTLET

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-289
NASA FMEA #: 06-1-0228-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 289
ITEM: H2O ALTERNATE PRESSURE VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-290
NASA FMEA #: 06-1-0228-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 290
ITEM: H2O ALTERNATE PRESSURE VALVE (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-291
NASA FMEA #: 05-6VA-2024-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 291
ITEM: SWITCH, S28 (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-292
NASA FMEA #: 05-6VA-2024-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 292
ITEM: SWITCH, S28 (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[P]	[P]	[ ] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-293
NASA FMEA #: 05-6VA-2023-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 293
ITEM: CIRCUIT BREAKER, CB15 (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-294
NASA FMEA #: 05-6VA-2023-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 294
ITEM: CIRCUIT BREAKER, CB15 (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-295
NASA FMEA #: 05-6VA-2025-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 295
ITEM: RESISTOR, A3R3,5.1K (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-296
NASA FMEA #: 06-1-0228-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 296
ITEM: FILTER

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-297
NASA FMEA #: 06-1-0149-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 297
ITEM: O2/N2 CONTROL VALVE, LV1&LV2 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[3 /1R]	[P]	[P]	[P]	[ ]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-298 BASELINE [ ]
NASA FMEA #: 06-1-0149-1 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 298
ITEM: O2/N2 CONTROL VALVE, LV1&LV2 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-299
NASA FMEA #: 06-1-0149-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 299
ITEM: O2/N2 CONTROL VALVE, LV1&LV2 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[NA]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-300
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 300
ITEM: POSITION INDICATOR/N2/O2 CONTROLLER VALVE

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-301
NASA FMEA #: 05-6VA-2002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 301
ITEM: SWITCH, S16&S19/O2/N2 CONTROLLER VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA BASED ON EXPLANATION GIVE IN ARPCS-317. HOWEVER, THE SWITCH FAILURE TO TRANSFER NEEDS TO BE DIVIDED INTO TWO FAILURE MODES DEPENDING ON THE POSITION OF SWITCH PRIOR TO THE FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-301A
NASA FMEA #: 05-6VA-2002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 301
ITEM: SWITCH, S16&S19/O2/N2 CONTROLLER VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONCURS WITH FMEA BASED ON EXPLANATION GIVEN FOR ARPCS-317. HOWEVER, IOA RECOMMENDS THIS FMEA TO BE DIVIDED INTO TWO SEPARATE FAILURE MODES: "INADVERTENTLY OPENS", AND "INADVERTENTLY CLOSES". THESE TWO MODES WILL RESULT IN TWO DIFFERENT CORRECTING ACTIONS, EVEN IF THE CRITS ARE THE SAME.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-302
NASA FMEA #: 05-6VA-2002-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 302
ITEM: SWITCH, S16&S19/O2/N2 CONTROLLER VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA CONCURS WITH FMEA, BUT RECOMMENDS THAT 05-6VA-2002-1 BE BROKEN INTO TWO FAILURE MODES SINCE "FAILS TO OPEN" AND "FAILS TO CLOSE" RESULT IN TWO SEPARATE EFFECTS AND CORRECTING ACTION EVEN IF CRITS ARE THE SAME.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-302A
NASA FMEA #: 05-6VA-2002-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 302
ITEM: SWITCH, S16&S19/O2/N2 CONTROLLER VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA CONCURS WITH FMEA, BUT RECOMMENDS THAT 05-6VA-2002-1 BE BROKEN INTO TWO FAILURE MODES SINCE "FAILS TO OPEN" AND "FAILS TO CLOSE" RESULT IN TWO SEPARATE EFFECTS AND CORRECTING ACTION EVEN IF CRITS ARE THE SAME.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-303
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 303
ITEM: SWITCH, S16&S19/O2/N2 CONTROLLER VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-304 BASELINE [ ]
NASA FMEA #: 05-6VA-2008-1 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 304
ITEM: RESISTOR, 5.1K/O2/N2 VALVE SWITCH (5)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
ALSO SEE ARPCS-142 AND 315. THESE RESISTORS ARE APPLIED AT APPROPRIATE LOCATION.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-305
NASA FMEA #: 05-6VA-2003-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 305
ITEM: SWITCH S17/PPO2 SENSOR A&B (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-306
NASA FMEA #: 05-6VA-2003-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 306
ITEM: SWITCH S17/PPO2 SENSOR A&B (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-307
NASA FMEA #: 06-1-0147-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 307
ITEM: O2/N2 CONTROLLER (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-308
NASA FMEA #: 06-1-0147-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 308
ITEM: O2/N2 CONTROLLER (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THERE IS A POSSIBILITY OF HIGHTER PPO2 IN THE CABIN FOR FUNCTIONAL REDUNDANCY LOSS. THIS FAILURE WILL CLOSE O2/N2 VALVE ALLOWING ONLY O2 TO FLOW INTO THE CABIN RESULTING EVENTUALLY IN O2 RICH CABIN-FIRE HAZARD.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMEN TOF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-309
NASA FMEA #: 06-1-0147-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 309
ITEM: O2/N2 CONTROLLER (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREE WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-310
NASA FMEA #: 06-1-0146-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 310
ITEM: PPO2 SENSORS A+B (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA EFFECTS WITH THE POSSIBILITY OF O2 RICH CABIN RESULTING FROM O2/N2 VALVE TO GO CLOSED ALLOWING ONLY O2 TO FLOW.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-311
NASA FMEA #: 06-1-0146-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 311
ITEM: PPO2 SENSORS A+B (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMEN TOF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-312
NASA FMEA #: 06-1-0146-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 312
ITEM: PPO2 SENSOR-C (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED A SEPARATE ANALYSIS ON PPO2-C SENSOR SINCE IT IS NOT USED FOR O2/N2 CONTROLLER OPERATION. ITS CRITICALITY WAS ASSIGNED BASED ON ITS VOTING CAPABILITY AND AFTER PPO2-A AND B ARE NO LONGER OPERATIONAL.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF HTIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-313
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 313
ITEM: SWITCH, PPO2 CONTROLLER (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-314
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 314
ITEM: SWITCH, PPO2 CONTROLLER (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-315
NASA FMEA #: 05-6VA-2008-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 315
ITEM: RESISTORS/10K (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
ALSO SEE ARPCS-304 AND 142. THESE RESISTORS ARE CONSIDERED AT THEIR APPROPRIATE LOCATIONS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-316 BASELINE [ ]
NASA FMEA #: 05-6VA-2001-2 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 316
ITEM: CIRCUIT BREAKER, CB18&CB19 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-317
NASA FMEA #: 05-6VA-2001-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 317
ITEM: CIRCUIT BREAKER, CB18&CB19 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA CONCURS WITH FMEA CRITICALITY CONSIDERING THAT CABIN VOLUME IS ADEQUATE FOR RETURN. HOWEVER, IT BECOMES JUDGMENTAL/SUBJECTIVE DECISION TO CONTINUE THE MISSION AFTER THE FIRST FAILURE KNOWING THAT THE SECOND FAILURE MAY RESULT IN LOSS OF LIFE/VEHICLE. ON THE OTHER HAND, IF THE MISSION MOVES INTO A PRIORITY FLIGHT AFTER THE FIRST FAILURE, THEN THAT WOULD BE CONSIDERED A MISSION IMPACT AND IOA CRITICALITY WOULD STAND - COULD NOT MAKE SUCH JUDGEMENTS/DECISIONS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-318 BASELINE [ ]
NASA FMEA #: 05-6VA-2005-1 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 318
ITEM: SWITCH, S6/PPO2 SELECTOR (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-319
NASA FMEA #: 05-6VA-2006-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 319
ITEM: METER, M4/PPO2 READING (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-320
NASA FMEA #: 05-6VA-2004-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 320
ITEM: SWITCH, S5/O2/N2 FLOW SELECTOR (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-321 BASELINE [ ]
NASA FMEA #: 05-6VA-2007-1 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 321
ITEM: METER, M3/O2/N2 FLOW READING (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-322
NASA FMEA #: 06-1-0214-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 322
ITEM: CABIN PRESSURE SENSOR (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THAT THE LOSS CAN BE MET BY MONITORING CABIN DP/DT, AIRLOCK DP SENSOR, OR O2/N2 FLOW RATE SENSORS. HOWEVER, WITHOUT SUCH REDUNDANT INSTRUMENTATION THE CREW WILL NOT BE ABLE TO ASSESS THE CABIN PRESSURE INTEGRITY. THIS FUNCTIONAL LOSS WAS FELT TO BE SERIOUS TO WARRANT AN ABORT DECISION.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-323
NASA FMEA #: 05-6VA-2027-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 323
ITEM: METER, M4/CABIN PRESSURE READING (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-324
NASA FMEA #: 06-1-0211-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 324
ITEM: CABIN DP/DT SENSOR (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE IOA CONSIDERED THAT THE LOSS CAN BE MET BY CABIN PRESSURE SENSOR, AIRLOCK DP SENSOR, OR HIGH O2/N2 FLOW RATES. HOWEVER, WITHOUT SUCH REDUNDANT INSTRUMENTATION, THE CREW COULD NOT EVALUATE THE CABIN PRESSURE STATUS AND A CABIN LEAK. THIS IS FELT TO BE A RISKY SITUATION REQUIRING IMMEDIATE ACTION POSSIBLY LEADING TO AN ABORT DECISION.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-325
NASA FMEA #: 05-6VA-2026-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 325
ITEM: METER, M3/DP/DT READING (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-325A
NASA FMEA #: 05-6VA-2026-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 325
ITEM: METER, M3/DP/DT READING (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/NA]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE FMEA CRITICALITY ANALYSIS WAS NOT DONE AND SHOWN TBD.
THEREFORE, IOA COULD NOT MAKE A JUDGMENT AT THIS TIME.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-326
NASA FMEA #: 05-6VA-2022-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 326
ITEM: CIRCUIT BREAKER, CB16/DP/DT (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-327
NASA FMEA #: 05-6VA-2022-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 327
ITEM: CIRCUIT BREAKER, CB16/DP/DT (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[2 /2]	[ ]	[ ]	[ ]	[X]
COMPARE	[/N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-328
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 328
ITEM: KLAXON/DP/DT (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-329
NASA FMEA #: 06-1-0191-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 329
ITEM: LINES & FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA CONSIDERED N2 LINES FROM THE SUPPLY REGULATORS TO THE CABIN REGULATORS. WITH FUNCTIONAL LOSS, CABIN VOLUME IS AVAILABLE FOR SAFE RETURN. HOWEVER, IF LEAK OCCURS AT THE COMMON O2/N2 MANIFOLD, IT WILL ALSO RESULT IN O2 LEAK - FIRE HAZARD AND LOSS OF ONE O2/N2 REGULATION. SEE ARPCS-196 & -214.
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-330
NASA FMEA #: 06-1-0201-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 330
ITEM: ISOLATION VALVE/MOTOR DRIVEN (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THE BUTTERFLY ISOLATION VALVE FAILURE SEPARATELY FROM THE RELIEF VALVE FAILURE. SEE ARPCS-342. IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-331 BASELINE [ ]
NASA FMEA #: 06-1-0201-1 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 331
ITEM: ISOLATION VALVE/MOTOR DRIVEN (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-332
NASA FMEA #: 06-1-0201-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 332
ITEM: MOTOR/ISOLATION VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THE ELECTRICAL MOTOR SEPARATELY FROM THE VALVE. (ARPCS-330), BUT THE MATCHING IS DONE BASED ON THE FMEA FOR THE VALVE. IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-333
NASA FMEA #: 06-1-0201-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 333
ITEM: MOTOR/ISOLATION VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[3 /3]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[ ]	[N]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THE ELECTRICAL MOTOR SEPARATELY FROM THE VALVE.
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-334
NASA FMEA #: 05-6VA-2015-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 334
ITEM: POSITION INDICATION, DS1, DS2 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA, BUT STUDIED THESE ITEMS AT THEIR APPROPRIATE LOCATIONS - ARPCS-109, -238, AND -250.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-335 BASELINE [ ]
NASA FMEA #: 05-6VA-2021-1 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 335
ITEM: SWITCH, S1&S2/POSITIVE RELIEF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

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

REMARKS:
IOA CONSIDERED THIS SCENARIO TO BE SAME AS THE ARPCS-338 FOR THE SWITCH FAILURE WHICH RESULTS IN LOSS OF ABILITY TO CLOSE THE VALVE. ALSO SEE ARPCS-336. IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-336
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 336
ITEM: SWITCH, S1&S2/POSITIVE RELIEF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA WITHDRAWS THIS ANALYSIS WHICH IS MORE APPROPRIATELY COVERED BY ARPCS-337.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-337
NASA FMEA #: 05-6VA-2021-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 337
ITEM: SWITCH, S1&S2/POSITIVE RELIEF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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:
IOA AGREES WITH THE FMEA. IOA CONSIDERED SWITCH FAILURE WHICH CAUSES INADVERTENT CLOSING OF VALVE. THIS IS SAME AS ARPCS-331.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-338
NASA FMEA #: 05-6VA-2020-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 338
ITEM: CIRCUIT BREAKER, CB17&CB22 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THE VALVES ARE LEFT OPEN THROUGHOUT THE MISSION, AND WITH THIS FAILURE THEY CANNOT BE CLOSED IF NEEDED. NOMINALLY, THERE IS NO MAJOR EFFECT SINCE THE RELIEF VALVE DOWNSTREAM IS ASSUMED OPERATING NOMINALLY. HOWEVER, FUNCTIONALLY AN ABORT DECISION SHOULD BE INITIATED, BECAUSE IF THE RELIEF VALVE WERE TO FAIL OPEN, THE RESULT COULD BE CATASTROPHIC. IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-339 BASELINE [ ]
NASA FMEA #: 05-6VA-2020-2 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 339
ITEM: CIRCUIT BREAKER, CB17&CB22 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-340
NASA FMEA #: 05-6VA-2009-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 340
ITEM: RESISTOR, A1R1 & A2R1, 5.1K (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
ALSO SEE ARPCS-115, -116, -244, & -256. THE RESISTORS ARE STUDIED AT THEIR APPROPRIATE LOCATIONS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-341
NASA FMEA #: 05-6VA-2014-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 341
ITEM: DIODE, DS1 & DS2 (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[NA]	[NA]	[NA]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA, BUT STUDIED THESE DIODES AT THEIR APPROPRIATE LOCATIONS - SEE ALSO ARPCS-110, -239, & -251.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-342
NASA FMEA #: 06-1-0201-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 342
ITEM: RELIEF VALVE, 16 PSIA

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA FOR THE FAILURE IN THE RELIEF VALVE ONLY. THE BUTTERFLY MOTORIZED VALVE SHOULD BE ANALYZED SEPARATELY - SEE ARPCS-330.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-343
NASA FMEA #: 06-1-0201-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 343
ITEM: RELIEF VALVE, 16 PSIA

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-344
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 344
ITEM: FILTER (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[N /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: 2/19/88
ASSESSMENT ID: ARPCS-345
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 345
ITEM: FILTER (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-346
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 346
ITEM: FILTER (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-347
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 347
ITEM: FILTER (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-348
NASA FMEA #: 06-1-0203-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 348
ITEM: VENT VALVE, MOTORIZED (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[F]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA, EXCEPT FOR THE SCREEN REDUNDANCY C. IOA COULD NOT EXPLAIN THE FAILURE OF THIS SCREEN.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-348A
NASA FMEA #: 06-1-0203-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 348
ITEM: VENT VALVE, MOTORIZED (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
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 [X]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.
THE FMEAs 06-1-0203-1 AND -0203-2 ARE THE SAME AND MAY BE COMBINED INTO ONE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-349
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 349
ITEM: VENT VALVE, MOTORIZED (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-350
NASA FMEA #: 06-1-0203-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 350
ITEM: SINGLE PHASE MOTOR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA STUDIED THE ELECTRICAL MOTOR SEPARATELY FROM THE VALVE (ARPCS-349). DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND
IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-351
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 351
ITEM: SWITCH, S3 & S4

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-352
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 352
ITEM: SWITCH, S3 & S4

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-353
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 353
ITEM: SWITCH, S3 & S4

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-354
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 354
ITEM: SWITCH, S3 & S4

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-355
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 355
ITEM: POSITION INDICATION, DS3, DS4 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-356
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 356
ITEM: RESISTOR, A3R1, A4R1, 5.1K (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-357
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 357
ITEM: DIODE, DS3 &DS4 (4)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-358 BASELINE [ ]
NASA FMEA #: 05-6VA-200100-1 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 358
ITEM: CIRCUIT BREAKER, CB22 & CB34 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
ALSO SEE ARPCS-359. IOA CONSIDERED FAILED CLOSED AND OPEN SEPARATELY.
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-359
NASA FMEA #: 05-6VA-200100-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 359
ITEM: CIRCUIT BREAKER, CB22 & CB34 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-360
NASA FMEA #: 06-1-0206-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 360
ITEM: RELIEF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-361
NASA FMEA #: 06-1-0206-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 361
ITEM: RELIEF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[2 /1R]	[P]	[P]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-362
NASA FMEA #: 06-1-0207-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 362
ITEM: CAP (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[NA]	[P]	[X] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[/]	[ ]	[N]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA, EXCEPT FOR SCREEN B. SCREEN B WOULD FAIL, SINCE IT IS NOT READILY DETECTABLE AS WHEN THE CAP SHOULD POP. THE CAPS AND RELIEF VALVES WORK AUTOMATICALLY (WITHOUT CREW ACTION) BASED ON CABIN/ATMOSPHERE PRESSURE DIFFERENTIAL.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-363
NASA FMEA #: 06-1-0207-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 363
ITEM: CAP (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-363A
NASA FMEA #: 06-1-0207-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 363
ITEM: CAP (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[F]	[P]	[X] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA IS IN AGREEMENT WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-364
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 364
ITEM: DEBRIS SCREEN (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[2 /1R]	[P]	[F]	[P]	[X]
COMPARE	[N /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: 2/19/88
ASSESSMENT ID: ARPCS-365
NASA FMEA #:

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 365
ITEM: DEBRIS SCREEN (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[/]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-366
NASA FMEA #: 06-1-0135-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 366
ITEM: CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[3 /2R]	[P]	[P]	[P]	[ ]
COMPARE	[/N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FORM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.
SEE ALSO ARPCS-193.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-367X
NASA FMEA #: 06-1-0229-1

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 367
ITEM: QUICK DISCONNECT

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERS LOSS OF THE RADIATOR OR AMMONIA BOILER SYSTEMS UNASSOCIATED WITH THE LOSS OF QD/CAP. FUNCTIONAL LOSS OF QD/CAP MAY ONLY NEGATE THE FES OPERATION AND THIS IS POTENTIAL FOR MISSION LOSS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-368X
NASA FMEA #: 06-1-0229-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 368
ITEM: QUICK DISCONNECT

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

[3 /2R]	[F]	[F]	[P]	[X] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERS LOSS OF THE RADIATOR OR AMMONIA BOILER SYSTEMS UNASSOCIATED WITH THE LOSS OF QD/CAP. FUNCTIONAL LOSS OF QD/CAP MAY ONLY NEGATE THE FES OPERATION AND THIS IS POTENTIAL FOR MISSION LOSS. FURTHERMORE, THIS FMEA IS IDENTICAL TO THE 06-1-0229-1 (ARPCS-367X) AND THEY BE COMBINED INTO ONE ANALYSIS.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-369X
NASA FMEA #: 05-6U-2027-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 369
ITEM: SWITCH - LOOP 1 (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[ ]	[ ]	[ ]	[ ] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
BASED ON LIMITED DATA PROVIDED, IOA COULD NOT IDENTIFY THIS ITEM IN ORDER TO MAKE AN ADEQUATE ASSESSMENT OF ITS FAILURE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-1131X
NASA FMEA #: 05-6VA-2017-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 1131
ITEM: SWITCH-S12

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
DUE TO LIMITED FMEA DATA (ONLY A CRITICALITY SUMMARY LIST FROM POST 51-L ANALYSIS) RECEIVED, NO DETAIL ASSESSMENT OF THIS ITEM WAS ATTEMPTED. THE DISCREPANCY BETWEEN NASA FMEA AND IOA ANALYSES ARE MARKED AS AN ISSUE UNTIL RESOLVED WITH THE SUBSYSTEM MANAGER.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-1351X
NASA FMEA #: 06-1-1509-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 1351
ITEM: LINES AND FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/NA]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THIS FAILURE MODE (RESTRICTED FLOW) NOT CREDIBLE, THEREFORE IT WAS NOT STUDIED. IOA RECOMMENDS DELETING THIS FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-1461X
NASA FMEA #: 06-1-0115-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 1461
ITEM: FILTER, 10 MICRON (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED EXTERNAL LEAKAGE OF THE FILTER UNDER THE LINES AND FITTINGS ANALYSIS. THE EXTERNAL LEAKAGE FOR THE FILTER ALONE IS NOT CREDIBLE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-1501X
NASA FMEA #: 06-1-1510-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 1501
ITEM: LINES AND FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[ ]	[ ]	[ ]	[X] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THIS FAILURE MODE (RESTRICTED FLOW) NOT CREDIBLE, THEREFORE IT WAS NOT STUDIED. THE FAILURE MODE AND CAUSE RELATIONSHIP DOES NOT LEND ITSELF TO BE REALISTIC UNDER NOMINAL CIRCUMSTANCES. CORROSION IS NOT ACCEPTABLE CAUSE SINCE ALL MATERIALS ARE STAINLESS STEEL AND NON-CORROSIVE. CONTAMINATION IS RULED OUT, SINCE FILTERS PROVIDED IN THE LINE FOR THAT PURPOSE; THE RESTRICTED FLOW IS COVERED FOR THE FILTERS. ALSO, THE DEFORMED LINE PRESUMES CREW/WORKERS ERROR IN HANDLING THE MATERIAL, AND THIS IS RULED OUT BY NSTS-22206. IOA SUGGESTS THIS FAILURE TO BE MORE APPROPRIATE FOR FILTERS, OR VALVE (FAILED CLOSED).

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-1621X
NASA FMEA #: 06-1-0123-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 1621
ITEM: CHECK VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-1761X BASELINE [ ]
NASA FMEA #: 06-1-1511-2 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 1761
ITEM: ORIFICE, DIRECT BLEED (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
THIS FAILURE MODE (UNABLE TO RESTRICT - EXTERNAL LEAKAGE) IS NOT CREDIBLE AND THEREFORE IT WAS NOT STUDIED..

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-1791X
NASA FMEA #: 06-1-0118-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 1791
ITEM: FILTER/CHECK VALVE

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA, BUT RECOGNIZING THAT THIS FAILURE ON THE OPERATING LOOP MAY NOT BE DETECTED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-2021X
NASA FMEA #: 06-1-0138-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 2021
ITEM: FLOW RESTRICTOR, SPACE LAB OXYGEN

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THIS FAILURE MODE (INABILITY TO RESTRICT) NOT CREDIBLE, THEREFORE IT WAS NOT STUDIED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-2121X
NASA FMEA #: 06-1-0161-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 2121
ITEM: NITROGEN TANK ASSY.

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA DID NOT CONSIDER THIS FAILURE MODE (RESTRICTED FLOW) TO BE CREDIBLE, THEREFORE IT WAS NOT STUDIED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88 NASA DATA:
ASSESSMENT ID: ARPCS-2161X BASELINE [ ]
NASA FMEA #: 06-1-0166-4 NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 2161
ITEM: GSE QUICK DISCONNECT (1)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-2631X
NASA FMEA #: 06-1-0191-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 2631
ITEM: LINES AND FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /1R]	[P]	[P]	[P]	[ ] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED RESTRICTED FLOW FOR INDIVIDUAL ITEMS ON THE LINE SEPARATELY. THIS WAY THE FAILURE MODE WILL APPLY TO PARTICULAR LOCATIONS WHERE THE EFFECTS MAY VARY THUS RESULTING IN DIFFERENT CRITICALITY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-2632X
NASA FMEA #: 06-1-0193-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 2632
ITEM: LINES AND FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ANALYZED RESTRICTED FLOW MORE APPROPRIATELY WITH INDIVIDUAL HARDWARE ON THE LINE. THIS WAY THE FAILURE MODE WILL APPLIED ON PARTICULAR LOCATIONS ON THE LINE FOR WHICH THE EFFECTS MAY VARY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-2661X
NASA FMEA #: 06-1-0174-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 2661
ITEM: CHECK VALVE/FILTER

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /3]	[ ]	[ ]	[ ]	[ ] *
IOA	[3 /3]	[ ]	[ ]	[ ]	[ ]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

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

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-2731X
NASA FMEA #: 06-1-0158-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 2731
ITEM: ORIFICE, 10 LBM/HR (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[3 /2R]	[P]	[NA]	[P]	[ ] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[ ]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
THIS FAILURE MODE, INABILITY TO RESTRICT, IS NOT REASONABLE FOR A FLOW RESTRICTOR AND THEREFORE NOT CONSIDERED BY IOA. THE 06-1-0158-1 ALREADY COVERS RESTRICTED FLOW FAILURE MODE.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-2961X
NASA FMEA #: 06-1-0228-4

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 2961
ITEM: FILTER

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

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

RECOMMENDATIONS: (If different from NASA)

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

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 1/26/88
ASSESSMENT ID: ARPCS-3291X
NASA FMEA #: 06-1-0191-2

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 3291
ITEM: LINES & FITTINGS

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[2 /1R]	[P]	[P]	[P]	[X] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[N]	[N]	[N]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [ ]
INADEQUATE [ ]

REMARKS:
IOA ANALYZED RESTRICTED FLOW MORE APPROPRIATELY WITH INDIVIDUAL HARDWARE ON THE LINE. THIS WAY THE FAILURE MODE WILL APPLIED ON PARTICULAR LOCATIONS ON THE LINE FOR WHICH THE EFFECTS MAY VARY.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-3431X
NASA FMEA #: 06-1-0201-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 3431
ITEM: RELIEF VALVE, 16 PSIA

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[ ]	[ ]	[ ]	[X] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/NA]	[ ]	[ ]	[ ]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THIS FAILURE MODE (CRACKED MOUNTING FLANGE) NOT TO BE CREDIBLE AND ASSUMES THAT A HARDWARE ITEM IS BUILT ON THE DESIGN SPEC. THEREFORE MATERIAL DEFECT CANNOT BE A CAUSE. ALSO, SHOCK AND VIBRATION IF OCCURRED TO CAUSE SUCH A FAILURE, THE VEHICLE IS BELIEVED TO BE UNDERGOING A SERIOUS AND VERY DANGEROUS CONDITION. THIS IS MULTIPLE FAILURE SCENARIO, AND NOT ACCEPTABLE TO IOA. THIS FAILURE MODE IS TO BE DELETED.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-3481X
NASA FMEA #: 06-1-0203-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 3481
ITEM: VENT VALVE, MOTORIZED (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[ ]	[ ]	[ ]	[X] *
IOA	[1 /1]	[ ]	[ ]	[ ]	[X]
COMPARE	[/]	[ ]	[ ]	[ ]	[ ]
RECOMMENDATIONS: (If different from NASA)	[/]	[ ]	[ ]	[ ]	[ ] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA AGREES WITH THE FMEA.

APPENDIX C
ASSESSMENT WORKSHEET

ASSESSMENT DATE: 2/19/88
ASSESSMENT ID: ARPCS-3611X
NASA FMEA #: 06-1-0206-3

NASA DATA:
BASELINE [ ]
NEW [X]

SUBSYSTEM: ARPCS
MDAC ID: 3611
ITEM: RELIEF VALVE (2)

LEAD ANALYST: M.J. SAIIDI

ASSESSMENT:

	CRITICALITY FLIGHT HDW/FUNC	REDUNDANCY SCREENS A	B	C	CIL ITEM
NASA	[1 /1]	[ ]	[ ]	[ ]	[X] *
IOA	[/NA]	[ ]	[ ]	[ ]	[ ]
COMPARE	[N /N]	[ ]	[ ]	[ ]	[N]
RECOMMENDATIONS: (If different from NASA)					
	[/NA]	[ ]	[ ]	[ ]	[D] (ADD/DELETE)

* CIL RETENTION RATIONALE: (If applicable)

ADEQUATE [X]
INADEQUATE [ ]

REMARKS:
IOA CONSIDERED THIS FAILURE MODE (CRACKED MOUNTING FLANGE) NOT BE CREDIBLE AND ASSUMES THAT A HARDWARE ITEM IS BUILT ON THE DESIGN SPEC. THEREFORE, MATERIAL DEFECT CANNOT BE A CAUSE. ALSO, SHOCK AND VIBRATION IF OCCURRED TO CAUSE SUCH A FAILURE, THE VEHICLE IS BELIEVED TO BE UNDERGOING A SERIOUS AND VERY DANGEROUS CONDITION. THIS IS MULTIPLE FAILURE SCENARIO, AND NOT ACCEPTABLE TO IOA. THIS FAILURE MODE IS TO BE DELETED.

APPENDIX D

CRITICAL ITEMS

APPENDIX D
POTENTIAL CRITICAL ITEMS

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
06-1-0114-3	134	ISOLATION VALVE	EXTERNAL LEAKAGE
06-1-1509-1	135	LINES & FITTINGS	EXTERNAL LEAKAGE
06-1-0111-2	138	CROSSOVER VALVE	FAILED CLOSED
06-1-0111-3	139	CROSSOVER VALVE	EXTERNAL LEAKAGE
06-1-0111-4	139	CROSSOVER VALVE	EXTERNAL LEAKAGE
05-6VA-2011-2	141	SWITCH	SWITCH FAILED CLOSED
05-6VA-2010-1	143	CIRCUIT BREAKER	FAILED OPEN
06-1-0115-1	145	FILTER	RESTRICTED FLOW
06-1-0116-1	147	ORIFICE	RESTRICTED FLOW
06-1-0116-3	149	ORIFICE	EXTERNAL LEAKAGE
06-1-1510-1	150	LINES AND FITTINGS	EXTERNAL LEAKAGE
06-1-0120-1	152	LEH O2 SUPPLY VALVE	FAILED CLOSED
06-1-0120-3	153	LEH O2 SUPPLY VALVE	EXTERNAL LEAKAGE
06-1-0121-1	154	LEH O2 REGULATOR	FAILED OPEN
06-1-0121-2	155	LEH O2 REGULATOR	FAILED CLOSED
06-1-0121-3	156	LEG O2 REGULATOR	EXTERNAL LEAKAGE
06-1-0122-1	157	RELIEF VALVE	FAILED OPEN/INT LEAK
06-1-0123-2	161	CHECK VALVE	FAILED OPEN
06-1-0123-1	162	CHECK VALVE	FAILED CLOSED
06-1-1501-2	163	LEH O2 SHUTOFF VALVE	FAILED OPEN/INT LEAK
06-1-1501-1	164	LEH O2 SHUTOFF VALVE	FAILED CLOSED
06-1-1501-3	165	LEH 02 SHUTOFF VALVE	EXTERNAL LEAKAGE
06-1-1502-2	166	QUICK DISCONNECTS	INABILITY TO MATE
06-1-1502-1	168	QUICK DISCONNECTS	EXTERNAL LEAKAGE
06-1-1512-2	174	SHUTOFF VALVE/DIR O2	FAILED OPEN
06-1-1512-3	174	SHUTOFF VALVE/DIR O2	FAILED OPEN
06-1-1512-1	175	SHUTOFF VALVE/DIR O2	FAILED CLOSED
06-1-1511-1	176	ORIFICE/DIR O2	RESTRICTED FLOW
06-1-0118-1	177	FILTER/CHECK VALVE	FAILED CLOSED
06-1-0118-4	179	FILTER/CHECK VALVE	EXTERNAL LEAKAGE
06-1-0125-3	186	REGULATOR INLET SOV	EXTERNAL LEAKAGE
06-1-0191-1	196	LINES & FITTINGS	EXTERNAL LEAKAGE
06-1-0141-2A	210	8 PSI REGULATOR	FAILED OPEN
06-1-0141-2B	210	8 PSI REGULATOR	FAILED OPEN
06-1-0141-1	211	8 PSI REGULATOR	FAILED CLOSED
06-1-0161-2	212	N2 TANKS	RUPTURE, EXTERNAL LEAK
06-1-0161-1	212	N2 TANKS	RUPTURE, EXTERNAL LEAK
06-1-0191-1	214	LINES & FITTINGS	EXTERNAL LEAKAGE
06-1-0166-3	216	GSE QUICK DISCONNECT	EXTERNAL LEAKAGE
06-1-0230-3	223	ISOLATION VALVE	FAILED OPEN/INT LEAK
06-1-0230-4	224	ISOLATION VALVE	EXTERNAL LEAKAGE
06-1-0231-1	232	LINES & FITTINGS	EXTERNAL LEAKAGE
06-1-0165-1	234	N2 ISOLATION VALVE	FAILED CLOSED
06-1-0165-2	235	N2 ISOLATION VALVE	EXTERNAL LEAKAGE
06-1-0165-1	237	N2 ISOL VALVE MOTOR	INABILITY TO OPERATE

NASA FMEA	MDAC-ID	ITEM	FAILURE MODE
05-6VA-2013-2	241	SWITCH S13 & S21	FAILED CLOSED
06-1-0171-2	247	REGULATOR INLET VALVE	EXTERNAL LEAK
06-1-0192-1	263	LINES & FITTINGS	EXTERNAL LEAK
06-1-0193-1	263	LINES & FITTINGS	EXTERNAL LEAK
06-1-0152-3	271	SHUTOFF VALVE	EXTERNAL LEAKAGE
06-1-0178-3	276	CROSSOVER VALVE	EXTERNAL LEAKAGE
06-1-0146-1	312	PPO2 SENSOR C	OUT OF TOLERANCE
05-6VA-2022-1	327	CIRCUIT BREAKER	FAILED OPEN
06-1-0191-1	329	LINES & FITTINGS	EXTERNAL LEAKAGE
06-1-0201-2	330	ISOLATION VALVE	FAILED OPEN/INT LEAK
06-1-0201-1	331	ISOLATION VALVE	FAILED CLOSED
06-1-0201-2	332	MOTOR/ISOLATION VALVE	LOSS OF OUTPUT
06-1-0201-1	333	MOTOR/ISOLATION VALVE	LOSS OF OUTPUT
05-6VA-2021-1	335	SWITCH, S1&S2	FAILED ENABLED
05-6VA-2021-2	337	SWITCH, S1&S2	PREMATURELY CLOSES
05-6VA-2020-1	338	CIRCUIT BREAKER	FAILED OPEN
06-1-0201-2	342	RELIEF VALVE	FAILED OPEN/INT LEAK
06-1-0201-1	343	RELIEF VALVE	FAILED CLOSED
	344	FILTER	RESTRICTED FLOW
06-1-0203-2	348	VENT VALVE	FAILED OPEN/INT LEAK
06-1-0203-1	348	VENT VALVE	FAILED OPEN/INT LEAK
06-1-0206-2	360	RELIEF VALVE	FAILED OPEN/INT LEAK
06-1-0206-1	361	RELIEF VALVE	FAILED CLOSED
06-1-0207-1	362	CAP	INABILITY TO POP
06-1-0207-3	363	CAP	INTERNAL LEAKAGE
	364	DEBRIS SCREEN	RESTRICTED FLOW
06-1-0229-1	367	QUICK DISCONNECT	EXTERNAL LEAKAGE
06-1-0229-2	368	QUICK DISCONNECT	EXTERNAL LEAKAGE
06-1-0123-3	1621	CHECK VALVE	EXTERNAL LEAKAGE
06-1-0166-4	2161	GSE QUICK DISCONNECT	INTERNAL LEAKAGE
06-1-0203-3	3481	VENT VALVE	EXTERNAL LEAKAGE

APPENDIX E
ADDITIONAL ANALYSIS WORKSHEET

This appendix contains the IOA analysis worksheets supplementing previous results reported in STSEOS Working Paper 1.0-WP-VA86001-30, Analysis of the ARPCS dated December 5, 1986. 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.
- 3 = All others

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:
SUBSYSTEM: ARPCS
MDAC ID: 1131

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 3/3
ABORT: 3/3

ITEM: SWITCH-S12
FAILURE MODE: PREMATURE OPERATION, INADVERTENTLY CLOSES/OPENS

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) AUX. O2 ASSY. (O2 SUPPLY PANEL)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	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 [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER: ME452-0102-7205

CAUSES: SHOCK, VIBRATION

EFFECTS/RATIONALE:
NO EFFECT, SINCE THE TANK IS NO LONGER FLOWN.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 1351 ABORT: /NA

ITEM: LINES AND FITTINGS
FAILURE MODE: RESTRICTED FLOW

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) AUXILIARY O2 ASSEMBLY
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER:

CAUSES:

EFFECTS/RATIONALE:
THE RESTRICTED FLOW WAS STUDIED UNDER INDIVIDUAL ITEMS ON THE LINE.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 1461 ABORT: /NA

ITEM: FILTER, 10 MICRON (2)
FAILURE MODE: EXTERNAL LEAKAGE

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) O2 ASSEMBLY
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: MID-FUSELAGE
PART NUMBER: ME286-0061-0001

CAUSES:

EFFECTS/RATIONALE:
THE EXTERNAL LEAKAGE FOR THE FILTER ALONE WAS CONSIDERED NOT CREDIBLE AND ALREADY COVERED BY THE SAME FAILURE MODE FOR THE LINES AND FITTINGS.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE:
SUBSYSTEM: ARPCS
MDAC ID: 1501

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: /NA
ABORT: /NA

ITEM: LINES AND FITTINGS
FAILURE MODE: RESTRICTED FLOW

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) O2 ASSEMBLY
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION:
PART NUMBER:

CAUSES:

EFFECTS/RATIONALE:
THIS FAILURE MODE IS COVERED UNDER INDIVIDUAL ITEMS ON THE LINE.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE:
SUBSYSTEM: ARPCS
MDAC ID: 1621

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 1/1
ABORT: 1/1

ITEM: CHECK VALVE (2)
FAILURE MODE: EXTERNAL LEAKAGE

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) O2 ASSY.
4) EMERGENCY BREATHING
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	1/1
LIFTOFF:	1/1	TAL:	1/1
ONORBIT:	1/1	AOA:	1/1
DEORBIT:	1/1	ATO:	1/1
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER: MC250-0002

CAUSES: MECHANICAL SHOCK, VIBRATION

EFFECTS/RATIONALE:
PREVENTS O2 FLOW THROUGH THE LEH WHEN NEEDED. UNREGULATED FLOW OF O2 TO CABIN THEREBY INCREASING POTENTIAL FOR LOSS OF LIFE/VEHICLE DUE TO FIRE.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 1761 ABORT: /NA

ITEM: ORIFICE, DIRECT BLEED (1)
FAILURE MODE: UNABLE TO RESTRICT

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) O2 ASSEMBLY
4) EMERGENCY BREATHING
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER:

CAUSES: NA

EFFECTS/RATIONALE:
THIS FAILURE MODE WAS CONSIDERED NOT CREDIBLE AND THEREFORE NOT STUDIED.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: 3/3
MDAC ID: 1791 ABORT: 3/3

ITEM: FILTER/CHECK VALVE
FAILURE MODE: DAMAGED ELEMENT

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) O2 ASSY.
4) O2/N2 CONTROL PANEL
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	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 [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER: MC250-0002

CAUSES: SHOCK, VIBRATION

EFFECTS/RATIONALE:
POSSIBLE CONTAMINANTS DOWNSTREAM.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 2021 ABORT: /NA

ITEM: FLOW RESTRICTOR, SPACE LAB OXYGEN
FAILURE MODE: INABILITY TO RESTRICT

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) O2 ASSEMBLY
4) O2/N2 CONTROL PANEL - P/L INTERFACE
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER: MC250-0002

CAUSES:

EFFECTS/RATIONALE:
THIS FAILURE MODE IS CONSIDERED NOT CREDIBLE, AND THEREFORE IT WAS NOT STUDIED.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 2121 ABORT: /NA

ITEM: NITROGEN TANK ASSY.
FAILURE MODE: RESTRICTED OUTPUT

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) N2 SUPPLY TANKS
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: MID-FUSELAGE
PART NUMBER: MC282-0082-0040

CAUSES: CORROSION, CONTAMINATION

EFFECTS/RATIONALE:
IOA DID NOT CONSIDER THIS FAILURE MODE CAUSE RELATIONSHIP TO BE CREDIBLE, AND THEREFORE NOT STUDIED.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: 3/1R
MDAC ID: 2161 ABORT: 3/1R

ITEM: GSE QUICK DISCONNECT (1)
FAILURE MODE: INTERNAL LEAKAGE

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) N2 SUPPLY TANKS
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 [F] C [P]

LOCATION: MID-FUSELAGE
PART NUMBER: MC276-0010-0380

CAUSES: VIBRATION, SHOCK

EFFECTS/RATIONALE:
THE CAP WILL PREVENT N2 LEAKAGE. HOWEVER, UNDER FUNCTIONAL LOSS, IT WILL RESULT IN POTENTIAL LOSS OF LIFE/VEHICLE DUE TO LOSS OF NITROGEN TO MAINTAIN CABIN PRESSURIZATION.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 2631 ABORT: /NA

ITEM: LINES AND FITTINGS
FAILURE MODE:

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) N2/O2 SUPPLY PANEL - REGULATOR ASSEMBLY
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE AND MID-FUSELAGE
PART NUMBER: V070-634465

CAUSES: NA

EFFECTS/RATIONALE:
THE RESTRITED FLOW WAS COVERED BY IOA FOR EACH ITEM ON THE LINE IN SEPARATE ANALYSIS SHEETS.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 2632 ABORT: /NA

ITEM: LINES AND FITTINGS
FAILURE MODE: RESTRICTED FLOW

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) FLEXIBLE LINE
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION:
PART NUMBER:

CAUSES: NA

EFFECTS/RATIONALE:
THE RESTRICTED FLOW WAS COVERED BY IOA FOR EACH ITEM ON THE LINE IN SEPARATE ANALYSIS SHEETS.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: 3/3
MDAC ID: 2661 ABORT: 3/3

ITEM: CHECK VALVE/FILTER
FAILURE MODE: DAMAGED ELEMENT - FILTER

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) N2/O2 SUPPLY PANEL
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	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 [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER: MC250-0002

CAUSES: SHOCK, VIBRATION

EFFECTS/RATIONALE:
POSSIBLE CONTAMINATION OF DOWNSTREAM COMPONENTS.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 2731 ABORT: /NA

ITEM: ORIFICE, 10 LBM/HR (2)
FAILURE MODE: INABILITY TO RESTRICT

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) O2/N2 CONTROL PANEL - PAYLOAD INTERFACE
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER:

CAUSES: NA

EFFECTS/RATIONALE:
THIS FAILURE MODE IS JUDGED NOT TO BE CREDIBLE FOR AN ORIFICE. THE RESTRICTION CAPABILITY IS INHERENT WITHIN THE DESIGN OF THE ORIFICE AND IOA DID NOT SEE HOW THIS CAPABILITY COULD FAIL.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 12/17/86 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: 3/3
MDAC ID: 2961 ABORT: 3/3

ITEM: FILTER
FAILURE MODE: DAMAGED FILTER

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) O2/N2 CONTROL PANEL, WATER MANAGEMENT
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	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 [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER: MC250-0002

CAUSES: VIBRATION, SHOCK, CONTAMINATION, CORROSION, PIECE PART FAILURE

EFFECTS/RATIONALE:
NO EFFECT, POSSIBLY CAUSING RESTRICTED FLOW IN THE ITEMS DOWNSTREAM.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 3291 ABORT: /NA

ITEM: LINES & FITTINGS
FAILURE MODE: RESTRICTED FLOW

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) O2/N2 CONTROL PANEL
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER: V070-613130

CAUSES: NA

EFFECTS/RATIONALE:
THE RESTRITED FLOW WAS COVERED BY IOA FOR EACH ITEM ON THE LINE IN SEPARATE ANALYSIS SHEETS.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 10/29/86 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 3431 ABORT: /NA

ITEM: RELIEF VALVE, 16 PSIA
FAILURE MODE: EXTERNAL LEAKAGE (CRACKED MOUNTING FLANGE)

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) POSITIVE RELIEF VENT
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER: MC250-0002-0050

CAUSES: SHOCK, VIBRATION, MATERIAL DEFECT

EFFECTS/RATIONALE:
NON-CREDIBLE FAILURE/CAUSE SCENARIO - IOA DID NOT STUDY.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 10/29/86 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: 1/1
MDAC ID: 3481 ABORT: 1/1

ITEM: VENT VALVE, MOTORIZED (2)
FAILURE MODE: EXTERNAL LEAKAGE

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) CABIN VENT
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	1/1
LIFTOFF:	1/1	TAL:	1/1
ONORBIT:	1/1	AOA:	1/1
DEORBIT:	1/1	ATO:	1/1
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE
PART NUMBER: MC250-0002-0090

CAUSES: SHOCK, VIBRATION, CORROSION

EFFECTS/RATIONALE:
THE FAILURE ON ISOL VALVE HAS NO EFFECT, SINCE THE VENT VALVE WILL BE CLOSED TO PREVENT OUTBOARD FLOW. HOWEVER, THE EXTERNAL LEAKAGE ON THE VENT VALVE MAY DEPRESSURIZE THE CABIN VERY RAPIDLY (CAPABLE OF 900 lbm/hr), THUS CREATING A SERIOUS CONDITION FOR LOSS OF LIFE/VEHICLE.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 10/29/86 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 3611 ABORT: /NA

ITEM: RELIEF VALVE (2)
FAILURE MODE: EXTERNAL LEAKAGE (CRACKED MOUNTING FLANGE)

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) NEGATIVE RELIEF VENT
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION: CREW MODULE, BELOW HATCH
PART NUMBER: MC250-0002-0075

CAUSES:

EFFECTS/RATIONALE:
NON-CREDIBLE FAILURE SCENARIO - IOA DID NOT STUDY THIS.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88
SUBSYSTEM: ARPCS
MDAC ID: 367

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 3/2R
ABORT: 3/2R

ITEM: QUICK DISCONNECT
FAILURE MODE: EXTERNAL LEAKAGE

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) O2/N2 CONTROL PANEL - WATER MANAGEMENT
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/2R
LIFTOFF:	3/2R	TAL:	3/2R
ONORBIT:	3/2R	AOA:	3/2R
DEORBIT:	3/2R	ATO:	3/2R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [3] B [F] C [P]

LOCATION:
PART NUMBER:

CAUSES: SHOCK, VIBRATION, CORROSION

EFFECTS/RATIONALE:
SINGLE FAILURE HAS NO SIGNIFICANT EFFECT. FUNCTIONAL LOSS WILL NEGATE USE OF THE PRIMARY N2 PRESSURIZATION SYSTEM. CABIN PRESSURE IS AVAILABLE FOR WATER MANAGEMENT. AT WORST, LOSS OF MISSION MAY BE ANTICIPATED DUE TO DEGRADED OR LOSS OF THE FES OPERATION.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88
SUBSYSTEM: ARPCS
MDAC ID: 368

HIGHEST CRITICALITY HDW/FUNC
FLIGHT: 3/2R
ABORT: 3/2R

ITEM: QUICK DISCONNECT
FAILURE MODE: EXTERNAL LEAKAGE

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) AMC
3) N2 ASSEMBLY
4) O2/N2 CONTROL PANEL - WATER MANAGEMENT
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	3/3	RTLS:	3/2R
LIFTOFF:	3/2R	TAL:	3/2R
ONORBIT:	3/2R	AOA:	3/2R
DEORBIT:	3/2R	ATO:	3/2R
LANDING/SAFING:	3/3		

REDUNDANCY SCREENS: A [3] B [F] C [P]

LOCATION:
PART NUMBER:

CAUSES: SHOCK, VIBRATION, CORROSION

EFFECTS/RATIONALE:
SINGLE FAILURE HAS NO SIGNIFICANT EFFECT. FUNCTIONAL LOSS WILL NEGATE USE OF THE PRIMARY N2 PRESSURIZATION SYSTEM. CABIN PRESSURE IS AVAILABLE FOR WATER MANAGEMENT. AT WORST, LOSS OF MISSION MAY BE ANTICIPATED DUE TO DEGRADED OR LOSS OF THE FES OPERATION.

REFERENCES:

INDEPENDENT ORBITER ASSESSMENT
ORBITER SUBSYSTEM ANALYSIS WORKSHEET

DATE: 1/26/88 HIGHEST CRITICALITY HDW/FUNC
SUBSYSTEM: ARPCS FLIGHT: /NA
MDAC ID: 369 ABORT: /NA

ITEM: SWITCH - LOOP 1 (2)
FAILURE MODE: FAILS TO TRANSFER TO "AUTO" OR "MAN" POSITION, SHORTS TO GROUND

LEAD ANALYST: M.J. SAIIDI SUBSYS LEAD: M. SAIIDI

BREAKDOWN HIERARCHY:
1) ARPCS
2) N2 ASSEMBLY
3)
4)
5)
6)
7)
8)
9)

CRITICALITIES

FLIGHT PHASE	HDW/FUNC	ABORT	HDW/FUNC
PRELAUNCH:	/NA	RTLS:	/NA
LIFTOFF:	/NA	TAL:	/NA
ONORBIT:	/NA	AOA:	/NA
DEORBIT:	/NA	ATO:	/NA
LANDING/SAFING:	/NA		

REDUNDANCY SCREENS: A [ ] B [ ] C [ ]

LOCATION:
PART NUMBER:

CAUSES:

EFFECTS/RATIONALE:
IOA COULD NOT FIND THIS ITEM IN ORDER TO ACCOUNT FOR OR MATCH ITS FAILURE MODE.

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
1	IOA recommends changing the second failure mode described in the effects field.
2	IOA recommends deleting the IOA failure mode.

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
	ARPCS-102	/				/					
	ARPCS-103	/				/					
	ARPCS-104	/				/					
	ARPCS-120	/				/					
	ARPCS-122	/				/					
	ARPCS-123	/				/					
	ARPCS-124	/				/					
	ARPCS-136	/				/					
	ARPCS-159	/				/					X
	ARPCS-160	/				/					X
	ARPCS-170	/				3/3					
	ARPCS-171	/				/					
	ARPCS-172	/				/					
	ARPCS-173	/				/					
	ARPCS-182	/				/					X
	ARPCS-203	/				/					X
	ARPCS-215	/				/					
	ARPCS-217	/				/					
	ARPCS-218	/				/					
	ARPCS-219	/				/					
	ARPCS-220	/				/					
	ARPCS-300	/				/					X
	ARPCS-303	/				/					X
	ARPCS-313	/				/					X
	ARPCS-314	/				/					X
	ARPCS-328	/				/					X
	ARPCS-336	/				/					
	ARPCS-344	/				/					X
	ARPCS-345	/				/					X
	ARPCS-346	/				/					X
	ARPCS-347	/				/					X
	ARPCS-349	/				/					X
	ARPCS-351	/				/					X
	ARPCS-352	/				/					X
	ARPCS-353	/				/					X
	ARPCS-354	/				/					X
	ARPCS-355	/				/					X
	ARPCS-356	/				/					X
	ARPCS-357	/				/					X
	ARPCS-364	/				/					X
	ARPCS-365	/				/					X
05-6U-2027-3	ARPCS-369X	3/1R				/					X
05-6VA-2001-1	ARPCS-317	3/1R	P	P	P	/					
05-6VA-2001-2	ARPCS-316	3/3				/					
05-6VA-200100-1	ARPCS-358	2/1R	P	P	P	/					X

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
05-6VA-200100-1	ARPCS-359	2/1R	P	P	P	/					X
05-6VA-2002-1	ARPCS-301	3/1R	P	P	P	/					
	ARPCS-302	3/1R	P	P	P	/					
05-6VA-2002-2	ARPCS-301A	3/1R	P	P	P	/					
	ARPCS-302A	3/1R	P	P	P	/					
05-6VA-2003-1	ARPCS-306	3/1R	P	P	P	/					X
05-6VA-2003-2	ARPCS-305	3/1R	P	P	P	/					X
05-6VA-2004-1	ARPCS-191	3/3				/					
	ARPCS-320	3/3				/					
05-6VA-2005-1	ARPCS-318	3/3				/					
05-6VA-2006-1	ARPCS-319	3/3	NA	NA	NA	/					
05-6VA-2007-1	ARPCS-321	3/3	NA	NA	NA	/					
05-6VA-2008-1	ARPCS-142	3/3	NA	NA	NA	/					
	ARPCS-304	3/3	NA	NA	NA	/					
	ARPCS-315	3/3	NA	NA	NA	/					
05-6VA-2009-1	ARPCS-115	3/3	NA	NA	NA	/					
	ARPCS-116	3/3	NA	NA	NA	/					
	ARPCS-244	3/3	NA	NA	NA	/					
	ARPCS-256	3/3	NA	NA	NA	/					
	ARPCS-340	3/3	NA	NA	NA	/					
05-6VA-2010-1	ARPCS-143	2/1R	P	P	P	/					
05-6VA-2010-2	ARPCS-144	3/1R	P	P	P	/					X
05-6VA-2011-1	ARPCS-140	2/1R	P	P	P	/					X
05-6VA-2011-2	ARPCS-141	3/1R	P	P	P	/					X
05-6VA-2012-1	ARPCS-243	3/1R	P	P	P	/					X
05-6VA-2012-2	ARPCS-242	3/3	NA	NA	NA	/					
05-6VA-2013-1	ARPCS-240	3/1R	P	P	P	/					X
05-6VA-2013-2	ARPCS-241	3/1R	P	P	P	/					X
05-6VA-2014-1	ARPCS-110	3/3	NA	NA	NA	/					
	ARPCS-239	3/3	NA	NA	NA	/					
	ARPCS-251	3/3	NA	NA	NA	/					
	ARPCS-341	3/3	NA	NA	NA	/					
05-6VA-2015-1	ARPCS-109	3/3	NA	NA	NA	/					
	ARPCS-238	3/3	NA	NA	NA	/					
	ARPCS-250	3/3	NA	NA	NA	/					
	ARPCS-334	3/3	NA	NA	NA	/					
05-6VA-2016-1	ARPCS-117	3/3				/					
05-6VA-2016-2	ARPCS-118	3/3	NA	NA	NA	/					
05-6VA-2017-1	ARPCS-113	3/3	NA	NA	NA	/					
	ARPCS-114	3/3	NA	NA	NA	/					
05-6VA-2017-2	ARPCS-1131X	3/1R	P	P	P	/					X
05-6VA-2018-1	ARPCS-255	3/1R	P	P	P	/					X
05-6VA-2018-2	ARPCS-254	3/3	NA	NA	NA	/					
05-6VA-2019-1	ARPCS-252	3/1R	P	P	P	/					X
05-6VA-2019-2	ARPCS-253	3/1R	P	P	P	/					
05-6VA-2020-1	ARPCS-338	2/1R	P	P	P	/					
05-6VA-2020-2	ARPCS-339	3/3	NA	NA	NA	/					
05-6VA-2021-1	ARPCS-335	2/1R	P	P	P	/					
05-6VA-2021-2	ARPCS-337	2/1R	P	P	P	/					
05-6VA-2022-1	ARPCS-327	2/1R	P	P	P	/					X

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
05-6VA-2022-2	ARPCS-326	3/3	NA	NA	NA	/					
05-6VA-2023-1	ARPCS-293	3/1R	P	P	P	/					
05-6VA-2023-2	ARPCS-294	3/2R	P	P	P	/					X
05-6VA-2024-1	ARPCS-291	3/1R	P	P	P	/					
05-6VA-2024-2	ARPCS-292	3/2R	P	P	P	/					
05-6VA-2025-1	ARPCS-295	3/3	NA	NA	NA	/					
05-6VA-2026-1	ARPCS-325	3/1R	P	P	P	/					X
05-6VA-2026-2	ARPCS-325A	/NA				/					X
05-6VA-2027-1	ARPCS-323	3/1R	P	P	P	/					X
05-6Y-2002-1	ARPCS-230	3/1R	P	P	P	/					X
05-6Y-2002-2	ARPCS-231	3/2R	P	P	P	/					X
05-6Y-203000-1	ARPCS-227	3/1R	P	P	P	/					X
	ARPCS-229	3/1R	P	P	P	/					X
05-6Y-203000-1	ARPCS-229	3/1R	P	P	P	/					X
05-6Y-203000-2	ARPCS-227A	3/1R	P	P	P	/					X
	ARPCS-228A	3/1R	P	P	P	/					X
	ARPCS-229A	3/1R	P	P	P	/					X
05-6Y-2151-1	ARPCS-225	3/3				/					
05-6Y-2152-1	ARPCS-226	3/3				/					
06-1-0102-1	ARPCS-105	3/3				/					
06-1-0105-1	ARPCS-107	3/3				/					
	ARPCS-112	3/3				/					
06-1-0105-2	ARPCS-106	3/1R	P	P	P	/					
	ARPCS-111	3/1R	P	P	P	/					
06-1-0105-3	ARPCS-108	3/1R	P	P	P	/					
06-1-0106-1	ARPCS-121	3/1R	P	NA	P	/					
06-1-0106-3	ARPCS-119	3/1R	P	P	P	/					
06-1-0107-3	ARPCS-125	3/1R	P	P	P	/					
06-1-0109-1	ARPCS-127	3/3				/					
06-1-0109-2	ARPCS-126	3/1R	P	P	P	/					
06-1-0109-3	ARPCS-128	2/1R	P	P	P	3/1R	P	P	P		X
06-1-0109-4	ARPCS-126A	3/1R	P	P	P	/					
06-1-0110-1	ARPCS-130	3/3				/					
06-1-0110-2	ARPCS-129	2/1R	P	P	P	3/1R	P	P	P		X
	ARPCS-131	2/1R	P	P	P	3/1R	P	P	P		X
06-1-0111-1	ARPCS-137	2/1R	P	NA	P	/					X
06-1-0111-2	ARPCS-138	2/1R	P	NA	P	/					
06-1-0111-3	ARPCS-139	1/1				2/1R	P	P	P		X
06-1-0111-4	ARPCS-139A	2/1R	P	P	P	/					
06-1-0112-1	ARPCS-101	3/3				/					
06-1-0114-1	ARPCS-132	3/3				/					
06-1-0114-2	ARPCS-133	3/3				/					
06-1-0114-3	ARPCS-134	1/1				/					
06-1-0114-4	ARPCS-132A	2/1R	P	P	P	/					X
06-1-0115-1	ARPCS-145	2/1R	P	P	P	/					
06-1-0115-2	ARPCS-146	3/3				/					
06-1-0115-3	ARPCS-1461X	2/1R	P	P	P	/					X
06-1-0116-1	ARPCS-147	2/1R	P	P	P	/					
	ARPCS-148	2/1R	P	P	P	/					X
06-1-0116-3	ARPCS-149	2/1R	P	P	P	/					

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
06-1-0118-1	ARPCS-177	2/1R	P	P	P	/					
06-1-0118-2	ARPCS-178	3/1R	P	NA	P	/					X
06-1-0118-3	ARPCS-1791X	3/3				/					
06-1-0118-4	ARPCS-179	2/1R	P	P	P	/					
06-1-0119-1	ARPCS-180	3/3				/					X
06-1-0120-1	ARPCS-152	2/1R	P	NA	P	/					
06-1-0120-2	ARPCS-151	2/1R	P	NA	P	/					X
06-1-0120-3	ARPCS-153	1/1				/					
06-1-0121-1	ARPCS-154	2/1R	P	NA	P	/					
06-1-0121-2	ARPCS-155	2/1R	P	F	P	/					
06-1-0121-3	ARPCS-156	2/1R	P	NA	P	/					
06-1-0122-1	ARPCS-157	2/1R	P	NA	P	/					
06-1-0122-2	ARPCS-158	2/1R	P	NA	P	/					X
06-1-0123-1	ARPCS-162	2/1R	P	F	P	/					
06-1-0123-2	ARPCS-161	2/1R	P	F	P	3/2R	P	F	P		X
06-1-0123-3	ARPCS-1621X	1/1				/					
06-1-0125-1	ARPCS-185	3/1R	P	P	P	/					X
06-1-0125-2	ARPCS-184	3/1R	P	P	P	/					X
06-1-0125-3	ARPCS-186	2/1R	P	P	P	/					
06-1-0126-1	ARPCS-188	3/1R	P	NA	P	/					X
06-1-0126-2	ARPCS-187	3/1R	P	P	P	/					
06-1-0126-3	ARPCS-189	3/1R	P	P	P	/					
06-1-0127-1	ARPCS-191	3/1R	P	P	P	/					X
06-1-0127-2	ARPCS-190	3/1R	P	P	P	/					
06-1-0129-1	ARPCS-183	3/3				/					
06-1-0132-1	ARPCS-192	3/3				/					
06-1-0134-1	ARPCS-199	3/2R	P	P	P	/					X
	ARPCS-200	3/2R	P	P	P	/					
06-1-0134-2	ARPCS-197	3/2R	P	P	P	/					X
	ARPCS-198	3/2R	P	P	P	/					
06-1-0134-3	ARPCS-201	3/1R	P	P	P	/					
06-1-0135-1	ARPCS-194	3/1R	P	P	P	/					X
06-1-0135-2	ARPCS-193	3/1R	P	P	P	/					X
	ARPCS-366	3/1R	P	P	P	/					X
06-1-0135-3	ARPCS-195	3/1R	P	P	P	/					
06-1-0136-1	ARPCS-204	3/3				/					
06-1-0138-1	ARPCS-202	3/2R	P	P	P	/					
06-1-0138-2	ARPCS-2021X	3/3				/					X
06-1-0139-1	ARPCS-206	3/1R	P	P	P	/					X
06-1-0139-2	ARPCS-205	3/1R	P	NA	P	/					
06-1-0139-3	ARPCS-207	3/1R	P	NA	P	/					
06-1-0140-1	ARPCS-209	3/1R	P	P	P	/					X
06-1-0140-2	ARPCS-208	3/1R	P	P	P	/					
06-1-0141-1	ARPCS-211	2/1R	P	P	P	/					
06-1-0141-2A	ARPCS-210	2/1R	P	NA	P	/					
06-1-0141-2B	ARPCS-210A	2/1R	P	NA	P	/					
06-1-0146-1	ARPCS-310	3/1R	P	P	P	/					
	ARPCS-311	3/1R	P	P	P	/					X
	ARPCS-312	3/1R	P	P	P	/					X
06-1-0147-1	ARPCS-309	3/2R	P	NA	P	/					

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
06-1-0147-2	ARPCS-307	3/2R	P	NA	P	/					
06-1-0147-3	ARPCS-308	3/2R	P	NA	P	/					X
06-1-0149-1	ARPCS-298	3/1R	P	NA	P	/					
06-1-0149-2	ARPCS-297	3/1R	P	NA	P	/					
06-1-0149-3	ARPCS-299	3/1R	P	NA	P	/					
06-1-0152-1	ARPCS-270	3/2R	P	NA	P	/					
06-1-0152-2	ARPCS-269	3/1R	P	NA	P	/					X
06-1-0152-3	ARPCS-271	3/1R	P	P	P	/					X
06-1-0158-1	ARPCS-272	3/2R	P	NA	P	/					
06-1-0158-2	ARPCS-2731X	3/2R	P	NA	P	/					X
06-1-0158-3	ARPCS-273	3/1R	P	NA	P	/					
06-1-0161-1	ARPCS-212	3/1R	P	P	P	/					X
06-1-0161-2	ARPCS-212A	1/1				/					
06-1-0161-3	ARPCS-2121X	3/1R	P	P	P	/					X
06-1-0162-1	ARPCS-221	3/2R	P	P	P	/					X
06-1-0164-1	ARPCS-213	3/2R	P	P	P	/					X
06-1-0165-1	ARPCS-234	3/1R	P	P	P	/					X
	ARPCS-237	3/1R	P	P	P	/					X
06-1-0165-2	ARPCS-235	3/1R	P	P	P	/					X
06-1-0165-3	ARPCS-233	3/1R	P	P	P	/					X
	ARPCS-236	3/1R	P	P	P	/					X
06-1-0166-3	ARPCS-216	2/1R	P	P	P	/					
06-1-0166-4	ARPCS-2161X	3/1R	P	P	P	/					
06-1-0171-1	ARPCS-246	3/1R	P	P	P	/					
	ARPCS-248	3/1R	P	P	P	/					
06-1-0171-2	ARPCS-247	2/1R	P	P	P	/					
06-1-0171-3	ARPCS-245	3/1R	P	P	P	/					X
	ARPCS-249	3/1R	P	P	P	/					X
06-1-0172-1	ARPCS-258	3/1R	P	P	P	/					
06-1-0172-2	ARPCS-257	3/1R	P	NA	P	/					
06-1-0172-3	ARPCS-260	3/3				/					
06-1-0172-4	ARPCS-259	3/1R	P	P	P	/					
06-1-0173-1	ARPCS-262	3/1R	P	NA	P	3/2R	P	P	P		X
06-1-0173-2	ARPCS-261	3/1R	P	P	P	/					
06-1-0174-1	ARPCS-265	3/1R	P	NA	P	/					
06-1-0174-2	ARPCS-264	3/1R	P	P	P	/					X
06-1-0174-3	ARPCS-2661X	3/3				/					
06-1-0174-4	ARPCS-266	3/1R	P	P	P	/					
06-1-0175-1	ARPCS-268	3/3	NA	NA	NA	/					
06-1-0178-1	ARPCS-275	3/3				/					
06-1-0178-2	ARPCS-274	3/3				/					
06-1-0178-3	ARPCS-276	3/1R	P	P	P	2/2					X
06-1-0180-1	ARPCS-267	3/3				/					X
06-1-0191-1	ARPCS-196	2/1R	P	P	P	/					
	ARPCS-214	2/1R	P	P	P	/					X
	ARPCS-329	2/1R	P	P	P	/					
06-1-0191-2	ARPCS-2631X	3/1R	P	P	P	/					X
	ARPCS-3291X	2/1R	P	P	P	/					X
06-1-0192-1	ARPCS-263	2/1R	P	P	P	/					
06-1-0193-1	ARPCS-263A	2/1R	P	P	P	/					

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IDENTIFIERS		NASA				IDA RECOMMENDATIONS *				
NASA FMEA NUMBER	IDA ASSESSMENT NUMBER	CRIT HW/F	SCREENS A	B	C	CRIT HW/F	SCREENS A	B	C	OTHER (SEE LEGEND CODE)	ISSUE
06-1-0193-2	ARPCS-2632X	2/1R	P	P	P	/					X
06-1-0201-1	ARPCS-331	2/1R	P	NA	P	/					
	ARPCS-333	2/1R	P	NA	P	/					
	ARPCS-343	2/1R	P	NA	P	/					
06-1-0201-2	ARPCS-330	2/1R	P	NA	P	/					
	ARPCS-332	2/1R	P	NA	P	/					
	ARPCS-342	2/1R	P	NA	P	/					
06-1-0201-3	ARPCS-3431X	1/1				/NA					X
06-1-0203-1	ARPCS-348A	2/1R	P	P	P	/					
	ARPCS-350	2/1R	P	P	P	/					X
06-1-0203-2	ARPCS-348	2/1R	P	NA	F	/					
06-1-0203-3	ARPCS-3481X	1/1				/					
06-1-0206-1	ARPCS-361	2/1R	P	NA	P	/					
06-1-0206-2	ARPCS-360	2/1R	P	NA	P	/					
06-1-0206-3	ARPCS-3611X	1/1				/NA					X
06-1-0207-1	ARPCS-362	2/1R	P	NA	P	/					
06-1-0207-2	ARPCS-363	3/3				/					
06-1-0207-3	ARPCS-363A	2/1R	P	F	P	/					
06-1-0211-1	ARPCS-324	2/1R	P	P	P	/					X
06-1-0214-1	ARPCS-322	2/1R	P	P	P	/					X
06-1-0221-1	ARPCS-278	3/1R	P	P	P	/					X
06-1-0221-2	ARPCS-277	3/1R	P	NA	P	3/2R	P	NA	P		X
	ARPCS-279	3/1R	P	NA	P	/					
06-1-0222-1	ARPCS-281	3/1R	P	P	P	/					X
06-1-0222-2	ARPCS-280	3/1R	P	P	P	/					
06-1-0222-3	ARPCS-282	3/1R	P	P	P	/					
06-1-0223-1	ARPCS-284	3/1R	P	NA	P	/					
06-1-0223-2	ARPCS-283	3/1R	P	NA	P	/					
06-1-0224-1	ARPCS-285	3/3				/					
06-1-0227-1	ARPCS-287	3/1R	P	NA	P	/					X
06-1-0227-2	ARPCS-286	3/1R	P	NA	P	/					X
06-1-0227-3	ARPCS-288	3/1R	P	NA	P	/					
06-1-0228-1	ARPCS-290	3/1R	P	P	P	/					
06-1-0228-2	ARPCS-289	3/1R	P	P	P	/					
06-1-0228-3	ARPCS-296	3/1R	P	NA	P	/					
06-1-0228-4	ARPCS-2961X	3/3				/					
06-1-0229-1	ARPCS-367X	3/1R	F	F	P	3/2R	F	F	P		X
06-1-0229-2	ARPCS-368X	3/1R	F	F	P	3/2R	F	F	P		X
06-1-0230-1	ARPCS-223	3/1R	P	P	P	/					X
06-1-0230-2	ARPCS-222	3/2R	P	P	P	/					
06-1-0230-3	ARPCS-223A	3/1R	P	F	P	3/2R	P	F	P		X
06-1-0230-4	ARPCS-224	3/1R	P	P	P	/					X
06-1-0231-1	ARPCS-232	3/1R	P	NA	P	/					X
06-1-1501-1	ARPCS-164	2/1R	P	NA	P	/					X
06-1-1501-2	ARPCS-163	2/1R	P	F	P	3/2R	P	F	P		X
06-1-1501-3	ARPCS-165	1/1				/					
06-1-1502-1	ARPCS-167	2/1R	P	NA	P	3/2R	P	NA	P		X
	ARPCS-168	2/1R	P	NA	P	/					X
	ARPCS-169	2/1R	P	NA	P	3/2R	P	NA	P		X
06-1-1502-2	ARPCS-166	2/1R	P	NA	P	/					X

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
06-1-1509-1	ARPCS-135	2/1R	P	P	P	/				
06-1-1509-2	ARPCS-1351X	3/3				/NA				X
06-1-1510-1	ARPCS-150	1/1				/				
06-1-1510-2	ARPCS-1501X	1/1				/				X
06-1-1511-1	ARPCS-176	2/1R	P	P	P	/				
06-1-1511-2	ARPCS-1761X	2/1R	P	P	P	/				X
06-1-1512-1	ARPCS-175	2/1R	P	P	P	/				
06-1-1512-2	ARPCS-174	1/1				/				
06-1-1512-3	ARPCS-174A	2/1R	P	P	P	/				X

MCDONNELL DOUGLAS ASTRONAUTICS COMPANY –
ENGINEERING SERVICES
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