MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.0	PAYLOAD INTERFACE REQUIREMENTS AND GUIDANCE		TITLE	N/A	N/A	
3.1	STRUCTURAL/MECHANICAL, MICROGRAVITY AND STOWAGE INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.1.1	STRUCTURAL/MECHANICAL		TITLE	N/A	N/A	
3.1.1.1-A	GSE INTERFACES	A	I	COC	L-3.5	
3.1.1.1-B	GSE INTERFACES	A	D	COC	L-3.5	
3.1.1.1-C	GSE INTERFACES	A	D	COC	L-3.5	
3.1.1.1-D	GSE INTERFACES	A	T & A	COC	L-3.5	
3.1.1.2-A	MPLM INTERFACES	A	I	COC	L-3.5	
3.1.1.2-B	MPLM INTERFACES	A	A	COC	L-3.5	
3.1.1.2-C	MPLM INTERFACES		DELETED	N/A	N/A	
3.1.1.2-D	MPLM INTERFACES		DELETED	N/A	N/A	
3.1.1.2-E	MPLM INTERFACES	A	A	Data Cert, based on static analysis using approved FEM (or DCL analysis results), providing the MPLM interface attach point forces and margins of safety calculations based on the allowable limits as specified in SSP 41017 Part 1, paragraph 3.2.1.4.3.	L-7.5	The submittal date of L-7.5 is a more suitable date to submit the required data.
3.1.1.2.1	MPLM LATE/EARLY ACCESS REQUIREMENTS	N/A	T	COC	L-3.5	No late or early access required
3.1.1.2.1.1-A	MPLM LATE ACCESS ENVELOPE (KSC)	N/A	I	COC	L-3.5	No late access required
3.1.1.2.1.1-B	MPLM LATE ACCESS ENVELOPE (KSC)	N/A	I	COC	L-3.5	No late access required
3.1.1.2.1.1-C	MPLM LATE ACCESS ENVELOPE	N/A	I	COC	L-3.5	No late access

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
	(KSC)					required
3.1.1.2.1.2-A	MPLM EARLY ACCESS ENVELOPES (KSC AND DFRC)	N/A	I	COC	L-3.5	No early access required
3.1.1.2.1.2-B	MPLM EARLY ACCESS ENVELOPES (KSC AND DFRC)	N/A	I	COC	L-3.5	No early access required
3.1.1.3-A	LOADS REQUIREMENTS	A	A	Data Cert providing a summary of the margins of safety using loads validated by analysis.	L-7.5	The required submittal data of DLA and VLA does not apply to this hardware. The submittal date of L-7.5 is a more suitable date to submit the required data.
3.1.1.3-B	LOADS REQUIREMENTS	A	A	Data Cert providing a summary of the margins of safety using loads validated by analysis.	L-7.5	The required submittal data of DLA and VLA does not apply to this hardware. The submittal date of L-7.5 is a more suitable date to submit the required data.
3.1.1.3-C	LOADS REQUIREMENTS	A	I	COC	L-3.5	
3.1.1.3-D	LOADS REQUIREMENTS	A	A	Data Cert providing a summary listing as defined in SSP 57000, Table 3.1.1.3-1 showing positive margins of safety.	L-7.5	

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.1.1.3-E	LOADS REQUIREMENTS	A	A	Data Cert providing a summary of the margins of safety using loads validated by analysis.	L-7.5	MARES Rack and equipment hard mounted during launch only. The required submittal data of DLA and VLA does not apply to this hardware. The submittal date of L-7.5 is a more suitable date to submit the required data.
3.1.1.3-F	LOADS REQUIREMENTS	A	A	Data Cert providing a summary of the margins of safety using loads validated by analysis.	L-7.5	Soft-stowed equipment will meet load requirements outlined in Soft Stowed Memo. The required submittal data of DLA and VLA does not apply to this hardware. The submittal date of L-7.5 is a more suitable date to submit the required data.
3.1.1.4-A	RACK REQUIREMENTS	A	D & A	Data Cert providing weight and CG summaries for launch and landing of the integrated rack.	L-7.5	The submittal date of L-7.5 is a more suitable date to submit the required data.

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.1.1.4-B	RACK REQUIREMENTS	A	A	COC	L-3.5	
3.1.1.4-C	RACK REQUIREMENTS	A	A	COC	L-3.5	The submittal date of L-3.5 is more suitable to submit the required data.
3.1.1.4-D	RACK REQUIREMENTS		NVR	N/A	N/A	
3.1.1.4-E	RACK REQUIREMENTS	A	I	COC	L-3.5	
3.1.1.4-F	RACK REQUIREMENTS	N/A	A	COC	L-3.5	Not window mounted
3.1.1.4-G	RACK REQUIREMENTS		DELETED	N/A	N/A	
3.1.1.4-H	RACK REQUIREMENTS		DELETED	N/A	N/A	
3.1.1.4-I	RACK REQUIREMENTS	A	A	COC	L-3.5	
3.1.1.4-J	RACK REQUIREMENTS		DELETED	N/A	N/A	
3.1.1.4-K	RACK REQUIREMENTS	A	A	COC	L-3.5	
3.1.1.4-L	RACK REQUIREMENTS	A	A	COC	L-3.5	
3.1.1.4-M	RACK REQUIREMENTS	N/A	I	COC	L-3.5	No pressure relief devices
3.1.1.4.1-A	LAB WINDOW RACK LOCATION REQUIREMENTS	N/A	A	COC	L-3.5	Not located in lab window
3.1.1.4.1-B	LAB WINDOW RACK LOCATION REQUIREMENTS	N/A	I	COC	L-3.5	Not located in lab window
3.1.1.4.1-C	LAB WINDOW RACK LOCATION REQUIREMENTS	N/A	A	COC	L-3.5	Not located in lab window
3.1.1.5-A	SAFETY CRITICAL STRUCTURES REQUIREMENTS	A	Per SSP 52005	Data Cert providing a summary of the margins of safety using loads validated by analysis.	L-7.5	The required submittal data of DLA and VLA does not apply to this hardware. The submittal date of L-7.5 is a more suitable date to submit the required

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
						data.
3.1.1.6	CONNECTOR AND UMBILICAL PHYSICAL MATE		TITLE	N/A	N/A	
3.1.1.6.1	CONNECTOR PHYSICAL MATE	A	D	COC	L-3.5	
3.1.1.6.2	UMBILICAL PHYSICAL MATE	A	D	COC	L-3.5	
3.1.1.7-A	ON-ORBIT PAYLOAD PROTRUSIONS	A	I	Data Cert. providing drawings identifying all protrusions.	L-7.5	
3.1.1.7-B	ON-ORBIT PAYLOAD PROTRUSIONS	A	D	COC	L-3.5	
3.1.1.7.1	ON-ORBIT PERMANENT PROTRUSIONS	N/A	I	Data Cert. providing drawings identifying all protrusions.	L-7.5	No permanent protrusions
3.1.1.7.2-A	ON-ORBIT SEMI-PERMANENT PROTRUSIONS	N/A	I	Data Cert. providing drawings identifying all protrusions.	L-7.5	RID plate compatibility requirement which is no longer valid.
3.1.1.7.2-B	ON-ORBIT SEMI-PERMANENT PROTRUSIONS	A	I	Data Cert. providing drawings identifying all protrusions.	L-7.5	
3.1.1.7.2-C	ON-ORBIT SEMI-PERMANENT PROTRUSIONS	A	D	COC	L-3.5	
3.1.1.7.3-A	ON-ORBIT TEMPORARY PROTRUSIONS	A	I	Data Cert. providing drawings identifying all protrusions.	L-7.5	
3.1.1.7.3-B	ON-ORBIT TEMPORARY PROTRUSIONS	A	D	COC	L-3.5	
3.1.1.7.4	ON-ORBIT MOMENTARY PROTRUSIONS	N/A	D	COC	L-3.5	No momentary protrusions
3.1.1.7.5-A	ON-ORBIT PROTRUSIONS FOR KEEP ALIVE PAYLOADS	N/A	I	Data Cert. providing drawings identifying all protrusions.	L-7.5	Not a keep alive payload

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.1.1.7.5-B	ON-ORBIT PROTRUSIONS FOR KEEP ALIVE PAYLOADS	N/A	I	Data Cert. providing drawings identifying all protrusions.	L-7.5	Not a keep alive payload
3.1.2	MICROGRAVITY		TITLE	N/A	N/A	
3.1.2.1	QUASI-STEADY REQUIREMENTS	A	A	Analysis Report	L-7.5	
3.1.2.2	VIBRATORY REQUIREMENTS	A	A	Analysis or Test Report	L-7.5	
3.1.2.3-A	TRANSIENT REQUIREMENTS	A	A	Analysis or Test Report	L-7.5	
3.1.2.3-B	TRANSIENT REQUIREMENTS	A	A	Analysis or Test Report	L-7.5	
3.1.2.4	MICROGRAVITY ENVIRONMENT		NVR	N/A	N/A	
3.1.2.5	ARIS INTERFACES	N/A	TITLE	Analysis or Test Report	L-7.5	Not an ARIS rack
3.1.3	STOWAGE		NVR	N/A	N/A	
3.2	ELECTRICAL INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.2.1	ELECTRICAL POWER CHARACTERISTICS		NVR	N/A	N/A	
3.2.1.1	STEADY-STATE VOLTAGE CHARACTERISTICS		TITLE	N/A	N/A	
3.2.1.1.1	INTERFACE B	A	T	COC	L-3.5	Re-verification not required for subrack changeout if the subrack payload involves 28 volt load isolated from the 120V.
3.2.1.1.2	INTERFACE C	A	T	COC	L-3.5	
3.2.1.2	RIPPLE VOLTAGE CHARACTERISTICS		TITLE	N/A	N/A	
3.2.1.2.1	RIPPLE VOLTAGE AND NOISE	A	A	COC	L-3.5	
3.2.1.2.2	RIPPLE VOLTAGE SPECTRUM	A	A	COC	L-3.5	
3.2.1.3	TRANSIENT VOLTAGES		TITLE	N/A	N/A	
3.2.1.3.1	INTERFACE B	A	A	COC	L-3.5	Re-verification not

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
						required for subrack changeout if the subrack payload involves 28 volt load isolated from the 120V.
3.2.1.3.2	INTERFACE C	A	A	COC	L-3.5	Re-verification not required for subrack changeout if the subrack payload involves 28 volt load isolated from the 120V.
3.2.1.3.3	FAULT CLEARING AND PROTECTION	A	A	COC	L-3.5	
3.2.1.3.4-A	NON-NORMAL VOLTAGE RANGE	A	A	COC	L-3.5	
3.2.1.3.4-B	NON-NORMAL VOLTAGE RANGE	A	A	COC	L-3.5	
3.2.2	ELECTRICAL POWER INTERFACE		TITLE	N/A	N/A	
3.2.2.1-A	UIP AND UOP CONNECTORS AND PIN ASSIGNMENTS		NVR	N/A	N/A	
3.2.2.1-B	UIP AND UOP CONNECTORS AND PIN ASSIGNMENTS	A	I	COC	L-3.5	
3.2.2.1-C	UIP AND UOP CONNECTORS AND PIN ASSIGNMENTS	A	I	COC	L-3.5	
3.2.2.1-D	UIP AND UOP CONNECTORS AND PIN ASSIGNMENTS		NVR	N/A	N/A	
3.2.2.1-E	UIP AND UOP CONNECTORS AND PIN ASSIGNMENTS	A	I	COC	L-3.5	
3.2.2.1-F	UIP AND UOP CONNECTORS AND PIN ASSIGNMENTS	A	I	COC	L-3.5	
3.2.2.2-A	POWER BUS ISOLATION	A	A	COC	L-3.5	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.2.2.2-B	POWER BUS ISOLATION	A	A	COC	L-3.5	
3.2.2.3	COMPATIBILITY WITH SOFT START/STOP RPC	A	T	COC	L-3.5	
3.2.2.4	SURGE CURRENT	A	T & A	Test data	L-7.5	The required submittal data of test data is more suitable for this hardware.
3.2.2.5	REVERSE ENERGY/CURRENT	A	A	Data Cert comparing worst case reverse current and potential reverse current case conditions to SSP 57000, Table 3.2.2.5-1 allowables.	L-7.5	
3.2.2.6	CIRCUIT PROTECTION DEVICES		TITLE	N/A	N/A	
3.2.2.6.1	ISS EPS CIRCUIT PROTECTION CHARACTERISTICS		TITLE	N/A	N/A	
3.2.2.6.1.1-A	REMOTE POWER CONTROLLERS (RPCs)	A	T	Test data	L-7.5	
3.2.2.6.1.1-B	REMOTE POWER CONTROLLERS (RPCs)	N/A	T	Test data	L-7.5	MARES is not MPLM powered
3.2.2.6.1.1-C	REMOTE POWER CONTROLLERS (RPCs)	A	T	Test data	L-7.5	
3.2.2.6.1.1-D	REMOTE POWER CONTROLLERS (RPCs)	A	A	Analysis data	L-7.5	
3.2.2.6.1.1-E	REMOTE POWER CONTROLLERS (RPCs)	A	A	Analysis data	L-7.5	
3.2.2.6.2	EPCE RPC INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.2.2.6.2.1	RPC TRIP COORDINATION		TITLE	N/A	N/A	
3.2.2.6.2.1.1	PAYLOAD TRIP RATINGS	A	T & D	Test data	L-7.5	
3.2.2.7	EPCE COMPLEX LOAD		TITLE	N/A	N/A	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
	IMPEDANCES					
3.2.2.7.1-A	INTERFACE B	A	T	Test data showing compliance with the Unique Payload Hardware ICD.	L-7.5	The required submittal data of test data is more suitable for this hardware.
3.2.2.7.1-B	INTERFACE B	A	T	Test data showing compliance with the Unique Payload Hardware ICD.	L-7.5	The required submittal data of test data is more suitable for this hardware.
3.2.2.7.2	INTERFACE C	A	T	Test data showing compliance with the Unique Payload Hardware ICD.	L-7.5	The required submittal data of test data is more suitable for this hardware.
3.2.2.8	LARGE SIGNAL STABILITY	A	T & A	Analysis and test data for each integrated rack and EPCE.	L-7.5	
3.2.2.9	MAXIMUM RIPPLE VOLTAGE EMISSIONS	N/A	T & A	1. Test report. (This report may be a part of the EMI test submitted for EL-20.) 2. Analysis report.	1. L-7.5 2. L-7.5	Requirement deleted in post Rev. E PIRN
3.2.2.10-A	ELECTRICAL LOAD-STAND ALONE STABILITY	A	A	Analysis data	L-7.5	The required submittal data of analysis data is more suitable for this hardware.
3.2.2.10-B	ELECTRICAL LOAD-STAND ALONE STABILITY	A	A	Analysis data	L-7.5	The required submittal data of analysis data is more suitable for this hardware.

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.2.2.10-C	ELECTRICAL LOAD-STAND ALONE STABILITY	A	A	Analysis data	L-7.5	The required submittal data of analysis data is more suitable for this hardware.
3.2.3	ELECTRICAL POWER CONSUMER CONSTRAINTS		TITLE	N/A	N/A	
3.2.3.1-A	WIRE DERATING	A	A	COC	L-3.5	
3.2.3.1-B	WIRE DERATING	A	A	COC	L-3.5	
3.2.3.1-C	WIRE DERATING	A	I	COC	L-3.5	
3.2.3.2-A	EXCLUSIVE POWER FEEDS	A	A	COC	L-3.5	
3.2.3.2-B	EXCLUSIVE POWER FEEDS	A	A	COC	L-3.5	
3.2.3.3	LOSS OF POWER	A	SAFETY	COC	L-3.5	
3.2.4	ELECTROMAGNETIC COMPATIBILITY	A	T & A	Test data	L-7.5	The required submittal data of test data is more suitable for this hardware.
3.2.4.1	ELECTRICAL GROUNDING	A	T & A	Test data showing compliance with SSP 30240 Sec. 3.	L-7.5	The required submittal data of test data is more suitable for this hardware. The submittal date of L-7.5 is a more suitable date to submit the required data.
3.2.4.2	ELECTRICAL BONDING	A	T & A & I	Test data showing compliance with SSP 30245, NSTS 1700.7B/ISS, 213 and 220, and the Unique Payload Hardware	L-7.5	The required submittal data of test data is more suitable for this hardware. The submittal date of

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				ICD.		L-7.5 is a more suitable date to submit the required data.
3.2.4.3	CABLE/WIRE DESIGN AND CONTROL REQUIREMENTS	A	A & I	Analysis data showing compliance with SSP 30242.	L-7.5	The required submittal data of analysis data is more suitable for this hardware. The submittal date of L-7.5 is a more suitable date to submit the required data.
3.2.4.4	ELECTROMAGNETIC INTERFERENCE	A	T & A	Test data	L-7.5	The required submittal data of test data is more suitable for this hardware.
3.2.4.5	ELECTROSTATIC DISCHARGE	A	A & I	Certificate of Compliance (COC) showing that the inspection identifies labeling of integrated rack and EPCE.	L-3.5	The required submittal data of COC is more suitable for this hardware. The submittal date of L-3.5 is a more suitable date to submit the required data.
3.2.4.6	ALTERNATING CURRENT (AC) MAGNETIC FIELDS	A	T	Test data	L-7.5	The required submittal data of test data is more suitable for this hardware.

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.2.4.7	DIRECT CURRENT (DC) MAGNETIC FIELDS	A	T	Test data	L-7.5	The required submittal data of test data is more suitable for this hardware.
3.2.4.8	CORONA	A	A	Detailed analysis of corona design techniques, voltage levels, and any gases plus operating environment.	L-7.5	The required submittal data of detailed analysis is more suitable for this hardware.
3.2.4.9	LIGHTNING	A	A	Analysis showing compliance with the requirements of SSP 30243 par. 3.2.8.1.	L-7.5	
3.2.4.10	EMI SUSCEPTIBILITY FOR SAFETY-CRITICAL CIRCUITS	N/A	T & A	Analysis report with supporting test data.	L-7.5	No safety critical circuits
3.2.5	SAFETY REQUIREMENTS		TITLE	N/A	N/A	
3.2.5.1	PAYLOAD ELECTRICAL SAFETY		TITLE	N/A	N/A	
3.2.5.1.1	MATING/DEMATING OF POWERED CONNECTORS	A	SAFETY	COC	L-3.5	
3.2.5.1.2	SAFETY-CRITICAL CIRCUITS REDUNDANCY	N/A	SAFETY			No safety critical circuits
3.2.5.2	RACK MAINTENANCE SWITCH (RACK POWER SWITCH)	A	I	Drawings showing the size and location of the Rack Maintenance Switch (Rack Power Switch) for the inspection.	L-7.5	
3.2.5.3-A	POWER SWITCHES/CONTROLS	A	A	COC	L-3.5	
3.2.5.3-B	POWER SWITCHES/CONTROLS	A	A	COC	L-3.5	
3.2.5.3-C	POWER SWITCHES/CONTROLS	N/A	A	COC	L-3.5	No standby mode
3.2.5.4-A	GROUND FAULT CIRCUIT INTERRUPTERS (GFCI)/PORTABLE	N/A	A	COC	L-3.5	No portable outlet above 32 VDC

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
	EQUIPMENT DC SOURCING VOLTAGE					
3.2.5.4-B	GROUND FAULT CIRCUIT INTERRUPTERS (GFCI)/PORTABLE EQUIPMENT DC SOURCING VOLTAGE	N/A	T	COC	L-3.5	No GFCI required in 3.2.5.4-A & D
3.2.5.4-C	GROUND FAULT CIRCUIT INTERRUPTERS (GFCI)/PORTABLE EQUIPMENT DC SOURCING VOLTAGE	N/A	T or A	COC	L-3.5	No GFCI required in 3.2.5.4-A & D
3.2.5.4-D	GROUND FAULT CIRCUIT INTERRUPTERS (GFCI)/PORTABLE EQUIPMENT DC SOURCING VOLTAGE	N/A	A & T	COC	L-3.5	No credible fault path through crew
3.2.5.4-E	GROUND FAULT CIRCUIT INTERRUPTERS (GFCI)/PORTABLE EQUIPMENT DC SOURCING VOLTAGE	N/A	T or A	COC	L-3.5	No GFCI required in 3.2.5.4-A & D
3.2.5.4-F	GROUND FAULT CIRCUIT INTERRUPTERS (GFCI)/PORTABLE EQUIPMENT DC SOURCING VOLTAGE	N/A	T	COC	L-3.5	No GFCI required in 3.2.5.4-A & D
3.2.5.4-G	GROUND FAULT CIRCUIT INTERRUPTERS (GFCI)/PORTABLE EQUIPMENT DC SOURCING VOLTAGE	N/A	A & D	COC	L-3.5	No GFCI required in 3.2.5.4-A & D
3.2.5.5-A	PORTABLE EQUIPMENT/POWER CORDS	A	A	COC	L-3.5	
3.2.5.5-B	PORTABLE EQUIPMENT/POWER CORDS	A	A	COC	L-3.5	
3.2.6	MPLM		NVR	N/A	N/A	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.2.6.1-A	MPLM ELECTRICAL POWER CHARACTERISTICS	N/A	T	COC	L-3.5	Not powered in MPLM
3.2.6.1-B	MPLM ELECTRICAL POWER CHARACTERISTICS	N/A	A	Data cert providing plot of input voltage vs. frequency	L-7.5	Not powered in MPLM
3.2.6.1-C	MPLM ELECTRICAL POWER CHARACTERISTICS	N/A	A	Data cert providing plot of input voltage vs. frequency	L-7.5	Not powered in MPLM
3.2.6.1-D	MPLM ELECTRICAL POWER CHARACTERISTICS	N/A	T or A	COC	L-3.5	Not powered in MPLM
3.2.6.1-E	MPLM ELECTRICAL POWER CHARACTERISTICS	N/A	A	COC	L-3.5	Not powered in MPLM
3.2.6.1-F	MPLM ELECTRICAL POWER CHARACTERISTICS	N/A	A	COC	L-3.5	Not powered in MPLM
3.2.6.1-G	MPLM ELECTRICAL POWER CHARACTERISTICS	N/A	A	COC	L-3.5	Not powered in MPLM
3.2.6.2-A	MPLM ELECTRICAL POWER INTERFACE	N/A	T	Test report	L-7.5	Not powered in MPLM
3.2.6.2-B	MPLM ELECTRICAL POWER INTERFACE	N/A	A	Analysis report	L-7.5	Not powered in MPLM
3.2.6.2-C	MPLM ELECTRICAL POWER INTERFACE	N/A	T	Test report	L-7.5	Not powered in MPLM
3.2.6.2-D	MPLM ELECTRICAL POWER INTERFACE	N/A	T & A	Analysis and test report	L-7.5	Not powered in MPLM
3.2.6.2-E	MPLM ELECTRICAL POWER INTERFACE	N/A	T & A	Analysis and test report	L-7.5	Not powered in MPLM
3.2.6.2-F	MPLM ELECTRICAL POWER INTERFACE	N/A	A	Analysis report	L-7.5	Not powered in MPLM
3.2.6.2.1-A	MPLM UIP CONNECTORS AND PIN ASSIGNMENTS		NVR	N/A	N/A	
3.2.6.2.1-B	MPLM UIP CONNECTORS AND PIN ASSIGNMENTS	N/A	I	COC	L-3.5	Not powered in MPLM
3.2.6.2.1-C	MPLM UIP CONNECTORS AND PIN	N/A	I	COC	L-3.5	Not powered in

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
	ASSIGNMENTS					MPLM
3.2.6.2.2	COMPATIBILITY WITH RPC SOFT START/STOP IN MPLM	N/A	T	COC	L-3.5	Not powered in MPLM
3.2.6.2.3-A	MPLM SURGE CURRENT	N/A	T & A	Analysis and test report	L-7.5	Not powered in MPLM
3.2.6.2.3-B	MPLM SURGE CURRENT	N/A	T & A	Analysis and test report	L-7.5	Not powered in MPLM
3.2.6.2.3-C	MPLM SURGE CURRENT	N/A	T & A	Analysis and test report	L-7.5	Not powered in MPLM
3.2.6.2.3-D	MPLM SURGE CURRENT	N/A	T & A	Analysis and test report	L-7.5	Not powered in MPLM
3.2.6.2.4	MPLM REVERSE ENERGY/CURRENT	N/A	A	Data cert providing a plot of worst case reverse current and potential reverse current case conditions to SSP 57000, Table 3.2.2.5-1 allowables.	L-7.5	Not powered in MPLM
3.2.6.2.5	MPLM PAYLOAD TRIP RATINGS	N/A	A	Analysis report	L-7.5	Not powered in MPLM
3.2.6.3-A	MPLM ELECTRICAL POWER CONSUMER CONSTRAINTS	N/A	A	COC	L-3.5	Not powered in MPLM
3.2.6.3-B	MPLM ELECTRICAL POWER CONSUMER CONSTRAINTS	N/A	I or A	COC	L-3.5	Not powered in MPLM
3.2.6.3-C	MPLM ELECTRICAL POWER CONSUMER CONSTRAINTS	N/A	A	COC	L-3.5	Not powered in MPLM
3.2.6.3-D	MPLM ELECTRICAL POWER CONSUMER CONSTRAINTS	N/A	SAFETY	COC	L-3.5	Not powered in MPLM
3.2.6.4-A	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	T & A	Test and analysis report	L-7.5	Not powered in MPLM
3.2.6.4-B	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	T & A & I	Test and analysis report	L-7.5	Not powered in MPLM

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.2.6.4-C	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	A & T or A & I	1. Analysis report showing compliance with SSP 30242. 2. COC for the test or inspection.	1. L-7.5 2. L-3.5	Not powered in MPLM
3.2.6.4-D	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	T & A	Test report	L-7.5	Not powered in MPLM
3.2.6.4-E	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	T or A & I	Analysis and test report	L-7.5	Not powered in MPLM
3.2.6.4-F	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	T or A	Test Report for "Electromagnetic Interference/Compatibility" (Emissions greater than 20dB below specified limits will be recorded in the EMI test report. In cases where the noise floor ambient are not 20dB below specified level, only those emissions above the noise floor/ambient are required to be recorded.)	L-7.5	Not powered in MPLM
3.2.6.4-G	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	T or A	Test Report for "Electromagnetic Interference/Compatibility" (A tabular listing of each dc magnetic field measurement, distance from Equipment Under Test (EUT), and mode of EUT operation.)	L-7.5	Not powered in MPLM

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.2.6.4-H	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	T or A	1. Detailed analysis of corona design techniques, voltage levels, and any gases plus operating environment. 2. Test report identifying test configuration plus the test results.	1. L-7.5 2. L-7.5	Not powered in MPLM
3.2.6.4-I	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	A	Analysis report	L-7.5	Not powered in MPLM
3.2.6.4-J	MPLM ELECTROMAGNETIC COMPATIBILITY	N/A	T & A	Analysis report including applicable test data	L-7.5	Not powered in MPLM
3.2.6.4.1	MPLM BONDING	N/A	A	Analysis report	L-7.5	Not powered in MPLM
3.2.6.5-A	MPLM SAFETY REQUIREMENTS	N/A	SAFETY	COC	L-3.5	Not powered in MPLM
3.2.6.5-B	MPLM SAFETY REQUIREMENTS	N/A	SAFETY	COC	L-3.5	Not powered in MPLM
3.2.6.5-C	MPLM SAFETY REQUIREMENTS	N/A	I & D	COC	L-3.5	Not powered in MPLM
3.2.6.5-D	MPLM SAFETY REQUIREMENTS	N/A	A	COC	L-3.5	Not powered in MPLM
3.2.6.5-E	MPLM SAFETY REQUIREMENTS	N/A	D, T & A	COC	L-3.5	Not powered in MPLM
3.2.6.5-F	MPLM SAFETY REQUIREMENTS	N/A	A	COC	L-3.5	Not powered in MPLM
3.3	COMMAND AND DATA HANDLING INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.3.1	GENERAL REQUIREMENTS		NVR	N/A	N/A	No C&DH interface
3.3.2	WORD/BYTE NOTATIONS, TYPES		NVR	N/A	N/A	

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
	AND DATA TRANSMISSIONS					
3.3.2.1	WORD/BYTE NOTATIONS	A	I	COC	L-3.5	
3.3.2.2	DATA TYPES	A	I	COC	L-3.5	
3.3.2.3-A	DATA TRANSMISSIONS	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.2.3-B	DATA TRANSMISSIONS	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.2.3-C	DATA TRANSMISSIONS	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.3	PROGRAM-UNIQUE IDENTIFIER		DELETED	N/A	N/A	
3.3.4	CONSULTATIVE COMMITTEE FOR SPACE DATA SYSTEMS		NVR	N/A	N/A	
3.3.4.1-A	CCSDS DATA	N/A	T or A	COC	L-3.5	No direct ISS data interface
3.3.4.1-B	CCSDS DATA	N/A	T or A	COC	L-3.5	No direct ISS data interface
3.3.4.1-C	CCSDS DATA	N/A	T or A	COC	L-3.5	No direct ISS data interface
3.3.4.1.1	CCSDS DATA PACKETS	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.4.1.1.1	CCSDS PRIMARY HEADER	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.4.1.1.2-A	CCSDS SECONDARY HEADER	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.4.1.1.2-B	CCSDS SECONDARY HEADER	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.4.1.2	CCSDS DATA FIELD	N/A	T	COC for testing	L-3.5	No direct ISS data interface
3.3.4.1.3	CCSDS DATA BITSTREAM	N/A	T	COC for testing	L-3.5	No direct ISS data interface
3.3.4.1.4	CCSDS APPLICATION PROCESS		NVR	N/A	N/A	

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
	IDENTIFICATION FIELD					
3.3.4.2	CCSDS TIME CODES		NVR	N/A	N/A	
3.3.4.2.1	CCSDS UNSEGMENTED TIME	N/A	T	COC for test	L-3.5	No direct ISS data interface
3.3.4.2.2	CCSDS SEGMENTED TIME		NVR	N/A	N/A	
3.3.5	MIL-STD-1553B LOW RATE DATA LINK (LRDL)	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.1	MIL-STD-1553B PROTOCOL		TITLE	N/A	N/A	
3.3.5.1.1	STANDARD MESSAGES	N/A	I & T	COC	L-3.5	No direct ISS data interface
3.3.5.1.2	COMMANDING	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.1.3	HEALTH AND STATUS DATA	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.1.4-A	SAFETY DATA	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.1.4-B	SAFETY DATA	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.1.4.1	CAUTION AND WARNING		NVR	N/A	N/A	
3.3.5.1.4.1.1	CLASS 1 - EMERGENCY		NVR	N/A	N/A	
3.3.5.1.4.1.2	CLASS 2 - WARNING	N/A	A & T	Data Cert providing analysis and test results.	L-7.5	No direct ISS data interface
3.3.5.1.4.1.3	CLASS 3 - CAUTION	N/A	A & T	Data Cert providing analysis and test results.	L-7.5	No direct ISS data interface
3.3.5.1.4.1.4	CLASS 4 - ADVISORY	N/A	A & T	Data Cert providing analysis and test results.	L-7.5	No direct ISS data interface
3.3.5.1.5	SERVICE REQUESTS	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.1.6	ANCILLARY DATA		NVR	N/A	N/A	
3.3.5.1.7	FILE TRANSFER	N/A	T	COC	L-3.5	No direct ISS data interface

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.3.5.1.8	LOW RATE TELEMETRY	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.1.9	DEFINED MODE CODES		TITLE	N/A	N/A	
3.3.5.1.10	IMPLEMENTED MODE CODES	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.1.11	UNIMPLEMENTED/UNDEFINED MODE CODES	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.1.12	ILLEGAL COMMANDS	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.2	MIL-STD-1553B LOW RATE DATA LINK (LRDL) INTERFACE CHARACTERISTICS		TITLE	N/A	N/A	
3.3.5.2.1	LRDL REMOTE TERMINAL ASSIGNMENT		TITLE	N/A	N/A	
3.3.5.2.1.1	LRDL CONNECTOR/PIN ASSIGNMENTS		TITLE	N/A	N/A	
3.3.5.2.1.2-A	MIL–STD–1553B BUS A AND B CONNECTOR/PIN ASSIGNMENT		NVR	N/A	N/A	
3.3.5.2.1.2-B	MIL–STD–1553B BUS A AND B CONNECTOR/PIN ASSIGNMENT	N/A	I & T	COC	L-3.5	No direct ISS data interface
3.3.5.2.1.2-C	MIL–STD–1553B BUS A AND B CONNECTOR/PIN ASSIGNMENT	N/A	I & T	COC	L-3.5	No direct ISS data interface
3.3.5.2.1.3	DELETED		DELETED	N/A	N/A	
3.3.5.2.1.4-A	REMOTE TERMINAL HARDWIRED ADDRESS CODING	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.2.1.4-B	REMOTE TERMINAL HARDWIRED ADDRESS CODING	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.2.1.4-C	REMOTE TERMINAL HARDWIRED ADDRESS CODING	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.2.1.4-D	REMOTE TERMINAL HARDWIRED ADDRESS CODING	N/A	T	COC	L-3.5	No direct ISS data interface

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.3.5.2.1.4-E	REMOTE TERMINAL HARDWIRED ADDRESS CODING	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.2.2	LRDL SIGNAL CHARACTERISTICS	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.5.2.3	LRDL CABLING	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.5.2.4	MULTI-BUS ISOLATION	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.6	MEDIUM RATE DATA LINK (MRDL)		TITLE	N/A	N/A	
3.3.6.1	MRDL PROTOCOL	N/A	I & T	COC	L-3.5	No direct ISS data interface
3.3.6.1.1	INTEGRATED RACK PROTOCOLS ON THE MRDL	N/A	I & T	COC	L-3.5	No direct ISS data interface
3.3.6.1.2-A	MRDL ADDRESS	N/A	A & T	COC	L-3.5	No direct ISS data interface
3.3.6.1.2-B	MRDL ADDRESS	N/A	A & T	COC	L-3.5	No direct ISS data interface
3.3.6.1.2-C	MRDL ADDRESS	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.6.1.3-A	ISPR MRDL CONNECTIVITY	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.6.1.3-B	ISPR MRDL CONNECTIVITY	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.6.1.3-C	ISPR MRDL CONNECTIVITY	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.6.1.4-A	MRDL CONNECTOR/PIN ASSIGNMENTS AND WIRE REQUIREMENTS		NVR	N/A	N/A	
3.3.6.1.4-B	MRDL CONNECTOR/PIN ASSIGNMENTS AND WIRE REQUIREMENTS	N/A	I & T	COC	L-3.5	No direct ISS data interface

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.3.6.1.4-C	MRDL CONNECTOR/PIN ASSIGNMENTS AND WIRE REQUIREMENTS	N/A	I & T	COC	L-3.5	No direct ISS data interface
3.3.6.1.4-D	MRDL CONNECTOR/PIN ASSIGNMENTS AND WIRE REQUIREMENTS	N/A	I & T	COC	L-3.5	No direct ISS data interface
3.3.6.1.5	MRDL SIGNAL CHARACTERISTICS	N/A	I & T	COC	L-3.5	No direct ISS data interface
3.3.6.1.6	MRDL CABLE CHARACTERISTICS	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.6.1.6.1	INSERTION LOSS	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.6.1.6.2	DIFFERENTIAL CHARACTERISTIC IMPEDANCE	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.6.1.6.3	MEDIUM TIMING JITTER	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.7	HIGH RATE DATA LINK (HRDL)		NVR	N/A	N/A	
3.3.7.1	PAYLOAD TO HIGH RATE FRAME MULTIPLEXER (HRFM) PROTOCOLS	N/A	T & I	COC	L-3.5	No direct ISS data interface
3.3.7.2	HRDL INTERFACE CHARACTERISTICS		NVR	N/A	N/A	
3.3.7.2.1	PHYSICAL SIGNALING	N/A	T & A	Data Cert providing rates, signal coding, and control signals.	L-7.5	No direct ISS data interface
3.3.7.2.1.1-A	PHYSICAL SIGNALING DATE RATES	N/A	T & A	Data Cert providing rates, signal coding, and control signals.	L-7.5	No direct ISS data interface
3.3.7.2.1.1-B	PHYSICAL SIGNALING DATE RATES	N/A	T & A	Data Cert providing rates, signal coding, and control signals.	L-7.5	No direct ISS data interface
3.3.7.2.1.1-C	PHYSICAL SIGNALING DATE RATES	N/A	T & A	Data Cert providing rates,	L-7.5	No direct ISS data

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				signal coding, and control signals.		interface
3.3.7.2.2	ENCODING	N/A	I & T	Data Cert providing rates, signal coding, and control signals.	L-7.5	No direct ISS data interface
3.3.7.3	INTEGRATED RACK HRDL OPTICAL POWER		TITLE	N/A	N/A	
3.3.7.3.1	INTEGRATED RACK HRDL TRANSMITTED OPTICAL POWER	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.7.3.2	INTEGRATED RACK HRDL RECEIVED OPTICAL POWER	N/A	T	COC	L-3.5	No direct ISS data interface
3.3.7.4	HRDL FIBER OPTIC CABLE	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.7.5	HRDL FIBER OPTIC CABLE BEND RADIUS	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.7.6-A	HRDL CONNECTORS AND FIBER		NVR	N/A	N/A	
3.3.7.6-B	HRDL CONNECTORS AND FIBER	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.7.6-C	HRDL CONNECTORS AND FIBER	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.7.6-D	HRDL CONNECTORS AND FIBER	N/A	I	COC	L-3.5	No direct ISS data interface
3.3.8	PERSONAL COMPUTERS		NVR	N/A	N/A	
3.3.8.1-A	PAYLOAD LAPTOP	A	I	COC	L-3.5	
3.3.8.1-B	PAYLOAD LAPTOP	A	I	COC	L-3.5	
3.3.8.1-C	PAYLOAD LAPTOP	A	D	COC	L-3.5	
3.3.8.1-D	PAYLOAD LAPTOP	A	I	COC	L-3.5	
3.3.8.1-E	PAYLOAD LAPTOP	N/A	I	COC	L-3.5	Not a standard rack
3.3.8.1-F	PAYLOAD LAPTOP	A	I	COC	L-3.5	
3.3.8.1-G	PAYLOAD LAPTOP	A	I	COC	L-3.5	
3.3.8.1-H	PAYLOAD LAPTOP	A	I	COC	L-3.5	

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.3.8.2-A	PCS	N/A	T	COC	L-3.5	Does not use ISS PCS
3.3.8.2-B	PCS	N/A	D	COC	L-3.5	Does not use ISS PCS
3.3.8.2-C	PCS	N/A	I	COC	L-3.5	Does not use ISS PCS
3.3.8.2.1-A	PCS TO UOP INTERFACE		NVR	N/A	N/A	
3.3.8.2.1-B	PCS TO UOP INTERFACE		NVR	N/A	N/A	
3.3.8.2.2-A	760XD LAPTOP TO RACK INTERFACE	N/A	I	COC	L-3.5	Duplicate Requirement
3.3.8.2.2-B	760XD LAPTOP TO RACK INTERFACE	N/A	I	COC	L-3.5	Duplicate Requirement
3.3.8.2.2-C	760XD LAPTOP TO RACK INTERFACE	N/A	I	COC	L-3.5	Duplicate Requirement
3.3.8.2.2-D	760XD LAPTOP TO RACK INTERFACE	N/A	I	COC	L-3.5	Duplicate Requirement
3.3.8.3-A	SSC	N/A	I	COC	L-3.5	Does not use ISS PCS
3.3.8.3-B	SSC	N/A	D	COC	L-3.5	Does not use ISS PCS
3.3.9	UOP		NVR	N/A	N/A	
3.3.10	MAINTENANCE SWITCH, SMOKE DETECTOR, SMOKE INDICATOR, AND INTEGRATED RACK FAN INTERFACES		TITLE	N/A	N/A	
3.3.10.1-A	RACK MAINTENANCE SWITCH (RACK POWER SWITCH) INTERFACES	A	T	COC	L-3.5	
3.3.10.1-B	RACK MAINTENANCE SWITCH (RACK POWER SWITCH) INTERFACES	A	T	COC	L-3.5	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.3.10.2	SMOKE DETECTOR INTERFACES		TITLE	COC	L-3.5	
3.3.10.2.1	ANALOG INTERFACE CHARACTERISTICS	N/A	I	COC	L-3.5	No analog interfaces
3.3.10.2.2	DISCRETE COMMAND BUILT-IN-TEST INTERFACE CHARACTERISTICS	N/A	I	COC	L-3.5	No discrete interfaces
3.3.10.2.3	SMOKE INDICATOR ELECTRICAL INTERFACES	N/A	I & T	COC	L-3.5	No smoke indicator interfaces
3.3.10.2.4	FAN VENTILATION STATUS ELECTRICAL INTERFACES	N/A	I	COC	L-3.5	No fan ventilation interfaces
3.3.10.3-A	RACK MAINTENANCE SWITCH (RACK POWER SWITCH) FIRE DETECTION SUPPORT INTERFACE CONNECTOR		NVR	N/A	N/A	
3.3.10.3-B	RACK MAINTENANCE SWITCH (RACK POWER SWITCH) FIRE DETECTION SUPPORT INTERFACE CONNECTOR	A	I	COC	L-3.5	
3.3.10.3-C	RACK MAINTENANCE SWITCH (RACK POWER SWITCH) FIRE DETECTION SUPPORT INTERFACE CONNECTOR	A	I	COC	L-3.5	
3.4	PAYLOAD NTSC VIDEO AND AUDIO INTERFACE REQUIREMENTS		NVR	N/A	N/A	
3.4.1	PAYLOAD NTSC VIDEO INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.4.1.1-A	PAYLOAD NTSC OPTICAL VIDEO CHARACTERISTICS	N/A	T	COC	L-3.5	No video interface
3.4.1.1-B	PAYLOAD NTSC OPTICAL VIDEO CHARACTERISTICS	N/A	T	COC	L-3.5	No video interface
3.4.1.1-C	PAYLOAD NTSC OPTICAL VIDEO	N/A	T	COC	L-3.5	No video interface

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
	CHARACTERISTICS					
3.4.1.2	NTSC FIBER OPTIC VIDEO		TITLE	N/A	N/A	
3.4.1.2.1-A	PULSE FREQUENCY MODULATION NTSC FIBER OPTIC VIDEO CHARACTERISTICS	N/A	T	COC	L-3.5	No video interface
3.4.1.2.1-B	PULSE FREQUENCY MODULATION NTSC FIBER OPTIC VIDEO CHARACTERISTICS	N/A	T	COC	L-3.5	No video interface
3.4.1.2.2	INTEGRATED RACK NTSC PFM VIDEO TRANSMITTED OPTICAL POWER	N/A	T	COC	L-3.5	No video interface
3.4.1.2.3	INTEGRATED RACK NTSC PFM VIDEO AND SYNC SIGNAL RECEIVED OPTICAL POWER	N/A	T	COC	L-3.5	No video interface
3.4.1.2.4	FIBER OPTIC CABLE CHARACTERISTICS	N/A	I	COC	L-3.5	No video interface
3.4.1.2.5	PFM NTSC VIDEO FIBER OPTIC CABLE BEND RADIUS	N/A	I	COC	L-3.5	No video interface
3.4.1.2.6	DELETED		DELETED	N/A	N/A	
3.4.1.2.7-A	PFM NTSC OPTICAL CONNECTOR/PIN ASSIGNMENTS		NVR	N/A	N/A	
3.4.1.2.7-B	PFM NTSC OPTICAL CONNECTOR/PIN ASSIGNMENTS	N/A	I	COC	L-3.5	No video interface
3.4.1.2.7-C	PFM NTSC OPTICAL CONNECTOR/PIN ASSIGNMENTS	N/A	I	COC	L-3.5	No video interface
3.4.1.3	NTSC ELECTRICAL VIDEO INTERFACES		TITLE	N/A	N/A	
3.4.1.3.1	CABLES	N/A	I	COC	L-3.5	No video interface
3.4.1.3.2	SIGNAL STANDARD	N/A	T	COC	L-3.5	No video interface
3.4.1.3.3	INTERFACE CIRCUIT	N/A	A	COC	L-3.5	No video interface
3.4.1.3.4	CROSS TALK	N/A	T	COC	L-3.5	No video interface

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.4.1.4-A	NTSC ELECTRICAL CONNECTOR/PIN ASSIGNMENTS		NVR	N/A	N/A	
3.4.1.4-B	NTSC ELECTRICAL CONNECTOR/PIN ASSIGNMENTS	N/A	I	COC	L-3.5	No video interface
3.4.1.4-C	NTSC ELECTRICAL CONNECTOR/PIN ASSIGNMENTS	N/A	I	COC	L-3.5	No video interface
3.4.2	U.S. ELEMENT AUDIO INTERFACE REQUIREMENTS		NVR	N/A	N/A	
3.5	THERMAL CONTROL INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.5.1	INTERNAL THERMAL CONTROL SYSTEM (ITCS) INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.5.1.1-A	PHYSICAL INTERFACE		NVR	N/A	N/A	
3.5.1.1-B	PHYSICAL INTERFACE		NVR	N/A	N/A	
3.5.1.2-A	ITCS FLUID USE AND CHARGING-ITCS FLUID USE	N/A	T	COC	L-3.5	No fluid interfaces
3.5.1.2-B	ITCS FLUID USE AND CHARGING-INTEGRATED RACK CHARGING	N/A	A	COC	L-3.5	No fluid interfaces
3.5.1.3	ITCS PRESSURE DROP		TITLE	N/A	N/A	
3.5.1.3.1-A	ITCS PRESSURE DROP-ON-ORBIT INTERFACES	N/A	T	Data Cert providing pressure differentials (in psid) vs. flow rate results (in lbm per hour).	L-7.5	No fluid interfaces
3.5.1.3.1-B	ITCS PRESSURE DROP-ON-ORBIT INTERFACES	N/A	T	Data Cert providing pressure differentials (in psid) vs. flow rate results (in lbm per hour).	L-7.5	No fluid interfaces
3.5.1.3.2	ITCS PRESSURE DROP-MPLM INTERFACES	N/A	T	Data Cert providing pressure differentials (in psid) vs. flow rate results	L-7.5	No fluid interfaces

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				(in lbm per hour).		
3.5.1.4-A	COOLANT FLOW RATE-MODERATE TEMPERATURE LOOP	N/A	T or A	Data Cert providing power data (in kW) and flow rate (in lbm per hour) for each mode of operation in tabular form.	L-7.5	No fluid interfaces
3.5.1.4-B	COOLANT FLOW RATE-LOW TEMPERATURE LOOP	N/A	T or A	Data Cert providing power data (in kW) and flow rate (in lbm per hour) for each mode of operation in tabular form.	L-7.5	No fluid interfaces
3.5.1.5-A	COOLANT SUPPLY TEMPERATURE-MODERATE TEMPERATURE LOOP	N/A	NVR	N/A	N/A	No fluid interfaces
3.5.1.5-B	COOLANT SUPPLY TEMPERATURE-LOW TEMPERATURE LOOP	N/A	NVR	N/A	N/A	No fluid interfaces
3.5.1.6-A	COOLANT RETURN TEMPERATURE	N/A	T & A	Data Cert providing return coolant temperature (in °F) and power data (in kW) for each mode of operation in tabular form.	L-7.5	No fluid interfaces
3.5.1.6-B	COOLANT RETURN TEMPERATURE	N/A	A	Data Cert providing return coolant temperature (in °F) and power data (in kW) for each mode of operation in tabular form.	L-7.5	No fluid interfaces
3.5.1.6-C	COOLANT RETURN TEMPERATURE	N/A	T & A	Data Cert providing return coolant temperature (in °F) and power data (in kW) for each mode of operation in tabular form.	L-7.5	No fluid interfaces
3.5.1.6-D	COOLANT RETURN TEMPERATURE	N/A	T & A	Data Cert providing return	L-7.5	No fluid interfaces

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				coolant temperature (in °F) and power data (in kW) for each mode of operation in tabular form.		
3.5.1.7-A	COOLANT MAXIMUM DESIGN PRESSURE-MODERATE TEMPERATURE LOOP	N/A	T	COC	L-7.5	No fluid interfaces
3.5.1.7-B	COOLANT MAXIMUM DESIGN PRESSURE-LOW TEMPERATURE LOOP	N/A	T	COC	L-7.5	No fluid interfaces
3.5.1.7-C	COOLANT MAXIMUM DESIGN PRESSURE-MPLM TEMPERATURE LOOP	N/A	T	COC	L-7.5	No fluid interfaces
3.5.1.8	FAIL SAFE DESIGN	N/A	A or A & T	COC	L-3.5	No fluid interfaces
3.5.1.9-A	LEAKAGE	N/A	T	Data Cert providing leakage test results (in scc per hour).	L-7.5	No fluid interfaces
3.5.1.9-B	LEAKAGE	N/A	T	Data Cert providing leakage test results (in scc per hour).	L-7.5	No fluid interfaces
3.5.1.10	QUICK-DISCONNECT AIR INCLUSION	N/A	T or A	COC	L-3.5	No fluid interfaces
3.5.1.11	RACK FRONT SURFACE TEMPERATURE	N/A	T or A	COC	L-3.5	Not a standard rack
3.5.1.12	CABIN AIR HEAT LEAK	A	A	Data Cert providing integrated rack-to-cabin heat leak analysis results.	L-7.5	
3.5.1.13	MPLM CABIN AIR COOLING	N/A	A	Data Cert providing analysis results (in watts) that the cabin air cooling (heat absorbed) of the	L-7.5	Not powered in the MPLM

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				integrated rack is within limits.		
3.5.1.14-A	SIMULTANEOUS COOLING	N/A	A	COC	L-3.5	No fluid interfaces
3.5.1.14-B	SIMULTANEOUS COOLING	N/A	I	COC	L-3.5	No fluid interfaces
3.5.1.15	CONTROL SYSTEM TIME CONSTANT	N/A	T	COC	L-3.5	No fluid interfaces
3.5.1.16	PAYLOAD COOLANT QUANTITY	N/A	T or A	Data Cert providing integrated rack coolant quantity (in liters normalized to the 16.1°C (61°F) reference temperature as provided in the Unique Payload Hardware ICD).	L-7.5	No fluid interfaces
3.5.1.17	PAYLOAD GAS INCLUSION	N/A	A	COC	L-3.5	No fluid interfaces
3.6	VACUUM SYSTEM REQUIREMENTS		TITLE	N/A	N/A	
3.6.1	VACUUM EXHAUST SYSTEM (VES)/WASTE GAS SYSTEM (WGS) REQUIREMENTS		TITLE	N/A	N/A	
3.6.1.1	VES PHYSICAL INTERFACE		NVR	N/A	N/A	
3.6.1.2-A	INPUT PRESSURE LIMIT	N/A	T & A	COC	L-3.5	No VES/WGS interface
3.6.1.2-B	INPUT PRESSURE LIMIT	N/A	T & A	COC	L-3.5	No VES/WGS interface
3.6.1.2-C	INPUT PRESSURE LIMIT	N/A	A	COC	L-3.5	No VES/WGS interface
3.6.1.3	INPUT TEMPERATURE LIMIT	N/A	T	COC	L-3.5	No VES/WGS interface
3.6.1.4	INPUT DEWPOINT LIMIT	N/A	T	COC	L-3.5	No VES/WGS interface
3.6.1.5-A	ACCEPTABLE EXHAUST GASES	N/A	T or A	Data Cert providing constituents of vented gas,	L-7.5	No VES/WGS interface

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				volume, concentration, temperature, and pressure.		
3.6.1.5-B	ACCEPTABLE EXHAUST GASES	N/A	A	Data Cert showing the integrated rack gases vented to the ISS VES/WGS are non-reactive with other vent gas mixture constituents.	L-7.5	No VES/WGS interface
3.6.1.5-C	ACCEPTABLE EXHAUST GASES	N/A	A	Data Cert showing that integrated racks venting in the ISS VES/WGS provide a means to remove gases that should adhere to the VES/WGS tubing walls.	L-7.5	No VES/WGS interface
3.6.1.5-D	ACCEPTABLE EXHAUST GASES	N/A	A	Data Cert. showing that all particulates larger than 100 micrometers are removed prior to venting to the VES/WGS.	L-7.5	No VES/WGS interface
3.6.1.5.1-A	ACCEPTABLE GASES - LIST		NVR	N/A	N/A	
3.6.1.5.1-B	ACCEPTABLE GASES - LIST		NVR	N/A	N/A	
3.6.1.5.1-C	ACCEPTABLE GASES - LIST		NVR	N/A	N/A	
3.6.1.5.2	EXTERNAL CONTAMINATION CONTROL	N/A	A	Data Cert providing the required list of vented gas characteristics (vented gas constituents, mass, temperature, concentration, maximum particulate size, maximum flow rate, and pressure).	L-7.5	No VES/WGS interface
3.6.1.5.3-A	INCOMPATIBLE GASES	N/A	I & A	COC	L-3.5	No VES/WGS

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
						interface
3.6.1.5.3-B	INCOMPATIBLE GASES	N/A	I & A	COC	L-3.5	No VES/WGS interface
3.6.1.6	PAYLOAD VACUUM SYSTEM ACCESS VALVE	N/A	I & A	COC	L-3.5	No VES/WGS interface
3.6.2	VACUUM RESOURCE SYSTEM (VRS)/VACUUM VENT SYSTEM (VVS) REQUIREMENTS		TITLE	N/A	N/A	
3.6.2.1	VRS/VVS PHYSICAL INTERFACE		NVR	N/A	N/A	
3.6.2.2-A	INPUT PRESSURE LIMIT	N/A	T	COC	L-3.5	No VRS/VVS interface
3.6.2.2-B	INPUT PRESSURE LIMIT	N/A	T & A	COC	L-3.5	No VRS/VVS interface
3.6.2.2-C	INPUT PRESSURE LIMIT	N/A	A	COC	L-3.5	No VRS/VVS interface
3.6.2.3	VRS THROUGH-PUT LIMIT	N/A	T	COC	L-3.5	No VRS/VVS interface
3.6.2.4	ACCEPTABLE GASES		NVR	N/A	N/A	
3.7	PRESSURIZED GASES INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.7.1	NITROGEN INTERFACE CONTROL		TITLE	N/A	N/A	
3.7.1.1	NITROGEN INTERFACE CONTROL	N/A	T	COC	L-3.5	No use of nitrogen
3.7.1.2	NITROGEN INTERFACE MDP	N/A	T & A	COC	L7.5	No use of nitrogen
3.7.1.3	NITROGEN INTERFACE TEMPERATURE	N/A	T or A or T & A	COC	L-3.5	No use of nitrogen
3.7.1.4	NITROGEN LEAKAGE	N/A	T	Data Cert providing leakage results in units of each gas used (in scc per sec.). If a representative gas is used to determine leakage (i.e. helium),	L-7.5	No use of nitrogen

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				conversion factors used for the subject gas are to be provided.		
3.7.1.5	NITROGEN INTERFACE CONNECTION		NVR	N/A	N/A	
3.7.2	ARGON INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.7.2.1	ARGON INTERFACE CONTROL	N/A	T	COC	L-3.5	No use of argon
3.7.2.2	ARGON INTERFACE MDP	N/A	T & A	COC	L-7.5	No use of argon
3.7.2.3	ARGON INTERFACE TEMPERATURE	N/A	T or A or T & A	COC	L-3.5	No use of argon
3.7.2.4	ARGON LEAKAGE	N/A	T	Data Cert providing leakage results in units of each gas used (in scc per sec.). If a representative gas is used to determine leakage (i.e., helium), conversion factors used for the subject gas are to be provided.	L-7.5	No use of argon
3.7.2.5	ARGON INTERFACE CONNECTION		NVR	N/A	N/A	
3.7.3	CARBON DIOXIDE INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.7.3.1	CARBON DIOXIDE INTERFACE CONTROL	N/A	T	COC	L-3.5	No use of carbon dioxide
3.7.3.2	CARBON DIOXIDE INTERFACE PRESSURE	N/A	T & A	COC	L-7.5	No use of carbon dioxide
3.7.3.3	CARBON DIOXIDE INTERFACE TEMPERATURE	N/A	T or A or T & A	COC	L-3.5	No use of carbon dioxide
3.7.3.4	CARBON DIOXIDE LEAKAGE	N/A	T	Data Cert providing leakage results in units of	L-7.5	No use of carbon dioxide

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				each gas used (in scc per sec.). If a representative gas is used to determine leakage (i.e., helium), conversion factors used for the subject gas are to be provided.		
3.7.3.5	CARBON DIOXIDE INTERFACE CONNECTION		NVR	N/A	N/A	
3.7.4	HELIUM INTERFACE VERIFICATION REQUIREMENTS		TITLE	N/A	N/A	
3.7.4.1	HELIUM INTERFACE CONTROL	N/A	T	COC	L-3.5	No use of helium
3.7.4.2	HELIUM INTERFACE MDP	N/A	T & A	COC	L-7.5	No use of helium
3.7.4.3	HELIUM INTERFACE TEMPERATURE	N/A	T or A or T & A	COC	L-3.5	No use of helium
3.7.4.4	HELIUM LEAKAGE	N/A	T	Data Cert providing leakage results in units of each gas used (in scc per sec.). If a representative gas is used to determine leakage (i.e., helium), conversion factors used for the subject gas are to be provided.	L-7.5	No use of helium
3.7.4.5	HELIUM INTERFACE CONNECTION		NVR	N/A	N/A	
3.7.5	PRESSURIZED GAS SYSTEMS	N/A	A	Data Cert providing maximum credible leak rate (in slpm) for each bottle.	L-7.5	No use of pressurized gas bottles
3.7.6	MANUAL VALVES	N/A	I	COC	L-3.5	No pressure valves
3.8	PAYLOAD SUPPORT SERVICES INTERFACES REQUIREMENTS		TITLE	N/A	N/A	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.8.1	POTABLE WATER		TITLE	N/A	N/A	
3.8.1.1	POTABLE WATER INTERFACE CONNECTION		NVR	N/A	N/A	
3.8.1.2	POTABLE WATER INTERFACE PRESSURE	N/A	T	COC	L-3.5	No portable water system
3.8.1.3-A	POTABLE WATER USE	N/A	A	Data Cert providing integrated rack water consumption analysis summary.	L-7.5	No portable water system
3.8.1.3-B	POTABLE WATER USE	N/A	A	Data Cert providing integrated rack water consumption analysis summary.	L-7.5	No portable water system
3.8.2	FLUID SYSTEM SERVICER	N/A	I or D	COC	L-3.5	No fluid interfaces
3.9	ENVIRONMENT INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.9.1	ATMOSPHERE REQUIREMENTS		TITLE	N/A	N/A	
3.9.1.1	PRESSURE	A	SAFETY	COC	L-3.5	
3.9.1.2	TEMPERATURE	A	SAFETY	COC	L-3.5	
3.9.1.3	HUMIDITY	N/A	A	1.Analysis report including: -Description of condensation collection system. -Illustration of all components or surfaces where condensation is most likely to occur when the cabin humidity exceeds the nominal case. -Upper humidity limit in terms of dewpoint.	L-7.5	No cold sources

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				-All rack surface temperature.		
3.9.2	INTEGRATED RACK USE OF CABIN ATMOSPHERE		TITLE	N/A	N/A	
3.9.2.1-A	ACTIVE AIR EXCHANGE	N/A	I	COC	L-3.5	No active air exchange
3.9.2.1-B	ACTIVE AIR EXCHANGE	N/A	A	COC	L-3.5	Redundant requirement
3.9.2.2	OXYGEN CONSUMPTION	N/A	A	Data Cert providing the integrated rack oxygen consumption analysis results.	L-7.5	No oxygen consumption
3.9.2.3	CHEMICAL RELEASES	A	SAFETY	COC	L-3.5	
3.9.3	RADIATION REQUIREMENTS		TITLE	N/A	N/A	
3.9.3.1	INTEGRATED RACK CONTAINED OR GENERATED IONIZING RADIATION	A	SAFETY	COC	L-3.5	
3.9.3.2	IONIZING RADIATION DOSE		NVR	N/A	N/A	
3.9.3.3	SINGLE EVENT EFFECT (SEE) IONIZING RADIATION	A	A	COC	L-3.5	
3.9.3.4	LAB WINDOW RACK LOCATION RADIATION REQUIREMENTS		NVR	N/A	N/A	
3.9.3.4.1	WINDOW RACK INFRARED RADIATION REQUIREMENTS	N/A	T	COC	L-3.5	Not window mounted
3.9.3.4.2	WINDOW RACK ULTRAVIOLET RADIATION REQUIREMENTS	N/A	T	COC	L-3.5	Not window mounted
3.9.4	ADDITIONAL ENVIRONMENTAL CONDITIONS		NVR	N/A	N/A	
3.10	FIRE PROTECTION INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.10.1	FIRE PREVENTION	A	SAFETY	COC	L-3.5	
3.10.2	PAYLOAD MONITORING AND		NVR	N/A	N/A	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
	DETECTION REQUIREMENTS					
3.10.2.1	SMOKE DETECTION		TITLE	N/A	N/A	
3.10.2.1.1-A	SMOKE DETECTOR	N/A	I	COC for ISS provided Smoke Detectors (SD) or Analysis report for PD provided smoke detectors.	L-7.5	Meets 22648 containment requirements. Uses cabin smoke detector.
3.10.2.1.1-B	SMOKE DETECTOR	N/A	I & D	COC	L-3.5	Meets 22648 containment requirements. Uses cabin smoke detector.
3.10.2.1.2	FORCED AIR CIRCULATION INDICATION	N/A	T	COC for forced air circulation.	L-3.5	Meets 22648 containment requirements. Uses cabin smoke detector.
3.10.2.1.3-A	FIRE DETECTION INDICATOR	N/A	T & I	Drawing and a COC showing the size and location of the fire detection indicator.	L-7.5	Meets 22648 containment requirements. Uses cabin smoke detector.
3.10.2.1.3-B	FIRE DETECTION INDICATOR	N/A	I	COC for fire detection indicators and sensors.	L-3.5	Meets 22648 containment requirements. Uses cabin smoke detector.
3.10.2.2	PARAMETER MONITORING		TITLE	N/A	N/A	
3.10.2.2.1	PARAMETER MONITORING USE	N/A	I & A	COC	L-3.5	Meets 22648 containment requirements. Uses

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
						cabin smoke detector.
3.10.2.2.2	PARAMETER MONITORING RESPONSE		TITLE	N/A	N/A	
3.10.2.2.2.1-A	PARAMETER MONITORING IN SUBRACK	N/A	T	Test Report including the test data.	L-7.5	Not a subrack
3.10.2.2.2.1-B	PARAMETER MONITORING IN SUBRACK	N/A	T & A	Test Report including the test data.	L-7.5	Not a subrack
3.10.2.2.2.2-A	PARAMETER MONITORING IN INTEGRATED RACK	N/A	T	Test Report including the test data.	L-7.5	Meets 22648 containment requirements. Uses cabin smoke detector.
3.10.2.2.2.2-B	PARAMETER MONITORING IN INTEGRATED RACK	N/A	T	Test Report including the test data.	L-7.5	Meets 22648 containment requirements. Uses cabin smoke detector.
3.10.3	FIRE SUPPRESSION		NVR	N/A	N/A	
3.10.3.1-A	PORTABLE FIRE EXTINGUISHER	TBD #31	I & A	COC showing the size and location of the Fire Suppression Access Port.	L-3.5	The required submittal data of a COC is more suitable for this hardware. The submittal date of L-3.5 is a more suitable date to submit the required data.
3.10.3.1-B	PORTABLE FIRE EXTINGUISHER	TBD #31	I & A	COC showing the size and location of the Fire	L-3.5	The required submittal data of a

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				Suppression Access Port.		COC is more suitable for this hardware. The submittal date of L-3.5 is a more suitable date to submit the required data.
3.10.3.2	FIRE SUPPRESSION ACCESS PORT ACCESSIBILITY	A	D	COC	L-3.5	
3.10.3.3	FIRE SUPPRESSANT DISTRIBUTION	A	A	COC	L-3.5	
3.10.4-A	LABELING	A	I	COC	L-3.5	
3.10.4-B	LABELING	N/A	I	Drawing and COC showing the size and location of the Fire Detection Indicator.	L-7.5	No smoke indicator
3.11	MATERIALS AND PARTS INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.11.1	MATERIALS AND PARTS USE AND SELECTION	A	SAFETY	COC	L-3.5	
3.11.1.1	COMMERCIAL PARTS	A	SAFETY	COC	L-3.5	
3.11.2-A	FLUIDS	N/A	T	COC	L-3.5	No ISS fluid system interface
3.11.2-B	FLUIDS	N/A	T	COC	L-3.5	No ISS fluid system interface
3.11.2-C	FLUIDS	N/A	I or A	COC	L-3.5	No ISS fluid system interface
3.11.3	CLEANLINESS	A	I	COC	L-2	The submittal date of L-2 is a more suitable date to submit the required data.

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.11.4	FUNGUS RESISTANT MATERIAL	A	I	COC	L-3.5	
3.12	HUMAN FACTORS INTERFACE REQUIREMENTS		TITLE	N/A	N/A	
3.12.1-A	STRENGTH REQUIREMENTS	A	D	COC	L-3.5	
3.12.1-B	STRENGTH REQUIREMENTS	A	D	COC	L-3.5	
3.12.2	BODY ENVELOPE AND REACH ACCESSIBILITY		TITLE	N/A	N/A	
3.12.2.1	ADEQUATE CLEARANCE	A	D	COC	L-3.5	
3.12.2.2-A	ACCESSIBILITY	A	D	COC	L-3.5	
3.12.2.2-B	ACCESSIBILITY	A	D	COC	L-3.5	
3.12.2.3	FULL SIZE RANGE ACCOMMODATION	A	A	COC	L-3.5	
3.12.3	HABITABILITY		TITLE	N/A	N/A	
3.12.3.1	HOUSEKEEPING		TITLE	N/A	N/A	
3.12.3.1.1	CLOSURES OR COVERS	A	I	COC	L-3.5	
3.12.3.1.2-A	BUILT-IN CONTROL	N/A	I	COC	L-3.5	No liquids or particulate matter.
3.12.3.1.2-B	BUILT-IN CONTROL	A	D	COC	L-3.5	
3.12.3.1.3	DELETED		DELETED	N/A	N/A	
3.12.3.1.4	DELETED		DELETED	N/A	N/A	
3.12.3.1.5	ONE-HANDED OPERATION	A	D	COC	L-3.5	
3.12.3.1.6	DELETED		DELETED	N/A	N/A	
3.12.3.2	TOUCH TEMPERATURE		TITLE	COC	L-3.5	
3.12.3.2.1	CONTINUOUS/INCIDENTAL CONTACT - HIGH TEMPERATURE	A	SAFETY	COC	L-3.5	
3.12.3.2.2	CONTINUOUS/INCIDENTAL CONTACT - LOW TEMPERATURE	N/A	SAFETY			No cooling functions
3.12.3.3	ACOUSTIC REQUIREMENTS		NVR	N/A	N/A	
3.12.3.3.1-A	CONTINUOUS NOISE LIMITS-SUBRACKS NOT CHANGED OUT	N/A	T	Acoustics summary that includes a list of potential	L-7.5	Will not be operated for > 8 hours in any

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
				noise sources and their locations. Continuous Noise Source - SPL (dB) for the eight octave bands		given 24 hour period.
3.12.3.3.1-B	CONTINUOUS NOISE LIMITS-SUBRACKS CHANGED OUT	N/A	A	Acoustics summary that includes a list of potential noise sources and their locations. Continuous Noise Source - SPL (dB) for the eight octave bands	L-7.5	Will not be operated for > 8 hours in any given 24 hour period.
3.12.3.3.1-C	CONTINUOUS NOISE LIMITS-INDEPENDENTLY OPERATED EQUIPMENT	N/A	T	Acoustics summary that includes a list of potential noise sources and their locations. Continuous Noise Source - SPL (dB) for the eight octave bands	L-7.5	Will not be operated for > 8 hours in any given 24 hour period.
3.12.3.3.2	INTERMITTENT NOISE LIMITS	A	T	Acoustics summary that includes a list of potential noise sources and their locations. Intermittent Noise Source - Overall A-weighted SPL (dBA)	L-7.5	
3.12.3.4-A	LIGHTING DESIGN	A	I	COC	L-3.5	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.12.3.4-B	LIGHTING DESIGN	A	T	COC	L-3.5	
3.12.3.4-C	LIGHTING DESIGN	N/A	D	COC	L-3.5	No light sources
3.12.3.4-D	LIGHTING DESIGN	N/A	D	COC	L-3.5	Not a glovebox
3.12.3.4-E	LIGHTING DESIGN	N/A	T or A	COC	L-3.5	PUL no longer available
3.12.4	STRUCTURAL/MECHANICAL INTERFACES		TITLE	N/A	N/A	
3.12.4.1	DELETED		DELETED	N/A	N/A	
3.12.4.2	PAYLOAD HARDWARE MOUNTING		TITLE	N/A	N/A	
3.12.4.2.1	EQUIPMENT MOUNTING	A	D	COC	L-3.5	
3.12.4.2.2	DRAWERS AND HINGED PANELS	N/A	A	COC	L-3.5	No ORUs to be pulled out for inspection/maintenance.
3.12.4.2.3	DELETED		DELETED	N/A	N/A	
3.12.4.2.4	DELETED		DELETED	N/A	N/A	
3.12.4.2.5	ALIGNMENT	A	I	COC	L-3.5	The method of inspection is more suitable in verifying the hardware than drawing analysis.
3.12.4.2.6	SLIDE-OUT STOPS	A	I	COC	L-3.5	
3.12.4.2.7	PUSH-PULL FORCE	A	D	COC	L-3.5	The method of demonstration is more suitable in verifying the hardware than analysis.
3.12.4.2.8	ACCESS	A	D	COC	L-3.5	
3.12.4.2.8.1	COVERS	A	I	COC	L-3.5	The method of inspection is more

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
						suitable in verifying the hardware than drawing analysis.
3.12.4.2.8.2	SELF-SUPPORTING COVERS	A	D	COC	L-3.5	The method of demonstration is more suitable in verifying the hardware than analysis.
3.12.4.2.8.3	DELETED		DELETED	N/A	N/A	
3.12.4.2.8.4	UNIQUE TOOLS	N/A	A	COC	L-3.5	No unique tools
3.12.4.3	CONNECTORS		TITLE	N/A	N/A	
3.12.4.3.1	ONE-HANDED OPERATION	A	D	COC	L-3.5	
3.12.4.3.2-A	ACCESSIBILITY	A	D	COC	L-3.5	
3.12.4.3.2-B	ACCESSIBILITY	A	I	COC	L-3.5	The method of inspection is more suitable in verifying the hardware than drawing analysis.
3.12.4.3.3-A	EASE OF DISCONNECT	A	D	COC	L-3.5	The method of demonstration is more suitable in verifying the hardware than analysis.
3.12.4.3.3-B	EASE OF DISCONNECT	A	D	COC	L-3.5	The method of demonstration is more suitable in verifying the hardware than analysis.

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.12.4.3.4	INDICATION OF PRESSURE/FLOW	N/A	A	COC	L-3.5	No liquid or gas lines
3.12.4.3.5	SELF LOCKING	A	I	COC	L-3.5	The method of inspection is more suitable in verifying the hardware than drawing analysis.
3.12.4.3.6-A	CONNECTOR ARRANGEMENT	A	I	COC	L-3.5	
3.12.4.3.6-B	CONNECTOR ARRANGEMENT	A	I	COC	L-3.5	
3.12.4.3.7	ARC CONTAINMENT	A	A	COC	L-3.5	
3.12.4.3.8	CONNECTOR PROTECTION	A	I	COC	L-3.5	The method of inspection is more suitable in verifying the hardware than analysis.
3.12.4.3.9	CONNECTOR SHAPE	A	I	COC	L-3.5	The method of inspection is more suitable in verifying the hardware than analysis.
3.12.4.3.10	FLUID AND GAS LINE CONNECTORS	N/A	A	COC	L-3.5	No fluid or gas lines
3.12.4.3.11-A	ALIGNMENT MARKS OR GUIDE PINS	A	I	COC	L-3.5	
3.12.4.3.12-A	CODING	A	I	COC	L-3.5	
3.12.4.3.12-B	CODING	A	I	COC	L-3.5	
3.12.4.3.13	PIN IDENTIFICATION	A	I	COC	L-3.5	
3.12.4.3.14	ORIENTATION	A	I	COC	L-3.5	The method of inspection is more suitable in verifying the hardware than analysis.
3.12.4.3.15-A	HOSE/CABLE RESTRAINTS	A	I	COC	L-3.5	
3.12.4.3.15-B	HOSE/CABLE RESTRAINTS	A	I	COC	L-3.5	

MARES – SSP 57000 REV E APPLICABILITY & COMPLIANCE MATRIX

Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.12.4.3.15-C	HOSE/CABLE RESTRAINTS		NVR	N/A	N/A	
3.12.4.3.15-D	HOSE/CABLE RESTRAINTS	A	I	COC	L-3.5	
3.12.4.4	FASTENERS		TITLE	N/A	N/A	
3.12.4.4.1	NON-THREADED FASTENERS STATUS INDICATION	A	I	COC	L-3.5	
3.12.4.4.2	MOUNTING BOLT/FASTENER SPACING	A	I	COC	L-3.5	
3.12.4.4.3	DELETED		DELETED	N/A	N/A	
3.12.4.4.4-A	MULTIPLE FASTENERS	A	I	COC	L-3.5	
3.12.4.4.5	CAPTIVE FASTENERS	A	I	COC	L-3.5	The method of inspection is more suitable in verifying the hardware than analysis.
3.12.4.4.6-A	QUICK RELEASE FASTENERS	A	I	COC	L-3.5	
3.12.4.4.6-B	QUICK RELEASE FASTENERS	A	I	COC	L-3.5	
3.12.4.4.7	THREADED FASTENERS	A	I	COC	L-3.5	
3.12.4.4.8-A	OVER CENTER LATCHES-NONSELF-LATCHING	N/A	I	COC	L-3.5	No over the center latches
3.12.4.4.8-B	OVER CENTER LATCHES-LATCH LOCK	N/A	I	COC	L-3.5	No over the center latches
3.12.4.4.8-C	OVER CENTER LATCHES-LATCH HANDLES	N/A	I	COC	L-3.5	No over the center latches
3.12.4.4.9	WINGHEAD FASTENERS	N/A	I	COC	L-3.5	No winghead fasteners
3.12.4.4.10	DELETED		DELETED	N/A	N/A	
3.12.4.4.11-A	FASTENER HEAD TYPE	A	I	COC	L-3.5	
3.12.4.4.11-B	FASTENER HEAD TYPE	A	I	COC	L-3.5	
3.12.4.4.11-C	FASTENER HEAD TYPE	A	I	COC	L-3.5	
3.12.4.4.12	ONE-HANDED ACTUATION	A	D	COC	L-3.5	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.12.4.4.13	DELETED		DELETED	N/A	N/A	
3.12.4.4.14	ACCESS HOLES	A	I	COC	L-3.5	
3.12.5	CONTROLS AND DISPLAYS		TITLE	N/A	N/A	
3.12.5.1	CONTROLS SPACING DESIGN REQUIREMENTS	A	I	COC	L-3.5	
3.12.5.2	ACCIDENTAL ACTUATION		TITLE	N/A	N/A	
3.12.5.2.1	PROTECTIVE METHODS	A	I	COC	L-3.5	
3.12.5.2.2	NONINTERFERENCE	A	I	COC	L-3.5	
3.12.5.2.3	DEAD-MAN CONTROLS		NVR	N/A	N/A	
3.12.5.2.4	BARRIER GUARDS	A	I	COC	L-3.5	
3.12.5.2.5	RECESSED SWITCH PROTECTION	N/A	I	COC	L-3.5	No recessed switches
3.12.5.2.6	DELETED		DELETED	N/A	N/A	
3.12.5.2.7	POSITION INDICATION	N/A	I	COC	L-3.5	No covers used
3.12.5.2.8	HIDDEN CONTROLS	N/A	I	COC	L-3.5	No hidden controls
3.12.5.2.9	HAND CONTROLLERS	N/A	I	COC	L-3.5	No hand controllers
3.12.5.3-A	VALVE CONTROLS-LOW TORQUE VALVES	N/A	I	COC	L-3.5	No valves
3.12.5.3-B	VALVE CONTROLS-INTERMEDIATE TORQUE VALVES	N/A	I	COC	L-3.5	No valves
3.12.5.3-C	VALVE CONTROLS-HIGH TORQUE VALVES	N/A	I	COC	L-3.5	No valves
3.12.5.3-D	VALVE CONTROLS-HANDLE DIMENSIONS	N/A	I	COC	L-3.5	No valves
3.12.5.3-E	VALVE CONTROLS-ROTARY VALVE CONTROLS	N/A	I	COC	L-3.5	No valves
3.12.5.4	TOGGLE SWITCHES	A	I	COC	L-3.5	
3.12.6	RESTRAINTS AND MOBILITY AIDS	A	A	COC	L-3.5	
3.12.6.1-A	STOWAGE DRAWER CONTENTS RESTRAINTS	A	I & A	COC	L-3.5	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.12.6.1-B	STOWAGE DRAWER CONTENTS RESTRAINTS	A	D	COC	L-3.5	
3.12.6.1-C	STOWAGE DRAWER CONTENTS RESTRAINTS	A	D	COC	L-3.5	
3.12.6.2-A	STOWAGE AND EQUIPMENT DRAWERS/TRAYS	A	I	COC	L-3.5	
3.12.6.2-B	STOWAGE AND EQUIPMENT DRAWERS/TRAYS	A	I	COC	L-3.5	
3.12.6.3	CAPTIVE PARTS	A	I	COC	L-3.5	
3.12.6.4	HANDLE AND GRASP AREA DESIGN REQUIREMENTS		TITLE	N/A	N/A	
3.12.6.4.1	HANDLES AND RESTRAINTS	A	I	COC	L-3.5	
3.12.6.4.2	DELETED		DELETED	N/A	N/A	
3.12.6.4.3	HANDLE LOCATION/FRONT ACCESS	A	I	COC	L-3.5	
3.12.6.4.4	HANDLE DIMENSIONS	A	D	COC	L-3.5	
3.12.6.4.5-A	NON-FIXED HANDLES DESIGN REQUIREMENTS	N/A	A & D	COC	L-3.5	No non-fixed handles
3.12.6.4.5-B	NON-FIXED HANDLES DESIGN REQUIREMENTS	N/A	D	COC	L-3.5	No non-fixed handles
3.12.6.4.5-C	NON-FIXED HANDLES DESIGN REQUIREMENTS	N/A	I & D	COC	L-3.5	No non-fixed handles
3.12.7	IDENTIFICATION LABELING	A	I	COC showing Form 732 approval.	L-3.5	
3.12.8	COLOR	A	I	COC	L-3.5	Applicable for ISPR only N/A for MARES
3.12.9	CREW SAFETY		TITLE	COC	L-3.5	
3.12.9.1-A	ELECTRICAL HAZARDS		NVR	N/A	N/A	
3.12.9.1-B	ELECTRICAL HAZARDS	A	A	COC	L-3.5	
3.12.9.1-C	ELECTRICAL HAZARDS	A	A	COC	L-3.5	
3.12.9.1-D	ELECTRICAL HAZARDS	A	A	COC	L-3.5	

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.12.9.1-E	ELECTRICAL HAZARDS	A	A	COC	L-3.5	
3.12.9.1.1	MISMATCHED	A	A & I & D	COC	L-3.5	
3.12.9.1.2	DELETED		DELETED	N/A	N/A	
3.12.9.1.3	DELETED		DELETED	N/A	N/A	
3.12.9.1.4	OVERLOAD PROTECTION		NVR	N/A	N/A	
3.12.9.1.4.1	DEVICE ACCESS ABILITY	A	I	COC	L-3.5	
3.12.9.1.4.2	EXTRACTOR-TYPE FUSE HOLDER	A	D	COC	L-3.5	
3.12.9.1.4.3	OVERLOAD PROTECTION LOCATION	A	I	COC	L-3.5	
3.12.9.1.4.4	OVERLOAD PROTECTION IDENTIFICATION	A	I	COC	L-3.5	
3.12.9.1.4.5	AUTOMATIC RESTART PROTECTION	A	D	COC	L-3.5	
3.12.9.2	SHARP EDGES AND CORNERS PROTECTION	A	SAFETY	COC	L-2	The submittal date of L-2 is a more suitable date to submit the required data.
3.12.9.3	HOLES	A	A & I	COC	L-3.5	
3.12.9.4	LATCHES	A	I	COC	L-3.5	
3.12.9.5	SCREWS AND BOLTS	A	A & I	COC	L-3.5	
3.12.9.6	SECURING PINS	A	I	COC	L-3.5	The method of inspection is more suitable in verifying the hardware than analysis.
3.12.9.7	LEVERS, CRANKS, HOOKS, AND CONTROLS	A	A & I	COC	L-3.5	
3.12.9.8	BURRS	A	I	COC	L-3.5	
3.12.9.9-A	LOCKING WIRES	N/A	A	COC	L-3.5	No locking wires
3.12.9.9-B	LOCKING WIRES	N/A	I	COC	L-3.5	No fracture critical devices

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Table 4.2-1 APPLICABILITY / VERIFICATION MATRIX

IRD #	IRD Requirement	Payload Applicability	Method	Required Submittal Data	Submittal Date	Comments
3.12.9.10-A	AUDIO DEVICES (DISPLAYS)	N/A	A	COC	L-3.5	No audio cues
3.12.9.10-B	AUDIO DEVICES (DISPLAYS)		DELETED	N/A	N/A	
3.12.9.10-C	AUDIO DEVICES (DISPLAYS)	N/A	D	COC	L-3.5	No audio cues
3.12.9.10-D	AUDIO DEVICES (DISPLAYS)	N/A	A	COC	L-3.5	No audio cues
3.12.9.11	DELETED		DELETED	N/A	N/A	
3.12.9.12	EGRESS	A	SAFETY	COC	L-3.5	
3.12.10	PAYLOAD IN-FLIGHT MAINTENANCE	A	A	COC	L-3.5	