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**PERFORMANCE SPECIFICATION  
FOR  
JOINT BIOLOGICAL AGENT DECONTAMINATION  
SYSTEM  
(JBADS)**

**29 August 2016**

**VERSION 4**

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## 18 1.0 Scope.

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## 26 1.1 Document Overview.

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## 48 2.0 Applicable Documents.

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### 50 2.1 General.

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59 ANSI Z535.4 Safety Labels.

60 NFPA 70-2002, National Electrical Code

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61 NFPA 70-2005 Article 250, Grounding  
62 UL 969, Standard for Marking and Labeling  
63 UL 60950, Safety of Information Technology Equipment

## 64 **2.2 Government Documents.**

### 65 **2.2.1 Specifications, Standards, and Handbooks.**

66 The following specifications, standards, and handbooks form a part of this  
67 document to the extent specified herein.

#### 68 Department of Defense Standards

69  
70 Department of Defense Directive (DODD) 5000.1 (para E1.23)

71  
72 Defense Instruction (DODI) 5000.2 (para 3.7.1.1, 3.7.4, and E7.1.6)

73  
74 MIL-STD-464C Interface Electromagnetic Environmental Effects, 1  
75 December 2010

76  
77 MIL-STD-1332, Definitions of Tactical, Prime, Precise, and Utility  
78 Terminologies for classification of the DoD Mobile Electric Power Engine  
79 Generator Set Family

80  
81 MIL-STD-1474, Design Criteria for Noise Limits

82  
83 MIL-STD-1472F, Department of Defense Design Criteria Standard,  
84 Human Engineering, 23 August 1999.

85  
86 MIL-STD-810G with Change 1, Department of Defense Test Method  
87 Standard, 15 April 2014

88  
89 (Copies of these documents are available online at  
90 <https://assist.daps.dla.mil/quicksearch/> or from the Standardization  
91 Document Order Desk, 700 Robbins Avenue, Building 4D, Philadelphia,  
92 PA 19111-5094.)

### 93 94 **2.2.2 Other Government Documents, Drawings, and Publications**

#### 95 96 Doctrine

97  
98 AFI 63-101/20-101 Integrated Life Cycle Management

99  
100 AFMAN 48-146, Occupational & Environmental Health Program  
101 Management

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103 (Copies of these documents are available electronically from the website  
104 at <http://www.dtic.mil/doctrine/>)

105  
106 Code of Federal Regulation (CFR)

107  
108 Defense Transportation Regulations Part VI, Chapter 604 for Safe  
109 Containers Certification

110  
111 (Copies of these documents are available from the U.S. Government  
112 Printing Office, Washington, DC 20402 or electronically from the website  
113 at <http://www.gpoaccess.gov/cfr/index.html>).

114  
115 International Organization for Standardization

116  
117 ISO 1496-1 Freight Containers

118  
119 ISO 9001 Quality Management

120  
121 **2.3 Order of Precedence.**

122  
123 Unless otherwise noted herein or in the contract, in the event of a conflict  
124 between the text of this document and the references cited herein, the text  
125 of this document takes precedence. Nothing in this document, however,  
126 supersedes applicable laws and regulations unless a specific exemption  
127 has been obtained.

128  
129 **3.0 Requirements.**

130  
131 **3.1 Decontamination Efficacy.**

132  
133 **3.1.1 Decontamination Parameters.** The JBADS shall maintain a temperature  
134 of 170°F +/- 5°F with a relative humidity of 90% +/- 5% throughout the  
135 Aircraft Enclosure (AE) and aircraft being decontaminated for a period of  
136 no less than 96 continuous hours.

137  
138 **3.1.2 Decontamination Cycle Time.** The JBADS shall require no more than  
139 240 hours (T), 144 hours (O), to perform a full decontamination cycle.  
140 This time includes system temperature ramp up to the required conditions,  
141 96 hours at the required conditions, and cool down to ambient  
142 temperature without the formation of condensation within the AE or on any  
143 surface of the aircraft being decontaminated.

144  
145 **3.1.3 Aircraft Decontamination Materiel Damage.** The aircraft being  
146 decontaminated shall incur no more materiel degradation by the  
147

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148  
149 decontamination process than is allowable in C-130 certification/guidelines  
150 to exclude Line Replaceable Units (LRUs)(T), no materiel degradation (O).

151  
152 **3.1.4 AE Size.** The AE shall be sized to completely enclose a C-130J-30  
153 aircraft.

154  
155 **3.1.5 Aircraft AE Ingress and Egress.** The AE shall include provisions such  
156 that the aircraft can ingress and egress when the AE is in place.

157  
158 **3.1.5.1 Aircraft Placement In AE.** The aircraft to be decontaminated may be  
159 pushed or pulled into the AE by an aircraft tug attached at the nose gear.

160  
161 **3.1.5.2 AE Equipment and Personnel Entrance and Exit.** The aircraft tug and  
162 all personnel must be able to exit the AE after the aircraft is in place and to  
163 re-enter the AE at the completion of decontamination.

164  
165 **3.2 Operational Availability, Reliability, Maintainability.**

166  
167 **3.2.1 Materiel Availability ( $A_m$ ).** The JBADS shall achieve a Materiel  
168 Availability of at least 0.80 (T=O).

169  
170 
$$A_m = \frac{\text{Total Number of Systems Available}}{\text{Total Number of Systems in the Inventory}}$$

171  
172  
173 **3.2.2 Reliability.** The JBADS shall have at least a Probability (P) = 0.87 {0.95}  
174 with a confidence of {80%} (for both the reliability threshold and objective  
175 values)of completing a 240 hour mission without an Operational Mission  
176 Failure.

177  
178 **3.2.3 Maintainability.** The JBADS Mean Time Between Operational Mission  
179 Failures shall be no less than 1,200 hours {2,400 hours}.

180  
181 **3.2.4 Corrective Maintenance.** The JBADS Mean Time to Repair (corrective  
182 maintenance) shall be less than or equal to 120 minutes {30} minutes (T).

183  
184 **3.2.5 Scheduled Maintenance.** JBADS scheduled maintenance shall not be  
185 required or performed during decontamination procedures.

186  
187 **3.2.6 Down-Time.** JBADS maximum down-time shall not exceed 24 hours  
188 (T=O).

189  
190 **3.2.7 Service Life.** JBADS shall have a ten (10) {twenty (20)} year service life.

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- 193  
194 **3.3 System Implementation.**  
195
- 196 **3.3.1 Subsystems.** The JBADS shall consist of three (3) subsystems: an  
197 Aircraft Enclosure (AE), Aircraft Decontamination Unit(s) (ADU), and a  
198 Control Module (CM).  
199
- 200 **3.3.1.1 Operational Configuration.** The AE, ADU, and CM shall integrate to form  
201 an operational configuration.  
202
- 203 **3.3.1.2 Storage and Transport Configuration.** The JBADS storage and  
204 transport configurations shall be the same.  
205
- 206 **3.3.2 Assembly and Disassembly Equipment.** The JBADS shall be capable  
207 of being assembled and disassembled by personnel using standard  
208 military and industrial material handling equipment (MHE) (e.g. 25,000-lb  
209 all terrain fork-lift, 50-ton all-terrain crane, wrecker).  
210
- 211 **3.3.3 Material Handling Equipment.** All JBADS components that are not man  
212 portable shall be configured for handling with standard military and  
213 industrial material handling equipment (MHE) (e.g. 25,000-lb all terrain  
214 fork-lift, 50-ton all-terrain crane, wrecker).
- 215 **3.3.3.1 Storage/Transport Lifting and Tie Down.** The JBADS lifting and tie  
216 down provisions in storage/transport configuration shall meet the  
217 requirements of ISO standard 1496-1 and Defense Transportation  
218 Regulations Part VI, Chapter 604 for Safe Containers (CSC) certification.
- 219 **3.3.4 Assembly/Disassembly.**  
220
- 221 **3.3.4.1 Unpack and Assembly Time.** After arrival of all system components at  
222 the decontamination site, the JBADS shall require no more than 30 days  
223 to be unpacked and assembled for operation.  
224
- 225 **3.3.4.2 Disassembly and Pack for Transport Time.** After completion of  
226 decontamination operations the JBADS shall require no more than 30  
227 days to be disassembled and packed for transport.  
228
- 229 **3.3.5 Unpack, Setup, Teardown and Re-pack Personnel.** The JBADS shall  
230 require no more than 16 personnel to unpack, setup for operation,  
231 teardown, and re-pack for transport of one JBADS.  
232
- 233 **3.3.6 Air Transport Certification.** The JBADS shall receive internal air  
234 transport certification for C-5 and C-17 in the storage/transport  
235 configuration.  
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239 **3.3.7 Commercial Ground Transport.** The JBADS shall be transportable by  
240 commercial ground transport over paved roads in the storage/transport  
241 configuration without any special USDOT or State permits.  
242
- 243 **3.3.8 Sea Lift.** The JBADS shall be transportable by sea lift in the  
244 storage/transport configuration.  
245
- 246 **3.3.9 Storage and Transport Configuration.** All JBADS components shall be  
247 stored and transported within 20 or 40 foot ISO containers or in system  
248 unique configurations that shall be ISO container certified. Certified ISO  
249 Containers that are modified to accommodate JBADS equipment shall be  
250 re-certified by the USAF Air Transportability Test Loading Activity (ATTLA)  
251 as being structurally sound and “safe to fly”. ISO containers shall be the  
252 primary means used for JBADS transportation. By exception, items too  
253 large for 40’ ISO containers may be protected by some other means and  
254 be capable of being loaded on standard 463L pallet trains to be loaded on  
255 C-17 and larger aircraft. Use of 20 foot ISO containers is operationally  
256 preferred.  
257
- 258 **3.3.10 Power Sources.** The JBADS shall be compatible with standard fielded  
259 and commercial power sources, local voltage & frequency, variable cycle  
260 compatible (50 and 60 cycle) and existing military generators which are  
261 defined as Class 2B per MIL-STD-1332.  
262
- 263 **3.3.11 Power Distribution.** The JBADS shall include all items necessary to  
264 distribute power to its components to include any cables or connectors.  
265
- 266 **3.4 Operator Requirements.**
- 267
- 268 **3.4.1 Operator Personnel.** The JBADS shall require no more than two  
269 personnel at a time to operate during decontamination procedures.  
270
- 271 **3.4.2 Personnel Protective Equipment (PPE).** Personnel wearing PPE (full  
272 face protection, gloves, and over garment) must be capable of completing  
273 all required activities while they are in proximity of a contaminated aircraft.  
274 These activities would include: assisting in the contaminated aircraft being  
275 placed within the enclosure, any construction needed to enclose the  
276 aircraft, and working near or in the contaminated aircraft or within 6 feet of  
277 the enclosure while the contaminated aircraft is undergoing  
278 decontamination.  
279
- 280 **3.4.3 Operator Functions.** Operators shall be able to monitor, control and  
281 record systems parameters to effectively employ the system.  
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- 283 **3.4.4 Systems Controls.** Systems controls shall comply with MIL-STD-1472F  
284 requirements. This shall include, but is not limited to, the sound level of  
285 any audible alarms, size of buttons and switches, as well as the color  
286 choices thereof.  
287
- 288 **3.5 Operational Environments.**  
289
- 290 **3.5.1 External Operating Temperature.** The JBADS shall be capable of  
291 operation under external temperature conditions from 0° C to 48.9° C (32°  
292 F to 120° F).  
293
- 294 **3.5.1.1 Low Temperature Operation.** The JBADS shall be able to maintain the  
295 required temperature and humidity throughout the AE and aircraft being  
296 decontaminated while being operated at 0° C.  
297
- 298 **3.5.1.2 High Temperature Operation.** The JBADS shall be able to maintain the  
299 required temperature and humidity throughout the AE and aircraft being  
300 decontaminated while being operated at 48.9° C.  
301
- 302 **3.5.2 Storage/Transport Temperature.** The JBADS shall be capable of  
303 operation after storage/transport in the temperature range of: (-10° C to  
304 48.9° C) (T); (-23° C to 71° C) (O).  
305
- 306 **3.5.2.1 Low Temperature Storage/Transport.** The JBADS shall be capable of  
307 setup and operation after storage/transport at temperatures down to -10°  
308 C (14° F) {-23° C (-9° F)}.  
309
- 310 **3.5.2.2 High Temperature Storage/Transport.** The JBADS shall be capable of  
311 setup and operation after storage/transport at temperatures up to 48.9° C  
312 (120° F) {71° C (160° F)}.  
313
- 314 **3.5.3 Rain.** The JBADS shall be capable of withstanding exposure to rain.  
315
- 316 **3.5.3.1 Rain During Storage and Transport.** The JBADS shall withstand  
317 exposure to rain in the storage/transport configuration.  
318
- 319 **3.5.3.2 Rain During Operations.** The JBADS shall be capable of performing its  
320 intended mission in the operational configuration while withstanding  
321 exposure to rain at a rate of two inches per hour for thirty minutes without  
322 evidence of major leakage. Major leakage is defined as water continually  
323 leaking and dropping off or running down the system's inner surface such  
324 that it impairs the system's intended military use.  
325
- 326 **3.5.4 Humidity.** The JBADS shall be capable of withstanding exposure to  
327 humidity.  
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**3.5.4.1 Humidity During Storage/Transport.** The JBADS shall be capable of setup and operation during after exposure to humidity from 5% to 100% in the storage/transport configuration.

**3.5.4.2 Humidity During Operation.** The JBADS shall be capable of operation during and/or after exposure to humidity from 5% to 100% in the operational configuration.

**3.5.5 Blowing Sand and Dust.** The JBADS shall be capable of setup and operation after exposure to blowing sand and dust.

**3.5.5.1 Blowing Sand and Dust During Storage/Transport.** The JBADS shall be capable of setup and operation after exposure to blowing sand and dust in the storage/transport configuration.

**3.5.5.2 Blowing Sand and Dust During Operation.** The JBADS shall be capable of operation during and after exposure to blowing sand and dust in the operational configuration.

**3.5.6 Vibration from Transportation.** The JBADS shall be capable of setup and operation after exposure to paved road vibration in the storage/transport configuration.

**3.5.7 Transit Shock.** The JBADS shall be capable of setup and operation after exposure to transit shock in the storage/transport configuration.

**3.5.8 Wind.** The JBADS shall show no evidence of structural damage, degradation, or permanent deformation as a result of exposure to sustained winds of 55 mph and three instances of 10 second gusts up to 65 mph within the same 30-minute period in the operational configuration.

**3.5.9 Snow Load.** The JBADS shall be capable of performing its intended mission while withstanding a snow load of 10 lb/ft<sup>2</sup> for 12 hours without structural damage, degradation, or permanent deformation in the operational configuration.

**3.6 Electromagnetic Environmental Effects.**

**3.6.1 Near Strike Lightning (NSL).** JBADS shall survive exposure to a Near Strike Lightning (NSL) environment.

**3.6.1.1 NSL During Storage/Transport.** JBADS shall survive exposure to the Near Strike Lightning (NSL) environment specified in MIL-STD 464C,

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- 373 extrapolated to a distance of 100 meters in the storage/transport  
374 configuration.
- 375 **3.6.1.2 NSL During Operation.** JBADS shall survive exposure to the Near Strike  
376 Lightning (NSL) environment specified in MIL-STD 464C, extrapolated to a  
377 distance of 100 meters in the operational configuration.  
378
- 379 **3.6.2 Grounding.** Equipment grounding (e.g. ADU or AE) shall comply with the  
380 requirements of NFPA 70-2005, article 250, and the requirements of UL  
381 60950, paragraph 1.6.4 and section 2.6 for Class I equipment.  
382
- 383 **3.7 Human System Integration.**
- 384
- 385 **3.7.0 Life Cycle Safety and Health Hazards.** The JBADS shall not present  
386 uncontrolled safety or health hazards to personnel throughout its life cycle.  
387
- 388 **3.7.1 Alarms.** Audible/visual alarms shall be provided to indicate malfunctions  
389 that could cause severe injury/equipment damage. Audible alarms shall  
390 be distinguishable from other sounds under normal operating conditions.  
391 Visual alarms shall be readily visible and easily recognized.  
392
- 393 **3.7.2 Colors of Safety Critical Controls.** Colors of safety critical controls and  
394 indicators shall be yellow for caution, and red for danger. Any color is  
395 permitted for other functional controls or indicators provided it is clear that  
396 no safety issue is involved.  
397
- 398 **3.7.3 Safety Markings.** Safety markings and labels shall be provided  
399 identifying any potential hazards to personnel. Safety markings and labels  
400 shall comply with the requirements of ANSI Z535.4. RF radiation hazards  
401 and voltages in excess of 70V shall use the signal word WARNING.  
402 Voltages in excess of 500V shall use the signal word DANGER. Safety  
403 labels complying with the requirements of UL 60950, paragraph 1.7.13  
404 and/or UL 969 are acceptable. Markings shall be readily visible to the  
405 user/maintainer, even when a barrier or access door is opened/removed.  
406
- 407 **3.7.4 Safety Hazards.** All safety hazards shall be addressed in the appropriate  
408 operator and technical manuals. Information regarding hazard-avoiding  
409 procedures and safety warning labels on equipment shall be included in all  
410 manuals. Maintenance technical manuals shall address replacement  
411 procedures for damaged or missing safety labels.  
412
- 413 **3.7.5 Noise Protection.** The JBADS shall minimize external noise hazards so  
414 that noise levels shall not exceed 85 db(A) beyond 5 feet from the noise

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415 source. In areas where steady state noise levels are 85 db(A) or greater,  
416 noise hazard caution signs shall be permanently posted on the equipment  
417 in accordance with MIL-STD-1472F.

418

419 **3.7.6 Lifting.** All man portable items shall be labeled with the weight and  
420 number of people required to perform the lift.

421

422 **3.7.7 Emergency Shutdown.** The JBADS system shall include the ability for  
423 the operators to shut down the system in the event of an emergency.

424

425 **3.7.8 Lights and Video Cameras.** Lights and video cameras shall be used to  
426 monitor personnel and aircraft inside the AE from the control module.

427

428 **3.7.8.1 Lights and Video Camera Wiring.** Lights and video cameras shall be  
429 hardwired to the control module.

430

431 **3.7.9 Health Hazards.** The JBADS shall be designed to eliminate or minimize to  
432 the greatest extent possible any health impacts, so that system-generated  
433 illness and injury is minimized and mission readiness is not compromised.  
434 The user shall have the ability to train, operate, maintain, and dispose of  
435 the JBADS in full compliance with existing and soon to be published  
436 health requirements contained in all applicable local, state, and federal  
437 statutes, standards, regulations, and executive.

438

439 **3.7.9.1 Control Module (CM).** An environmentally conditioned shelter shall be  
440 provided for the control module.

441

442 **3.7.9.1.1 CM Personnel Capacity.** The control module shelter shall provide space  
443 for at least two operators to be present.

444

445 **3.7.9.1.2 CM Inside Temperature.** The control module shelter shall be  
446 environmentally conditioned to a minimum internal temperature of 60  
447 degrees F. and a maximum internal temperature of 80 degrees F.

448

449 **3.7.9.1.3 CM Temperature Excursions.** All temperature excursions outside of the  
450 temperature range specified by 3.7.9.1.2 shall return to the specified  
451 range within a maximum time of 5 minutes from the time the cause of the  
452 temperature excursion is resolved (e.g. door is shut).

453

454 **3.7.10 Operator Access.** Operators shall not have access to components with  
455 voltages exceeding 30V. All exposed energized parts shall be guarded or  
456 covered regardless of voltage. The operator shall not be exposed to  
457 stored energy shock at the disconnecting means in accordance with UL  
458 60950, paragraph 2.1.1.7.

459

460 **3.7.11 Maintenance Protection.** The JBADS shall provide protection to  
461 personnel during maintenance and repair to prevent unintentional contact  
462 with voltages exceeding 70V. Current sources exceeding 25A shall be  
463 protected from accidental short-circuiting. Voltage measurements  
464 required by maintainers shall not exceed 300V. Circuits and components  
465 exceeding 500V shall be completely enclosed and interlocked (non-by-  
466 passable). Where interlocks are used, they shall comply with UL 60950,  
467 paragraphs 2.8.3 - 2.8.5.

469 **3.7.12 Power Interfaces.** Interface with power sources, and disconnecting  
470 means shall be in accordance with NFPA 70-2002, and UL 60950, sec  
471 3.4. Equipment designed to have multiple-input power capabilities, or  
472 powered by a generator with multiple-voltage output capabilities, shall be  
473 protected from damage when connected to incorrect input power/voltage  
474 levels.

476 **3.7.13 Personnel Lighting.** The JBADS shall include lighting so personnel can  
477 maneuver around inside the aircraft enclosure.

479 **4.0 Verification.**

480  
481 Each requirement, as denoted by a “shall” statement in Section 3 above,  
482 shall be subjected to a verification process to evaluate the ability of the  
483 equipment to meet the specified requirements. Verification shall involve  
484 one or more of four methods described in Table I.

486 **4.0.1 Verification Methods and Matrix.**

487  
488 Table I, Verification Methods, lists and describes the verification methods  
489 that will be used.

490  
491 Table II, Requirements Verification Matrix, lists the requirements from  
492 paragraph 3 and the related verification method from paragraph 4 that will  
493 be used to verify the requirement has been met.

495 **4.0.2 Certifications.**

496  
497 Where certificates of compliance are required, they shall list the  
498 requirement being certified, be signed by an authorized representative of  
499 the contractor, and include supporting documentation for the certification.  
500 The Government reserves the right to require additional  
501 demonstration/verification of the requirement covered by the certification,  
502 if needed.

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**Table I. Verification Methods**

Method	Description
<b>Inspection (I)</b>	Visual inspection of equipment and evaluation of drawings and other pertinent design data and processes shall be used to verify conformance with characteristics such as physical, material, part and product marking and workmanship.
<b>Analysis (A)</b>	Analysis is the use of recognized analytical techniques (including computer models) to interpret or explain the behavior/performance of the system element. Analysis of test data or review and analysis of design data shall be used as appropriate to verify requirements.
<b>Demonstration (D)</b>	Demonstration is the performance of operations at the system/sub-system level where visual observations are the primary means of verification. Demonstration is used when quantitative assurance is not required for verification of the requirements.
<b>Test (T)</b>	Test is an activity designed to provide data on functional features and equipment operation in an operational environment under fully controlled and traceable conditions. The data is subsequently used to evaluate quantitative characteristics. Evaluation includes comparison of the demonstrated characteristics with requirements. Tests are conducted when an acceptable level of confidence cannot be established by other methods, or if testing can be shown to be the most cost effective method.

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**Table II. Requirements Verification Matrix**

Section 3 Requirement	Verification Method				Section 4 Verification
	I	A	D	T	
3.0 Requirements					
3.1 Decontamination Efficacy					
3.1.1 Decontamination Parameters			X		4.1.1
3.1.2 Decontamination Cycle Time			X		4.1.2
3.1.3 Aircraft Decontamination Materiel Damage		X			4.1.3
3.1.4 Aircraft Enclosure (AE) Size			X		4.1.4
3.1.5 Aircraft AE Ingress and Egress			X		4.1.5
3.1.5.1 Aircraft Placement In the AE			X		4.1.5.1
3.1.5.2 Equipment and Personnel Exit and Entrance			X		4.1.5.2
3.2 Operational Availability, Reliability, Maintainability					
3.2.1 Materiel Availability (A <sub>m</sub> )		X		X	4.2.1
3.2.2 Reliability		X		X	4.2.2
3.2.3 Maintainability		X		X	4.2.3
3.2.4 Corrective Maintenance			X		4.2.4
3.2.5 Scheduled Maintenance			X		4.2.5
3.2.6 Down-Time		X		X	4.2.6
3.2.7 Service Life		X			4.2.7
3.3 JBADS System Implementation					
3.3.1 Subsystems			X		4.3.1
3.3.1.1 Operational Configuration			X		4.3.1.1
3.3.1.2 Storage and Transport Configuration			X		4.3.1.2
3.3.2 Assembly and Disassembly Equipment			X		4.3.2
3.3.3 Material Handling Equipment		X			4.3.3
3.3.3.1 Storage /Transport Lifting and Tie Down		X			4.3.3.1
3.3.4 Assembly/Disassembly					
3.3.4.1 Unpack and Assembly Time			X		4.3.4.1
3.3.4.2 Disassembly and Pack for Transport Time			X		4.3.4.2
3.3.5 Unpack, Setup, Teardown and Re-pack Personnel			X		4.3.5

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3.3.6 Air Transport Certification					4.3.6*
3.3.7 Commercial Ground Transport		X	X		4.3.7
3.3.8 Sea Lift		X			4.3.8
3.3.9 Storage and Transport Configuration		X	X		4.3.9
3.3.10 Power Sources		X		X	4.3.10
3.3.11 Power Distribution	X		X		4.3.11
3.4 Operator Requirements					
3.4.1 Operator Personnel			X		4.4.1
3.4.2 Personnel Protective Equipment (PPE).			X		4.4.2
3.4.3 Operator Functions			X		4.4.3
3.4.4 Systems Controls		X	X		4.4.4
3.5 Operational Environments					
3.5.1 External Operating Temperature					
3.5.1.1 Low Temperature Operation				X	4.5.1.1
3.5.1.2 High Temperature Operation				X	4.5.1.2
3.5.2 Storage/Transport Temperature					
3.5.2.1 Low Temperature Storage/Transport				X	4.5.2.1
3.5.2.2 High Temperature Storage/Transport				X	4.5.2.2
3.5.3 Rain					
3.5.3.1 Rain During Storage and Transport				X	4.5.3.1
3.5.3.2 Rain During Operations				X	4.5.3.2
3.5.4 Humidity					
3.5.4.1 Humidity During Storage/Transport				X	4.5.4.1
3.5.4.2 Humidity During Operation.				X	4.5.4.2
3.5.5 Blowing Sand and Dust					
3.5.5.1 Blowing Sand and Dust During Storage/Transport				X	4.5.5.1
3.5.5.2 Blowing Sand and Dust During Operation				X	4.5.5.2
3.5.6 Vibration from Transportation				X	4.5.6
3.5.7 Transit Shock				X	4.5.7
3.5.8 Wind					4.5.8*
3.5.9 Snow Load					4.5.9*

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3.6 Electromagnetic Environmental Effects					
3.6.1 Near Strike Lightning (NSL)					
3.6.1.1 NSL During Storage/Transport		X		X	4.6.1.1
3.6.1.2 NSL During Storage/Transport		X		X	4.6.1.2
3.6.2 Grounding					4.6.2*
3.7 Human System Integration					
3.7.0 Life Cycle Safety and Health Hazards		X			4.7.0
3.7.1 Alarms	X		X		4.7.1
3.7.2 Colors of Safety Critical Controls	X				4.7.2
3.7.3 Safety Markings	X				4.7.3
3.7.4 Safety Hazards	X				4.7.4
3.7.5 Noise Protection				X	4.7.5
3.7.6 Lifting	X				4.7.6
3.7.7 Emergency Shutdown			X		4.7.7
3.7.8 Lights and Video Cameras			X		4.7.8
3.7.8.1 Lights and Video Camera Wiring	X				4.7.8.1
3.7.9 Health Hazards		X			4.7.9
3.7.9.1 Control Module (CM)			X		4.7.9.1
3.7.9.1.1 CM Personnel Capacity			X		4.7.9.1.1
3.7.9.1.2 CM Inside Temperature				X	4.7.9.1.2
3.7.9.1.3 CM Temperature Excursions				X	4.7.9.1.3
3.7.10 Operator Access	X				4.7.10
3.7.11 Maintenance Protection	X				4.7.11
3.7.12 Power Interfaces	X				4.7.12
3.7.13 Personnel Lighting	X				4.7.13
*Verified by certification (See Par. 4.0.2)					

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- 513 **4.1 Decontamination Efficacy.**  
514
- 515 **4.1.1 Decontamination Parameters.** It shall be verified by demonstration that  
516 the JBADS can maintain a temperature of 170°F +/- 5°F with a relative  
517 humidity of 90% +/- 5% throughout the AE and aircraft being  
518 decontaminated for a period of no less than 96 continuous hours.  
519
- 520 **4.1.2 Decontamination Cycle Time.** It shall be verified by demonstration that  
521 the JBADS can perform a full decontamination cycle in no more than 240  
522 hours (T), 144 hours (O), to include system temperature ramp up to the  
523 required conditions, 96 hours at the required conditions, and cool down to  
524 ambient temperature without the formation of condensation within AE or  
525 on any surface of the aircraft being decontaminated.  
526
- 527 **4.1.3 Aircraft Decontamination Materiel Damage.** It shall be verified by  
528 analysis that the aircraft being decontaminated does not incur more  
529 materiel degradation by the decontamination process than is allowable in  
530 C-130 certification/guidelines to exclude LRUs (T), no materiel  
531 degradation (O).  
532
- 533 **4.1.4 Aircraft Enclosure (AE) Size.** It shall be verified by demonstration that  
534 the AE can completely enclose a C-130J-30 aircraft.  
535
- 536 **4.1.5 Aircraft AE Ingress and Egress.** It shall be verified by demonstration that  
537 the aircraft can ingress and egress when the AE is in place.  
538
- 539 **4.1.5.1 Aircraft Placement In the AE.** It shall be verified by demonstration that  
540 the aircraft to be decontaminated may be pushed or pulled into the AE by  
541 an aircraft tug attached at the nose gear.  
542
- 543 **4.1.5.2 Equipment and Personnel AE Exit and Entrance.** It shall be verified by  
544 demonstration that the aircraft tug and all personnel are able to exit the AE  
545 after the aircraft is in place and to re-enter the AE at the completion of  
546 decontamination.  
547
- 548 **4.2 Operational Availability, Reliability, Maintainability.**  
549
- 550 **4.2.1 Materiel Availability ( $A_m$ ).** It shall be verified by test and analysis that the  
551 JBADS Materiel Availability is at least 0.80 (T=O) using LRIP (or first  
552 production units).  
553  
554

$$A_m = \frac{\textit{Total Number of Systems Available}}{\textit{Total Number of Systems in the Inventory}}$$

556  
557

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558 **4.2.2 Reliability.** It shall be verified by test and analysis that the JBADS has at  
559 least a probability (P) = 0.87 (T), 0.95 (O) with a confidence of 80% of  
560 completing a 240 hour mission without an Operational Mission Failure.  
561 This shall be demonstrated using first production units.

562  
563 **4.2.3 Maintainability.** It shall be verified by test and analysis that the JBADS  
564 Mean Time Between Operational Mission Failure is no less than 1,200  
565 hours {2,400 hours}.

566  
567 **4.2.4 Corrective Maintenance.** It shall be verified by demonstration that the  
568 JBADS Mean Time to Repair (Corrective Maintenance) is less than or  
569 equal to 120 (T) {30} minutes.

570  
571 **4.2.5 Scheduled Maintenance.** It shall be verified by demonstration that  
572 JBADS scheduled maintenance is not required or performed during  
573 decontamination procedures.

574  
575 **4.2.6 Down-Time.** It shall be verified by test and analysis that the JBADS  
576 maximum down time does not exceed 24 hours. (T=0)

577  
578 **4.2.7 Service Life.** It shall be verified by analysis that JBADS has a 10 (T), {20}  
579 year service life.

### 580 581 **4.3 System Implementation**

582  
583 **4.3.1 Subsystems.** It shall be verified by demonstration that the JBADS  
584 consists of three (3) subsystems: AE, ADU, and CM.

585  
586 **4.3.1.1 Operational Configuration.** It shall be verified by demonstration that the  
587 AE, ADU, and CM integrate to form an operational configuration.

588  
589 **4.3.1.2 Storage and Transport Configuration.** It shall be verified by  
590 demonstration that the JBADS storage and transport configurations are  
591 the same.

592  
593 **4.3.2 Assembly and Disassembly Equipment.** It shall be verified by  
594 demonstration that JBADS can be assembled and disassembled by  
595 personnel using standard military and industrial MHE) (e.g. 25,000-lb all  
596 terrain fork-lift, 50-ton all-terrain crane, wrecker).

597  
598 **4.3.3 Material Handling Equipment.** It shall be verified by analysis that all  
599 JBADS components that are not man portable can be handled with  
600 standard military and industrial equipment ) (e.g. 25,000-lb all terrain fork-  
601 lift, 50-ton all-terrain crane, wrecker).

602  
603

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- 604 **4.3.3.1 Storage/Transport Lifting and Tie Down.** It shall be verified by analysis  
605 that the JBADS lifting and tie-down provisions in storage/transport  
606 configuration meet the requirements of ISO standard 1496-1 and Defense  
607 Transportation Regulations Part VI, Chapter 604 for Safe Containers  
608 (CSC) certification.  
609
- 610 **4.3.4 Assembly/Disassembly.**
- 611
- 612 **4.3.4.1 Unpack and Assembly Time.** It shall be verified by demonstration that  
613 after arrival of all system components at the decontamination site, the  
614 JBADS requires no more than 30 days to be unpacked and assembled for  
615 operation.  
616
- 617 **4.3.4.2 Disassembly and Pack for Transport Time.** It shall be verified by  
618 demonstration that after completion of decontamination operations the  
619 JBADS requires no more than 30 days to be disassembled and packed for  
620 transport.  
621
- 622 **4.3.5 Unpack, Setup, Teardown and Re-pack Personnel.** It shall be verified  
623 by demonstration that JBADS requires no more than 16 personnel to  
624 unpack, setup for operation, teardown, and re-pack for transport one  
625 **JBADS.**  
626
- 627 **4.3.6 Air Transport Certification.** The requirement shall be verified by receipt  
628 of the JBADS certification for internal air transport by C-5 and C-17 with  
629 the supporting documentation, and the review thereof.  
630
- 631 **4.3.7 Commercial Ground Transport.** It shall be verified by demonstration and  
632 analysis that JBADS is transportable by commercial ground transport over  
633 paved roads in the storage/transport configuration without any special  
634 USDOT or State permits.  
635
- 636 **4.3.8 Sea Lift.** It shall be verified by analysis that the JBADS is transportable by  
637 sea lift in the storage/transport configuration.  
638
- 639 **4.3.9 Storage and Transport Configuration.** It shall be verified by  
640 demonstration and analysis that all JBADS components are stored and  
641 transported within 20 or 40 foot ISO containers or in system unique  
642 configurations that are ISO container certified. That those containers are  
643 the primary means used for transportation. That by exception, items too  
644 large for 40' ISO containers are protected by some other means and are  
645 capable of being loaded on standard 463L pallet trains to be loaded on C-  
646 17 and larger aircraft.  
647
- 648 **4.3.10 Power Sources.** It shall be verified by test and analysis that JBADS is  
649 compatible with standard fielded and commercial power sources, local

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650 voltage & frequency, variable cycle compatible (50 and 60 cycle) and  
651 existing military generators which are defined as Class 2B per MIL-STD-  
652 1332. The JBADS shall be run for a period of not less than 24 hours on  
653 power that conforms to Class 2B as defined in MIL-STD-1332b at both 50  
654 cycles and 60 cycles.

655  
656 **4.3.11 Power Distribution.** It shall be verified through inspection and  
657 demonstration that the JBADS includes all items necessary to distribute  
658 power to its components to include any cables or connectors.

659  
660 **4.4 Operator Requirements.**

661  
662 **4.4.1 Operator Personnel.** It shall be verified by demonstration that JBADS  
663 requires no more than two personnel at a time to operate during  
664 decontamination procedures.

665  
666 **4.4.2 Personnel Protective Equipment (PPE).** It shall be verified by  
667 demonstration that personnel wearing PPE (full face protection, gloves,  
668 and over garment) are capable of completing all required activities while  
669 they are in proximity of a contaminated aircraft. These activities include:  
670 assisting in the contaminated aircraft being placed within the enclosure,  
671 any construction needed to enclose the aircraft, and working near or in the  
672 contaminated aircraft or within 6 feet of the enclosure while the  
673 contaminated aircraft is undergoing decontamination.

674  
675  
676 **4.4.3 Operator Functions.** It shall be verified by demonstration that JBADS  
677 operators can monitor, control and record system parameters to effectively  
678 employ the system.

679  
680 **4.4.4 Systems Controls.** It shall be verified by demonstration and analysis that  
681 the JBADS control system is in compliance with MIL-STD-1472F, to  
682 include but not be limited to, the sound level of any audible alarms, size of  
683 buttons and switches, as well as the color choices thereof..

684  
685 **4.5 Operational Environments.**

686  
687 **4.5.1 External Operating Temperature.**

688  
689 **4.5.1.1 Low Temperature Operation.** The requirement shall be verified by test,  
690 as follows:

691  
692 With the JBADS test article configured for operation (including power if  
693 applicable), perform an ambient air Basic Cold temperature test per  
694 guidance in MIL-STD 810G w/Change 1, Method 502.6, Category C1,  
695 Procedure II, or equivalent. Once the surface temperatures of the test item

696 reaches 32 degrees F, the JBADS test article will soak for 4 hours. Upon  
697 completing the soak period, test personnel will enter the chamber and  
698 perform an operational check in accordance with the OM and NET to  
699 verify operability of all system components.

700  
701 **4.5.1.2 High Temperature Operation.** The requirement shall be verified by test,  
702 as follows:

703  
704 With the JBADS test article configured for operation (including power if  
705 applicable) perform an ambient air Basic Hot and Dry combined  
706 temperature and humidity test per guidance in MIL-STD 810G w/Change  
707 1, Method 501.6, Category A1, Procedure II, or equivalent. Once the  
708 surface temperatures of the test item reaches 120 degrees F, the JBADS  
709 test article will soak for 4 hours. Upon completing the soak period, test  
710 personnel will enter the chamber and perform an operational check in  
711 accordance with the OM and NET to verify operability of all system  
712 components.

713  
714 **4.5.2 Storage/Transport Temperature.**

715  
716 **4.5.2.1 Low Temperature Storage/Transport.** The requirement shall be verified  
717 by test, as follows:

718  
719 With the JBADS test article configured for storage/transport and, if  
720 applicable, packaged in a transit container, perform a Basic Cold  
721 temperature test per guidance in MIL-STD 810G w/Change 1, Method  
722 502.6, Procedure I, Category C1 Induced Conditions, or equivalent. Once  
723 the interior surface of the ADU reaches 14 degrees F, and stabilizes, the  
724 JBADS test article will be cold soaked for at least 4 hours. Upon  
725 completing the soak period, test personnel will enter the chamber and  
726 inspect the ADU containers for damage or deformity resulting from  
727 exposure to low temperature.

728  
729 **4.5.2.2 High Temperature Storage/Transport.** The requirement shall be verified  
730 by test, as follows:

731  
732 With the JBADS test article configured for storage/transport and, if  
733 applicable, packaged in a transit container, perform a Hot-Dry temperature  
734 and humidity test per guidance in MIL-STD 810G w. Change 1, Method  
735 501.6, Procedure I, Category A1 Induced Conditions. The temperature of  
736 the environmental chamber will be raised to 71°C (159 °F) and hot soaked  
737 for at least 4 hours after the surface temperatures of the test item reaches  
738 the target temperature. Following the soak period, test personnel will enter  
739 the chamber and inspect the ADU containers for damage or deformity  
740 resulting from exposure to high temperature.

741

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742 **4.5.3 Rain.**

743

744 **4.5.3.1 Rain During Storage and Transport.** The requirement shall be verified  
745 by test, as follows:

746

747 With the JBADS test article configured for storage/transport and, if  
748 applicable, packaged in a transit container, perform a Blowing Rain test  
749 per guidance in MIL-STD 810G w/ Change 1, Method 506.6, Procedure I,  
750 using a rain fall rate of 4.0 inches/hour, at ambient temperature, a wind  
751 speed of 40 mph, for a duration of 30 minutes, and repeating until each of  
752 the four vertical sides and each edge/corner where two sides connect to  
753 form a seam and any opening have been tested, or equivalent.

754

755 **4.5.3.2 Rain During Operations.** The requirement shall be verified by test, as  
756 follows:

757

758 With the JBADS test article configured for operation perform a Rain and  
759 Blowing Rain test per guidance in MIL-STD 810G w/ Change 1, Method  
760 506.6, Procedure I (Procedure II Exaggerated for the AE) using a rain fall  
761 rate of 2.0 inches per hour for a duration of 30 minutes, and repeating on  
762 each vertical side and each edge/corner where two sides connect to form  
763 a seam, and any opening, or equivalent.

764

765 There should be no evidence of major leakage. Major leakage is defined  
766 as water continually leaking and dropping off or running down the  
767 system's inner surface which impairs the system's intended military use.

768

769 **4.5.4 Humidity.**

770

771 **4.5.4.1 Humidity During Storage/Transport.** The requirement shall be verified  
772 by test during the high temperature testing.

773

774 **4.5.4.2 Humidity During Operation.** The requirement shall be verified by test  
775 during the high temperature testing.

776

777 **4.5.5 Blowing Sand and Dust.**

778

779 **4.5.5.1 Blowing Sand and Dust During Storage/Transport.** The requirement  
780 shall be verified by test, as follows:

781 With the JBADS test article configured for storage/transport and, if  
782 applicable, packaged in a transit container, perform a perform a Blowing  
783 Dust test per guidance in MIL-STD-810G w/Change 1, Method 510.6,  
784 Procedure I, using silica dust with a particle size of less than 149 um, an  
785 air velocity of 19.8 mph, at ambient temperature, for a duration of 90  
786 minutes, and repeating until each of the four vertical sides and each

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787 edge/corner where two sides connect to form a seam and any opening  
788 have been tested, or equivalent.

789 Additionally, the requirement shall be verified by test, with the JBADS test  
790 article configured for storage and/or transport and, if applicable, packaged  
791 in a transit container, perform a Blowing Sand test per guidance in MIL-  
792 STD-810G w/Change 2, Method 510.6, Procedure II, using silica sand in  
793 natural conditions with a particle size from 150 through 850 um with a  
794 concentration of 0.18 g/m<sup>3</sup>, -0.0/+2.0 g/m<sup>3</sup>, at ambient temperature, a  
795 wind speed of 40 mph, for a duration of 90 minutes, and repeating until  
796 each of the four vertical sides and each edge/corner where two sides  
797 connect to form a seam and any opening have been tested, or equivalent.

798 **4.5.5.2 Blowing Sand and Dust During Operation.** The requirement shall be  
799 verified by test, as follows:

800  
801 With the JBADS test article configured for operation perform a test  
802 following MIL-STD-810G w/Change 1, Method 510.6 Procedures I  
803 (Blowing Dust) and II (Blowing Sand) and TOP-1-2-621 for a duration of  
804 90 minutes on each vertical side and each edge/corner where two sides  
805 connect to form a seam, and any opening, or equivalent.

806 **4.5.6 Vibration from Transportation.** The requirement shall be verified by test,  
807 as follows:

808 With the JBADS test article (e.g. ADU or AE component(s)) configured for  
809 storage/transport perform a test following MIL-STD-810G w/Change 1,  
810 Procedure 514.7, Test III, or equivalent.

811 **4.5.7 Transit Shock.** The requirement shall be verified by test, as follows:

812 With the JBADS test article (e.g. ADU or AE component(s)) configured for  
813 storage/transport perform a test following MIL-STD-810G w/Change 1,  
814 Method 516.7, Procedure II. The drop height shall be 3 inches.

815  
816 **4.5.8 Wind.** This requirement pertains to the AE in the operational  
817 configuration. The requirement shall be verified by certification. A  
818 certificate of compliance with supporting analysis shall be available to  
819 verify that the JBADS system meets the requirements of Section 3.5.8.

820  
821 **4.5.9 Snow Load.** This requirement pertains to the AE in the operational  
822 configuration. The requirement shall be verified by certification. A  
823 certificate of compliance with supporting analysis shall be available to  
824 verify that the JBADS meets the requirements of Section 3.5.9.

825  
826 **4.6 Electromagnetic Environmental Effects.**

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- 827  
828 **4.6.1 Near Strike Lightning (NSL).**
- 829 **4.6.1.1 NSL During Storage/Transport.** It shall be verified through test and  
830 analysis that JBADS (e.g. ADU or AE component(s)) can survive exposure  
831 to the Near Strike Lightning (NSL) environment specified in MIL-STD  
832 464C, extrapolated to a distance of 100 meters in the storage/transport  
833 configuration.
- 834 **4.6.1.2 NSL During Storage/Transport.** It shall be verified through test and  
835 analysis that JBADS (e.g. ADU or AE) can survive exposure to the Near  
836 Strike Lightning (NSL) environment specified in MIL-STD 464C,  
837 extrapolated to a distance of 100 meters in the operational configuration.
- 838 **4.6.2 Grounding.** It shall be verified by certification that equipment grounding  
839 (e.g. ADU or AE) complies with the requirements of NFPA 70-2005, article  
840 250, and the requirements of UL 60950, paragraph 1.6.4 and section 2.6  
841 for Class I equipment. A certificate of compliance shall be available to  
842 verify that the JBADS meet the requirements of Section 3.6.2.  
843
- 844 **4.7 Human Systems Integration.**
- 845
- 846 **4.7.0 Life Cycle Safety and Health Hazards.** It shall be verified by analysis  
847 that the JBADS does not present uncontrolled safety or health hazards to  
848 personnel throughout its life cycle.  
849
- 850 **4.7.1 Alarms.** It shall be verified by inspection and demonstration that JBADS  
851 audible/visual alarms indicate malfunctions that could cause severe  
852 injury/equipment damage that audible alarms are distinguishable from  
853 other sounds under normal operating conditions, and that visual alarms  
854 are readily visible and easily recognized.
- 855 **4.7.2 Colors of Safety Critical Controls.** It shall be verified through inspection  
856 that the appropriate colors of safety critical controls and indicators are  
857 used (yellow for caution, and red for danger) and that any other color is  
858 used for other functional controls or indicators provided it is clear that no  
859 safety issue is involved.
- 860 **4.7.3 Safety Markings.** It shall be verified through inspection that safety  
861 markings and labels are provided identifying any potential hazards to  
862 personnel, that safety markings and labels comply with the requirements  
863 of ANSI Z535.4, that RF radiation hazards and voltages in excess of 70V  
864 use the signal word "WARNING", that voltages in excess of 500V use the  
865 signal word DANGER; that safety labels comply with the requirements of  
866 UL 60950, paragraph 1.7.13 and/or UL 969, and that markings are readily

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867 visible to the user/maintainer even when a barrier or access door is  
868 opened/removed.

869 **4.7.4 Safety Hazards.** It shall be verified through inspection that all safety  
870 hazards are addressed in the appropriate operator and technical manuals,  
871 that information regarding hazard-avoiding procedures and safety warning  
872 labels on equipment are included in all manuals, and that maintenance  
873 technical manuals address replacement procedures for damaged or  
874 missing safety labels.

875 **4.7.5 Noise Protection.** It shall be verified through testing that the JBADS  
876 minimizes external noise hazards such that noise levels do not exceed 85  
877 db(A) beyond 5 feet from the noise source, and that in areas where steady  
878 state noise levels are 85 db(A), or greater, noise hazard caution signs are  
879 permanently posted on the equipment in accordance with MIL-STD-1474.

880 **4.7.6 Lifting.** It shall be verified through inspection that all man portable items  
881 are labeled with the weight and number of people required to perform the  
882 lift.

883 **4.7.7 Emergency Shutdown.** It shall be verified through demonstration that  
884 JBADS operator emergency shutdown procedures rapidly shut down all  
885 system operations.

886  
887 **4.7.8 Lights and Video Cameras.** It shall be verified through demonstration  
888 that JBADS lights and video cameras inside the AE allow operators inside  
889 the Control Module to visually monitor personnel and aircraft within the  
890 AE.

891  
892 **4.7.8.1 Lights and Video Camera Wiring.** It shall be verified by inspection that  
893 lights and video cameras are hardwired to the control module.

894  
895 **4.7.9 Health Hazards.** It shall be verified through analysis that JBADS was  
896 designed to eliminate or minimize to the greatest extent possible any  
897 health impacts, so that system-generated illness and injury is minimized  
898 and mission readiness is not compromised.

899  
900 **4.7.9.1 Control Module (CM).** It shall be verified by demonstration that that an  
901 environmentally conditioned shelter is provided for the control module.

902  
903 **4.7.9.1.1 CM Personnel Capacity.** It shall be verified by demonstration that the CM  
904 shelter provides space for at least two operators to be present.

905  
906 **4.7.9.1.2 CM Inside Temperature.** It shall be verified by test that the control  
907 module shelter is environmentally conditioned to a minimum internal  
908 temperature of 60 degrees F. and a maximum temperature of 80 degrees

- 909 F.  
910
- 911 **4.7.9.1.3 CM Temperature Excursions.** It shall be verified by test that all  
912 temperature excursions outside of the temperature range specified by  
913 3.7.9.1.2 return to the specified range within a maximum time of 5 minutes  
914 from the time the cause of the temperature excursion is resolved (e.g.  
915 door is shut).  
916
- 917 **4.7.10 Operator Access.** It shall be verified through inspection that operators do  
918 not have access to components with voltages exceeding 30V, that all  
919 exposed energized parts are guarded or covered regardless of voltage,  
920 and that the operator is not exposed to stored energy shock at the  
921 disconnecting means in accordance with UL 60950, paragraph 2.1.1.7.  
922
- 923 **4.7.11 Maintenance Protection.** It shall be verified through inspection that  
924 protection is provided to personnel during maintenance and repair to  
925 prevent unintentional contact with voltages exceeding 70V, that current  
926 sources exceeding 25A are protected from accidental short-circuiting, that  
927 voltage measurements required by maintainers do not exceed 300V, that  
928 circuits and components exceeding 500V are completely enclosed and  
929 interlocked (non-by-passable), and that where interlocks are used, they  
930 comply with UL 60950, paragraphs 2.8.3 - 2.8.5.  
931
- 932 **4.7.12 Power Interfaces.** It shall be verified through inspection that interfaces  
933 with power sources and disconnecting means are in accordance with  
934 NFPA 70-2002, and UL 60950, sec 3.4; and that equipment designed to  
935 have multiple-input power capabilities, or powered by a generator with  
936 multiple-voltage output capabilities are protected from damage when  
937 connected to incorrect input power/voltage levels.  
938
- 939 **4.7.13 Personnel Lighting.** It shall be verified by inspection that the JBADS has  
940 lighting within the AE so that personnel can maneuver around inside the  
941 enclosure.  
942
- 943 **5.0 Packaging.**
- 944
- 945 **5.1 Packaging.** For acquisition purposes, the packaging requirements shall  
946 be as specified in the contract.  
947
- 948 **6.0 Notes.** None.  
949  
950  
951