AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. CONTRACT ID CODE	PAGE OF PAGES
J	1 | 3

2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO.(If applicable)
P00012	14-Jun-2010	EIAIT7AQYTJ080A1	

6. ISSUED BY	CODE	7. ADMINISTERED BY (If other than item 6)	CODE
NCRCC - ITEC4 2461 EISENHOWER AVENUE ALEXANDRIA VA 22331-1700	W91QUZ	DCMA TEXAS 600 NORTH PEARL STREET, SUITE 1630 DALLAS TX 75201-2843	S4402A

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)		
SYSTEMS & PROCESSES ENGINEERING CORPORAT ADRIAN STECHNIJ 6800 BURLESON RD BLDG 320 AUSTIN TX 78744-2306		9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
	X	10A. MOD. OF CONTRACT/ORDER NO. W91QUZ-09-D-0004
CODE 48300 FACILITY CODE 48300	X	10B. DATED (SEE ITEM 13) 18-Dec-2008

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

☐ The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer ☐ is extended, ☐ is not extended.

Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods: (a) By completing Items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

☐ A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

☐ B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(B).

☐ C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:

X D. OTHER (Specify type of modification and authority)
Bilateral modification pursuant to Part C-1(c) Changes

E. IMPORTANT: Contractor ☐ is not, ☒ is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
Modification Control Number: nlee102044

"See Continuation Pages"

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) JAMES E. JOHNSON / CONTRACTING OFFICER TEL: 703-325-3430 EMAIL: james.johnson27@us.army.mil	
15B. CONTRACTOR/OFFEROR _____ (Signature of person authorized to sign)	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA BY _____ (Signature of Contracting Officer)	16C. DATE SIGNED 14-Jun-2010

SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

The following items are applicable to this modification:

1. The purpose of this modificaton is to update Part D, paragraph 4.1.4 Field Data Unit. The paragraph is changed as followed:

FROM:	**TO:**
4.1.4 Field Data Unit. The Contractor shall provide a Field Data Unit (FDU) for unattended operation of Active RFID data collection elements. The FDU shall be programmable to provide automatic data collection and forwarding through a modem or local area network to a central information system. The Contractor provided FDUs will be operated in either indoor or outdoor environments with the separately-orderable FDU enclosure. The Government desires a FDU with a form factor no larger than 13.40" (H) x 3.65" (W) x 12.35" (D). The Contractor provided FDU shall fit inside the Field Data Unit Enclosure (specified below) and shall provide sufficient cooling to prevent overheating of the FDU when it is operating in the Field Data Unit Enclosure. The FDU shall contain at a minimum the following available expansion bays: external 5.25" slimline and, the following available card slots: 1 low-profile PCI and, 1 low-profile PCIe x16 graphics. At a minimum the FDU CPU shall be a 2.66GHz dual core processor with 1333MHz "quad-pumped" front side bus and, 4MB on-chip, full-speed L2 cache that is shared across each core. The FDU shall have a minimum of 1GB Installed RAM with PC-5300 Memory Modules and, DDR2-667 memory chips. The FDU shall have at least two memory slots available for future expansion. The FDU potential total System capacity shall be a minimum of 8GB utilizing 4 2GB SIMMS. The FDU shall have a hard disk drive with a minimum of 160GB 7200 RPM SATA and at least 8MB of drive cache. The FDU shall have at least one 16X DVD+-RW SATA optical drive with minimum speeds: 8X DVD-RW 48X CD-ROM. The FDU shall have a low-profile PCIe x16 graphics card with 1 DVI and, 1 VGA video port. The FDU shall support a single display and have at least 256MB dedicated video RAM and Integrated ADI 1894 High Definition Audio. The FDU shall have integrated 802.3ab-1000Base-T PCI DFV V.90	**4.1.4 Field Data Unit.** The Contractor shall provide a Field Data Unit (FDU) for unattended operation of Active RFID data collection elements. The FDU shall be programmable to provide automatic data collection and forwarding through a modem or local area network to a central information system. The Contractor provided FDUs will be operated in either indoor or outdoor environments with the separately-orderable FDU enclosure. The Contractor provided FDU shall fit inside the Field Data Unit Enclosure as specified below for form factor, and shall provide sufficient cooling to prevent overheating of the FDU when it is operating in the Field Data Unit Enclosure. The Government desires a FDU that meets or exceeds the following <u>minimum</u> requirements: a. Form factor (foot print) no larger than 13.40" (H) x 3.65" (W) x 12.35" (D) b. 2.66 GHz, 1333MHz FSB Dual Core Processor c. Support for DirectX 9 graphics with: 1. WDDM Driver 2. 128 MB of Graphics Memory 3. Pixel Shader 2.0 in hardware 4. 32 bits per pixel d. 1 GB system memory, installed (DDR2 SDRAM), system capacity supporting 2GB to 8GB e. 160 GB 7200 RPM STA Hard disk drive f. 8X DVD+-RW SATA optical drive with minimum speeds: 8X DVD-RW 48X CD-ROM g. VGA video port h. Audio Output i. Integrated 802.3ab-1000Base-T/RJ45 j. Full speed data rate USB 2.0 ports

Internal Modem and a minimum of two front panel and five back panel full speed data rate USB 2.0 ports with line-in, line-out, Microphone, Headphone, RJ-45, DVI-I (VGA) and S-Video Serial Port or USB to Serial adaptor. The FDU Power Supply shall have a Maximum Rated Power (Watts): 275W and an Input Voltage of 110-240V 50/60 Hz. The FDU shall be delivered with the MS Windows XP Operating System or latest Army approved version (updated with the latest Service Pack) installed and shall include all documentation. The Government intends to request through the Contract Change Proposal process that Contractors provide a Government approved LINUX operating system and LINUX compatible Contractor developed FDU software as a future requirement.	k. The FDU shall be delivered with the MS Windows Vista Operating System or latest Army approved version (updated with the lastes Service Pack) installed and shall include all documentation. The Government intends to request through the Contract Change Proposal process that Contractors provide a Government approved LINUX operating system and LINUX compatible Contractor developed FDU software as a future requirement.

2. The attached Part D replaces the previous version of Part D in its entirety.

3. As a result of this modification, the total amount of funds obligated under the contract remain unchanged.

RADIO FREQUENCY IDENTIFICATION-III

SPECIFICATION AND STATEMENT OF WORK

FOR A LIST OF ALL ATTACHMENTS TO THIS SPECIFICATION AND STATEMENT OF WORK, SEE PARAGRAPH 1.8, ATTACHMENTS AND EXHIBITS.

1 SCOPE

The missions of Product Manager Joint-Automatic Identification Technology (PM J-AIT) is to provide a contact for procurement and technical expertise across the suite of Automatic Identification Technology (AIT) enabling technologies that support focused logistics, total asset visibility (TAV), and the integration of global supply chains. The Radio Frequency Identification-III (RFID–III) contracts are multiple award, indefinite-delivery-indefinite-quantity (IDIQ) contracts that will provide interoperable ISO/IEC 18000-7:2008 compliant active RFID (aRFID) hardware, software, documentation, and, incidental services to authorized users worldwide. Incidental services include training, warranty and maintenance services, and technical engineering services (TES). Hardware and software delivery and installation, as well as performance of associated training, warranty, maintenance, and documentation shall be required at continental United States (CONUS) and outside the continental United States (OCONUS) government sites. Performance of TES shall be required at CONUS and OCONUS government sites and the contractor facility.

1.1 RADIO FREQUENCY IDENTIFICATION ACQUISITION OBJECTIVES.

The objectives of the RFID-III acquisition are to provide a state-of-the-art, common, integrated structure for logistic tracking, locating, and health monitoring of commodities and assets. In addition, Item Unique Identification (IUID) marking, data collection, storage information, retrieval methods, information processing, and transmission of transponder data will greatly enhance systems within the DoD. The aRFID technology will provide standardization and interoperability among Government users of aRFID components purchased from this Contract. All aRFID hardware and software acquired under this contract shall be compliant with ISO 18000-7:2008 standards and the DoD Interoperability Guidelines except the Closed Loop Active RFID System.

1.2 DESCRIPTION AND SPECIFICATION.

a. This Description and Specification sets forth the requirements for the RFID-III technology acquisition. The Contract shall provide for commercial communications hardware, software, documentation, training, technical engineering services, warranty and maintenance to provide a common, integrated structure for logistics tracking, locating, and monitoring of assets and, Item Unique Identification (IUID) marking. For the purposes of this Contract, aRFID components are those commercially available items necessary for Radio Frequency Identification, the tracking of tagged commodities and assets, data collection, keyless data entry, data processing (for example, processing Electronic Data Interchange/Universal Naming Electronic Change for Commerce and Transport transaction sets for fuel processing and tracking functions), data storage and retrieval. The RFID-III Contract will provide aRFID hardware and software that will be used in fixed and mobile installations.

b. The aRFID requirements include microprocessor-based, Radio Frequency Identification hardware, software, data communications, services and turn-key integration services to include: aRFID Technology and a Closed Loop Active RFID System based on the aRFID Technology; Radio Frequency (RF) Transponders; Fixed Interrogators; Transportable Interrogators; Hand-Held Interrogators; RF Remote Devices; RF Relays, Portable Printers; Transit Case Groups; Satellite Modem and Terminal; LAN Connectivity Devices; Rechargeable Batteries and Battery Chargers; Solar Power Sources; Software (Configuration/Operational Software for PC, Configuration/Operational Software for Hand-Held Interrogator and Application Development Software); upgrades and updates to all delivered Software; Separately Orderable Components; Contractor-provided Technical Engineering Services (Installation, De-installation, and Relocation of RFID components) Middleware Development Services for Task Orders; Commercially available Middleware for Task Orders; System Integration; IUID marking and Implementation Support; Software Development Services; Maintenance; Warranty; and Training.

c. Turn-key solutions integrating technology purchased under the RFID-III Contracts with existing Government provided AIT and Passive RFID shall be provided under TES Task Orders to provide a transparent solution to the user. To support the warfighter in field operations, the RFID-III Contract shall also provide transit cases to safely transport aRFID equipment and related accessories required to install and operate aRFID equipment. The aRFID equipment is required to meet worldwide Department of Defense (DoD) and U. S. Coast Guard, NATO, Coalition Partners, and other Federal Agencies needs in various CONUS and OCONUS locations. Since DoD components have shared RFID technology with Allied partners in joint operations, such as Operation Enduring Freedom and

Operation Iraqi Freedom, the RFID-III contract will be available for orders to meet Foreign Military Sales (FMS) requirements in order to provide interoperability for logistics support with Allies.

d. The Government reserves the right to purchase through the Contract in-transit visibility data related to DoD-owned RFID tags that is collected by OCONUS sites within the Contractor's commercial RFID networks to support missions that require deployment to worldwide areas that restrict DoD operations. In the event the Government has a requirement to purchase in-transit visibility data related to DoD-owned RFID tags through the Contract, the Contracting officer will request a CCP, and the Contractor shall submit a CCP in accordance with the paragraph "Contract Change Proposal (CCP) Response Time" in Part C-1-1 and other applicable paragraphs in this Contract.

1.3 GENERAL.

The Government intends to use aRFID technology in applications that demand performance on a higher level than that available with bar code and other automated data storage and retrieval technologies. The aRFID Transponders will be affixed to assets or other objects of interest to capture and transmit varying amounts of data, which are stored and processed. The Government will use aRFID Interrogators to communicate with Transponders through RF energy. The Interrogator shall read information from all transponders, and write information to transponders with a read/write function. This feature enables a user to locate, track, and monitor the status of a Transponder and its associated commodity and asset, or to alter the data stored in a Transponder. Interrogators, Transponders, and RF Relays may be linked together to create a RFID system network.

1.4 RFID APPLICATIONS.

Some anticipated applications of aRFID technology include, but are not limited to:

a. Inventory and warehousing environments;
b. Large open-area storage facilities (austere marshaling areas, and staging and assembly areas), with or without electrical power or an established communications infrastructure;
c. The control of maintenance, repair, and tracking facilities;
d. The control of entry and exit points of military facilities, and roadside installations;
e. Restricted office and laboratory environments;
f. The control of transactions at custody exchange points (for example, weapons issue facilities);
g. The military transportation community (for example, seaports and air terminals), and petroleum distribution points (including fueling operations at airports, in-flight, and at sea);
h. The handing of perishables (medical supplies, foods, and other items sensitive to temperature changes);
i. The handling of hazardous, explosive, or otherwise regulated materials;
j. The control of military convoys;
k. Health and intrusion monitoring (sensor technology: temperature, shock, humidity, light, and door alarms);
l Tracking Government owned commodities and assets.

1.5 WORLD WIDE GEOGRAPHIC SUPPORT.

The Government requires equipment that can be used worldwide. The Contractor shall provide Active RFID hardware, software, warranty, maintenance and, TES to support the Department of Defense (DoD) operations in U.S. Northern Command (USNORTHCOM), U.S. Pacific Command (USPACOM), U.S. Central Command (USCENTCOM), U.S. European Command (USEUCOM), U.S. Southern Command (USSOUTHCOM) and, U.S. Africa Command (AFRICOM).

1.6 RESTRICTION OF HAZARDOUS SUBSTANCES (ROHS).

All hardware provided under the Contract shall comply with the Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003 on the restriction of the use of certain hazardous substances in electrical and electronic equipment: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:32002L0095:EN:HTML.

1.7 OFFICIAL HOURS OF OPERATION.

The Contractor shall provide support during local Official Hours of Operation, based on the geographic location of the Government site at which the support shall be provided. Help Desk requirements are specified in the paragraph entitled "Toll-Free Customer Support Help Desk."

1.8 ATTACHMENTS AND EXHIBITS.

The following exhibits are contained in this Part:

Exhibit-A, Safe Separation Distance Between a RF Source and Unshielded Munitions Containing 10 mA No-fire Current Electro-explosive Devices (EEDs)

Exhibit-B, RFID-III Contract Status Report

The following attachments are contained in this Part:

Attachment 1, DoD Over Air Interface Guidelines

Attachment 1a, DoD Over Air Interface Guidelines, Errata Notice 0001

Attachment 2, DoD Transponder Barcode Labeling Guidelines

Attachment 3, DoD Transponder Hardwire Electrical Interface and Data Protocol

Attachment 4, DoD Interoperability Guidelines for the Over Air Interface

Attachment 4a, DoD Interoperability Guidelines for the Over Air Interface, Errata Notice 0004

Attachment 5, DoD Table Manager Module (TMM)

Attachment 5A, DoD Table Manager Module (TMM) - Production

Attachment 6, DoD Active RFID Common Abstraction Interface Java Library ***NOTE: This Attachment consists of .jar files that are compiled program code for software developers only***

Attachment 6a, DoD Active RFID Common Abstraction Interface Source Code

Attachment 7, DoD Active RFID Common Abstraction Interface Developers JavaDoc ***NOTE: This Attachment consists of documentation for Attachment 6***

Attachment 8, DoD Transponder Battery Guidelines

Attachment 9, DoD Routing Code Guidelines

Attachment 10, DoD Active RFID Common Abstraction Interface

Attachment 11, DoD RFID Common Abstraction Interface Developer's Guide

Attachment 12, DoD Sensor Interface Guidelines

Attachment 13, Active RFID Tag Format and Data Specifications

Attachment 14, Active RFID-III Software Functional Requirements

Attachment 15, Table Manager Module Developers Guide

Attachment 16, Labor Categories Descriptions

Attachment 17, Field Data Unit (FDU) Enclosure Diagram

Attachment 18, Post Award Product Testing Process

Attachment 19, Wireless Security Standards

Attachment 20, RFID-III ITV Server Interface Document

Attachment 21, DoD ISO-18000-7 Hardwire Reference Hardwire Driver Documentation***NOTE: This Attachment consists of documentation for Attachment 21-A***

Attachment 21-A, DoD ISO-18000-7 Hardwire Reference Driver files***NOTE: This Attachment consists of files that are compiled program code for software developers only***

2 APPLICABLE DOCUMENTS, DEFINITIONS, AND ACRONYMS.

2.1 FEDERAL INFORMATION PROCESSING STANDARDS.

Copies of the Federal Information Processing Standards (FIPS) may be obtained from:
U.S. Department of Commerce
National Technical Information Service
5285 Port Royal Road
Springfield, VA 22161
Telephone: 1-800-553-6847

2.2 AMERICAN NATIONAL STANDARDS INSTITUTE.

Copies of ANSI standards may be obtained from:
American National Standards Institute
25 W 43rd Street 4th Floor
New York, NY 10036
Customer Service or Document Sales
8:30am – 6:00pm EST
Telephone: 1.212.642.4980
http://www.ansi.org

2.3 INTERNATIONAL ORGANIZATION FOR STANDARDIZATION.

Copies of ISO standards may be obtained from: http://www.iso.org/iso/home.htm.

2.4 FEDERAL COMMUNICATION COMMISSION REGULATIONS.

Federal Communications Commission Regulations may be obtained from the Government Printing Office web site: http://bookstore.gpo.gov

2.5 UID AND IUID POLICY.

Updates to Policy and associated Guides for Unique Identification (UID) and Item Unique Identification (IUID) of Tangible Items, can be obtained from: http://www.acq.osd.mil/dpap/pdi/uid/index.html

2.6 DEFINITION OF TERMS.

The following are definitions of terms used in this Specification. All other definitions and meanings used in this Specification shall be those that are commonly used in the Radio Frequency Identification Technology industry.

Active Transponder: Contains a battery that provides the power to respond to an Interrogator, and to perform other internal functions within the Transponder.

Continental United States (CONUS): All locations and sites within the 48 contiguous States.

Industrially Hardened Components: Components that can operate in a warehouse or manufacturing setting and survive the rough treatment and handling often found in shipping areas, loading docks, catwalks, ladders, or on the floor of a manufacturing facility.

Mission Oriented Protective Posture (MOPP) Gear: Protective gear worn for a wide spectrum of environmental conditions which include, but are not limited to, extreme cold, heat, rain, snow, salt, fog, blowing dust or sand, and biological or chemical agents.

Non-incendive: See paragraph entitled "Hazardous Environment."

Outside Continental United States (OCONUS): All locations outside the 48 contiguous States of the U.S. OCONUS locations include, but are not limited to, Alaska, Hawaii, U.S. Territories and Possessions, Europe, Asia, Africa, and Australia.

Official Hours of Operation: Official hours of operation are from 8:00 a.m. to 5:00 p.m. local time, Monday through Friday, excluding U.S. Federal holidays, for each Government facility possessing RFID-III components.

Return Material Authorization (RMA): A number assigned by the Contractor and furnished to the RFID-III user to assist in quickly ascertaining the status of components returned for warranty or maintenance service.

Workday: Monday through Friday, excluding U.S. Federal holidays.

2.7 ACRONYMS.

The following are acronyms used in this Specification:

AC	Alternating Current
ANSI	American National Standards Institute
aRFID	Active Radio Frequency Identification
ASCII	American Standard Code for Information Interchange
CCP	Contract Change Proposal
CLIN	Contract Line Item Number
CONUS	Continental United States
COR	Contracting Officer's Representative
DC	Direct Current
DISR	Defense Information Standards Registry
DoD	Department of Defense
EC	Engineering Change
EEDSK	Early Entry Deployment Support Kit
FCA	Functional Configuration Audit
FCC	Federal Communications Commission
FDU	Field Data Unit
FMS	Foreign Military Sales
HHI	Hand-Held Interrogator
IEC	International Electrotechnical Commission
ISO	International Organization for Standardization
IUID	Item Unique Identification
IP	International Protection rating
IPT	Integrated Product Team
LAN	Local Area Network
MESR	Monthly Equipment Service Report
MOPP	Mission Oriented Protective Posture
NEMA	National Electrical Manufacturer's Association
NI	Non-incendive
OCONUS	Outside the Continental United States
OEM	Original Equipment Manufacturer
PC	Personal Computer
PCA	Physical Configuration Audit
PM	Product Manager
PDK	Portable Deployment Kit

PPR	Project Progress Review
RC	Repair Center
RAM	Random Access Memory
RFID	Radio Frequency Identification
ROM	Read-Only Memory
RMA	Return Material Authorization
SQL	Structured Query Language
SLIN	Sub-line item number
SOW	Statement of Work
UID	Unique Identification
USB	Universal Serial Bus

3 RFID SYSTEM REQUIREMENTS.

3.1 GENERAL.

The Contractor shall provide all necessary RFID hardware, software, data communications, cables, connectors, peripherals, training, installation support services, technical services, and documentation to operate and maintain the RFID Configurations as stated in this Specification. Because of the diversity of applications, the Contractor shall provide the Technical Engineering Services necessary to configure, install, interface, and integrate, the appropriate hardware and software to satisfy specified applications. The Government requires equipment that supports the requirements of the Joint Technical Architecture. The Government requires Contractor support during Official Hours of Operations. RFID-III equipment and its components shall operate in worldwide locations and in the identified environments. The equipment shall conform to required industry standards, where applicable. The equipment shall operate in U.S. and Host Nation Country power and radio frequency requirements. Transit Case Groups are required to support missions that require rapid deployment worldwide of groups of RFID-III equipment. Satellite Communications shall be provided to allow users the alternative to communicate worldwide in real-time using a single approved frequency between RFID System components and possible host reporting stations. The Government requires commercial software packages and software for application development. Program Management is required to support the Government's efficient execution of this Contract. Warranty and Maintenance services are required to ensure the operational availability of RFID-III equipment. Technical Engineering Services are required to help the Government incorporate RFID-III equipment into its applications. Training and documentation are required to inform and educate the Government users.

3.2 DOD INTEROPERABILITY REQUIREMENTS.

The documents listed in the Paragraph entitled "Attachments and Exhibits," Attachments 1 – 15 and 17 – 19, specify the requirements to achieve interoperability for all (except the Closed Loop Active RFID System specified in paragraph 4.2 of this Part D) aRFID transponders acquired through the RFID-III Contract.

3.3 DEFENSE INFORMATION STANDARDS REGISTRY.

The DISRis the minimal set of rules governing the arrangement, interaction, and interdependence of the parts or elements that together form an information system. Its purpose is to ensure that DoD systems are interoperable, scalable, and portable. The aRFID equipment specified in this Contract is not considered by DoD to be a system. Rather, aRFID equipment is used to provide data entry front-ends for DoD systems. This Specification includes small computer platforms and components that may be proprietary, or that have neither the capacity nor the scope to satisfy DISR requirements. For example, the operating systems for Hand-Held Interrogators do not meet Common Operating Environment requirements. DISR requirements for modeling and designing a system are also not required by this Contract. Systems developers incorporating RFID-III equipment purchased from this Contract will address RFID product modeling and design requirements in their system models and designs. The DISR requirement for purposes of this Contract is for RFID-III equipment to interface with supported systems. Interface requirements for RFID-III equipment are part of the specifications for these components.

3.4 OPERATING ENVIRONMENTS.

RFID components shall operate in diverse environments, and under a full spectrum of climatic conditions. RFID components may be subjected to rough handling, shock, and vibration during transportation, setup, and dismantling. All aRFID components shall be operated in industrial, hazardous, and ordnance environments, on board surface and subsurface naval vessels, aircraft, tanks, in conditions that range from protected and controlled (office settings) to extremely harsh and severe environments and in areas with high levels of electromagnetic noise and interference. RFID components are required for outdoor use and may be subjected to desert and Arctic areas. The Contractor shall certify that the provided components meet applicable Environmental Protection Act requirements. The Government requires aRFID equipment that can be used in the following environments: electromagnetic, hazardous, ordnance, radio frequency, and rugged environments.

3.4.1 Electromagnetic Environment.

Commercial RFID-III equipment may be used in the vicinity of spectrum-dependent devices that receive low-level signals and/or transmit high-level signals (See MIL-STD-464A: Interface Standard for Systems Electromagnetic Environmental Effects). In order to certify the use of commercial RFID-III equipment in these environments, the Government may subject representative categories of equipment to radiated emission and susceptibility tests (See MIL-STD 461D: Requirements for the Control of Electromagnetic Interference Emissions and Susceptibility, and MIL-STD-462D: Measurement of Electromagnetic Interference Characteristics). The Contractor shall support Government-testing efforts by providing technical data sheets and responding to Contracting Officer's Representative requests for additional data.

3.4.2 Hazardous Environment.

Where specifically required in this Specification, the Contractor shall provide equipment that is identified and certified as Non-incendive (NI) for operation in environments where flammable and explosive gases and vapors may be present. At a minimum, the following NI requirements shall be met:

Class 1 (Gases and Vapors)
Division 2 (Not present in normal operation) Groups
A (Acetylene)
B (Hydrogen)
C (Ethyl Ether, Ethylene)
D (Acetone, Ammonia, Benzene, Butane, Cyclopropane, Ethanol, Gasoline, Hexane, Methanol, Methane, Natural Gas, Naphtha, Propane)
Class 2 (Combustible Dust)
Division 2 (Not present in normal operation) Groups
F (Combustible carbonaceous dusts)
G (All other combustible dusts, such as grain dust)
Class 3 (Easily Ignitable Fibers)
Division 2 (Not present in normal operation)

NI is a rating classification of equipment specifically defined in the National Electrical Code (NEC). To be given an NI rating, the Contractor shall have demonstrated that equipment cannot, under normal operation, produce a spark or other undesirable effects that might cause combustion in any potentially hazardous environment. The presence of gases, vapors, flammable liquids, combustible dust, or ignitable fiber or flyings are examples of potentially hazardous environments. Equipment shall be certified by an approved testing laboratory meeting Occupation Safety Hazards Act standards. Circuits shall not produce a spark under normal operation. RFID-III equipment may be used under conventional, chemical, or biological warfare conditions. The Contractor shall label components that are approved for use in a hazardous environment in accordance with governing body markings.

3.4.3 Ordnance Environment.

3.4.3.1 Environment.

RFID-III equipment may be used in the vicinity of ordnance susceptible to radiated energy. In order to certify that RFID-III equipment is safe to use in these environments the Government will select and subject a single item from each pertinent RFID-III Contractor's equipment categories to stringent Hazards of Electromagnetic Radiation to Ordnance (HERO) environment testing (See MIL-STD 464A).

3.4.3.2 Testing.

Each RFID-III item tested shall successfully complete HERO testing prior to being made available for ordering on the RFID-III Contract to include equipment added to the contract after contract award. Each RFID-III Contractor shall be responsible for providing any and all support required to successfully complete HERO testing for their equipment at the direction of the Government COR at no additional cost to the Government. Contractors may be required to provide on-site support at the Government test facility (USN Dahlgren Laboratory) to support testing. The Government will bear the cost of the initial testing for each RFID-III hardware item. All subsequent testing costs due to failure of an item to meet the HERO requirements shall be the responsibility of the Contractor. Active Transponders shall be safe to use at least as close as one inch or less and Active Interrogators shall be safe to use as close as five inches or less from unshielded munitions that contain 10 mA no-fire current, electro-explosive devices (EEDs).

3.4.3.3 Safety.

A determination of the required safe separation distance can be made by referring to the graph entitled "Safe Separation Distance Between a RF Source and Unshielded Munitions Containing 10 mA No-fire Current Electro-Explosive Devices (EEDs)" in Exhibit A. This graph relates safe separation distances to irradiated output power as a function of operating frequency. Although many ordnance items have no EEDs, and other items have EEDs that are less sensitive to RF energy, this requirement represents a worst-case scenario that ensures safe operation around what frequently is unknown ordnance (unknown to transporters and others).

3.4.3.4 Label.

All Interrogators, Transponders, and RF Relays delivered to the Government under the RFID-III Contract shall be furnished with a warning label that clearly indicates the safe separation distance that shall be maintained between ordnance and the irradiating source.

3.4.3.5 Spectrum Supportability Compliance.

The DoD will obtain spectrum supportability guidance and approvals prior to procuring equipment that is designed to either transmit or receive electromagnetic (radio frequency) energy. Spectrum supportability includes spectrum certification, frequency assignments, and host nation coordination where employment of the system or equipment is planned. Radio frequency dependent components of the proposed system shall comply with applicable DoD, national, and international spectrum management policies and regulations to include spectrum certification in accordance with DoD Directive 4650.1, "Management and Use of the Radio Frequency Spectrum" and DoD Directive 5000.1, "The Defense Acquisition System". Frequency allocation shall be documented with a DD Form 1494 (APPLICATION FOR EQUIPMENT FREQUENCY ALLOCATION) and/or a "Note to Holder" as appropriate. The Contractor shall provide the technical data required to complete the spectrum supportability process, including information concerning specifications and testing of the transmitter, receiver, and antenna characteristics necessary for host nation coordination. The Contractor shall provide the technical support necessary to complete the DD Form 1494 no later than 30 days after Notice to Proceed or approval of a CCP to add or replace applicable items on the Contract. All Contractor provided spectrum supportability compliance support shall be provided at no additional cost to the Government.

3.4.3.6 Rugged Environment.

RFID-III hardware will be used by the Government in "rugged environments" (i.e. industrial and field settings under temperate, arctic, maritime, desert, and tropical conditions). The words "rugged" or "ruggedized", when used in this

Part D, mean that the Government requires RFID-III hardware that is industrially hardened, designed, built, and tested to ensure reliable and continuous performance in all rugged environments. In this environment, RFID-III components may be subjected to rough handling, continuous operational use, vibration, dropping onto hard surfaces, and shock caused by transportation over rough terrain.

3.5 ORIGINAL EQUIPMENT MANUFACTURER ENGINEERING CHANGES.

All Original Equipment Manufacturer (OEM)-sponsored Engineering Changes (ECs) adopted prior to the date of contract award shall be incorporated into the hardware, software and, firmware delivered under this Contract.

3.6 CONNECTIVITY TO GOVERNMENT-OWNED COMPUTERS.

The Government currently uses a wide variety of Pentium processor-based computers that shall be connected to the Contractor-provided RFID components. Connections shall be in accordance with standard protocols (e.g., RS-232, RS-485, USB 1.1 or higher, and TCP/IP).

3.7 AC/DC POWER REQUIREMENTS.

3.7.1 Power Requirements.

The Contractor shall provide equipment designed and certified to meet quality and safety standards of Underwriters Laboratory (UL) or equivalent certified. The Contractor shall provide aRFID equipment with power supplies, fuses, and cables for RFID components that shall allow the use of locally available commercial power. All RFID-III components shall be compatible with the power supply, and power outlets or connectors, for the geographic area in which it is to be operated as specified in the Delivery Order, Task Order or Government Purchase Card Order. The Contractor shall also provide all necessary and appropriate AC plug adapters (when required for AC operation) for aRFID components delivered. The plug adapters are exempt from UL or equivalent certification.

3.7.2 Power Supplies.

RFID-III devices and printers shall, to the extent available, automatically enter a low-power mode after a period of inactivity and automatically return to active mode upon resumption of system activity or receipt of external input. RFID-III devices and printers shall be shipped with the power management feature enabled. The power supplies and AC adapters (when required for AC operation) shall be of a type to prevent damage to the device when transient high voltage is present. The Contractor shall provide a single unit to convert the plug type to one that is required by the country where the equipment will be operated. The power supplies and AC adapters shall be appropriately marked to indicate the product's safety and quality.

3.7.3 Battery-operated RFID Interrogators.

Each battery-operated Interrogator shall be delivered with two sets of rechargeable batteries and an AC Adapter (when required for AC operation).

3.7.4 Rechargeable Batteries.

Rechargeable Batteries shall provide sufficient capacity to allow a minimum of four hours of continuous Interrogator operation, assuming Interrogator-Transponder communication for 20 minutes of each hour during that four-hour period. Rechargeable Batteries shall not require discharge in order to attain full functionality and total rated battery capacity. The Government desires Rechargeable Batteries that shall be rechargeable without removal from RFID components. All Rechargeable Batteries shall be user-replaceable by hand or with the use of commonly available tools. The Contractor shall provide Battery Chargers as Separately Orderable Components. The Contractor may provide Battery Chargers designed either to charge a single operating set of batteries, or to charge multiple battery sets concurrently.

3.7.5 Internal Back-up Power.

The Contractor shall provide:

a. A method to maintain the configuration settings within all applicable RFID-III equipment (Any HHI, Interrogator, RF Relay, or anything else that might come with firmware);
b. A method to maintain the configuration settings for a minimum of 400 hours when rechargeable battery or AC power is not available;
c. A method for the rechargeable battery or AC power source to recharge the internal back-up power source, when required.

3.7.6 Battery Protection.

The Contractor shall provide for any device containing non-rechargeable batteries a methodology to prevent premature battery depletion while in shipment or in storage before initial use.

3.7.7 Hand-Held Interrogator Low-Power Operation.

All battery-operated Hand-Held RFID Interrogators provided shall have a low battery power indicator. The low-battery power indicator shall provide the user with at least five minutes of advanced warning of an automatic shutdown. To preserve stored data and to conserve power, battery-operated Hand-Held Interrogators shall automatically shut down before battery power is completely exhausted. Battery-operated Hand-Held Interrogators shall have an automatic, user-definable, time-out function that conserves battery power during periods of inactivity. The Government requires a feature that allows the user to terminate the time-out function and restore full operation with a single command to the Interrogator. When the Hand-Held Interrogator consists of multiple battery operated components then the low-battery indication shall be provided at least for the component with the shortest battery life. The other battery operated component(s) shall provide either separate indications or a label shall be provided that instructs the user to recharge all batteries when the low battery indicator is set.

3.7.8 Accessibility.

a. The Contractor shall provide a comprehensive list of all offered specific electronic and information technology (EIT) products (supplies and services) that fully comply with Section 508 of the Rehabilitation Act of 1973, per the 1998 Amendments, and the Architectural and Transportation Barriers Compliance Board's Electronic and Information Technology Accessibility Standards at 36 CFR Part 1194. The Contractor shall clearly indicate where this list with full details of compliance can be found (e.g., Contractor, subcontractor, vendor's, or other exact web page location). The Contractor shall ensure that the list is easily accessible by typical users no later than five calendar days after receipt of the notice to proceed. The Contractor shall maintain this detailed listing of compliant products for the life of the contract, including all forms of extensions, and shall ensure that the detailed listing is updated no later than three calendar days after changes are made to the Contractor, subcontractor's, or vendor's product line.

b. The Contractor shall ensure that all EIT products that are less than fully compliant are the most compliant products and services available to satisfy all contract requirements.

c. For every EIT product provided under this contract that does not comply with 36 CFR Part 1194, the Contractor shall, at the discretion of the Government, replace or upgrade it with a compliant product or service, when commercially available at no additional cost to the Government.

3.8 EQUIPMENT DELIVERY REQUIREMENTS.

The Contractor shall provide all necessary software, cables, connectors, drivers, essential accessories, and ancillary items in order to make each deliverable hardware item fully operational, which meets the intent of this Contract.

3.9 EXPEDITED DELIVERY REQUIREMENTS.

The Contractor shall provide Expedited Delivery for CONUS and OCONUS locations when specified in equipment orders (Delivery Orders and Government wide Purchase Card Orders). Delivery shall comply with the requirements of the paragraph entitled "Expedited Delivery" in Part C-1-1.

3.10 UNIQUE IDENTIFICATION.

Applicable items, as identified in DFARS 252.211-7003, Item Identification and Valuation (Jun 2005), in Contract Part C-1-1, shall be permanently marked in accordance with the "Revision of Update to Policy for UID and IUID of Tangible Items - New Equipment, Major Modifications, and Reprocurement of Equipment and Spares," December 22, 2003. Marking shall include the UID on the item or identification plate in Data Matrix Bar Code symbology with Human Readable Interpretation (when adequate space is available). Data format shall be in accordance with the "Department of Defense Guide to Uniquely Identifying Items," Version 1.6, June 1, 2006. See Paragraph 2.5 of this Part for the website for UID and IUID Policy Regulations.

3.11 ACTIVE RFID TRANSPONDERS AND MAGNET MOUNTS/MOUNTING BRACKETS WITH LABELS.

The Government has a requirement to mark some of Active RFID Transponders and their associated Magnet Mounts/Mounting Brackets as identified in Section B, the CLIN List in accordance with MIL-Std-129P.

3.12 IPV6 CAPABLE ASSETS.

The Contractor shall warrant that each item delivered under the RFID-III Contract shall accurately transmit, receive, process, and function correctly using the Internet Protocol Version 6 (IPv6). Specifically, the Contractor warrants that: 1) each item delivered complies with the current DISR developed IPv6 standards profile; 2) each item delivered maintains interoperability with IPv4 (specifically, shall operate on/coexist on a network supporting IPv4 only, IPv6 only, or a hybrid of IPv4 and IPv6); and 3) each item delivered is supported by the Contractor's IPv6 technical support. Additionally, as IPv6 evolves, the Contractor shall upgrade or provide an appropriate migration path for each item delivered. The duration of this warranty and the remedies available to the Government for breach of this warranty shall be as defined in, and subject to, the terms and limitations of the Contractor's standard commercial warranty or warranties contained in this Contract, provided that notwithstanding any provision(s) to the contrary in such commercial warranty or warranties, the remedies available to the Government under this warranty shall include repair or replacement of any product whose non-compliance is discovered and made known to the Contractor no later than one year after acceptance. Nothing in this warranty shall be construed to limit any rights or remedies the Government shall otherwise have under this RFID-III Contract with respect to defects other than IPv6 performance.

4 RFID EQUIPMENT REQUIREMENTS.

4.1 THE ACTIVE RFID CLASS CONFIGURATION.

4.1.1 General Requirements.

The Contractor shall provide aRFID Interrogators that provide an over air interface that shall conform to ISO/IEC 18000-7:2008 Standards and, the DoD Interoperability Requirements. All Contractor provided aRFID Interrogators shall have an outdoor omni-directional, non-obstructed, read and write range of at least 300 feet except as otherwise specified with a configurable RF transmit power to allow a maximum radiated power to meet local regulations with manufacturer provided table or formula to provide guidance to the installer. Active Interrogators shall operate with non-line-of-sight communication with active transponders. All aRFID interrogators shall discriminate among and communicate with any one Active Transponder among many. The Active Interrogator shall manage at least 250 non-moving active transponders within the communication range of the Interrogator. Active Interrogators shall simultaneously search for user-specified data among multiple Active Transponders. Active Interrogators shall interface with Contractor-provided RF Relays to extend the range of the RF signal. The Contractor shall provide the fastest possible data transfer rate, using both RF and a Transponder Hardwire Electrical Interface cable connection to ensure timely transmission of data between the host computer and transponder(s). The Contractor shall certify that the static RF data transfer rates between Active Interrogators and Active Transponders is at least 9600 baud during periods of actual data transmission. The Active Interrogator shall at a minimum collect at least 40 bytes of data per transponder at 25 MPH (based on the presence of 5 "in range" transponders during the collection sequence) All Contractor provided RFID-III Interrogator antenna(s) shall be internal to the interrogator packaging . All Contractor provided RFID-III Interrogators shall be ruggedized (Industrial Hardened) and weatherproof (rain, wind,

etc.) and shall comply with the IEC 60529 IP54 rating requirement. Each interrogator provided under the RFID-III contract shall be assigned a Unique Infrastructure Device Identifier. The Unique Infrastructure Device Identifier shall have a 48 bit Unique Infrastructure Device Identifier that consists of a 16-bit Manufacturer ID and a 32-bit manufacturer defined Serial Number. The Manufacturer ID shall be the same Manufacturer ID assigned to each of the manufacturer's transponders in accordance with the ISO/IEC 18000-7:2008 Standard. The 48 bit unique identifier shall have the Manufacturer ID in the most significant 16-bits, with the Serial Number occupying the least significant 32 bits. This number shall be translated into a single 15 digit (maximum) decimal number, without leading zeros shall be visible on the exterior of the interrogator, and readable through the CAI (Common Abstraction Interface) in accordance with the DoD RFID Common Abstraction Interface Developers JavaDoc Version 1.1 and the DoD Transponder Bar Code Labeling Guidelines. The Transponder Hardwire Electrical Interface cable shall be provided as a separately orderable item.

4.1.2 Functional Requirements.

4.1.2.1 Active Fixed RFID Interrogator.

The Active Fixed RFID Interrogator shall be easily attached and detached in a fixed location utilizing the separately-orderable Mounting Kit and mountable to an industrial tripod. The separately-orderable Mounting Kit shall allow the user to securely attach, and easily detach, the Fixed Active Interrogator to manmade and natural structures. The Active Fixed Interrogator shall operate at heights up to 30 feet above ground level. The time interval and definition of the associated number and duration of interrogation cycles shall be user selectable. The Active Fixed Interrogator shall have a minimum of 128 Kbytes of non-volatile configuration memory. The Active Fixed Interrogator shall have the following physical Connections: RS-232 (configuration and diagnostics only), RS-485 (required for Contractor defined daisy chain network), and Ethernet. The Active Fixed Interrogator shall have a visual power indicator and be operational when power is applied to the interrogator (power on/off shall not be switch operated). The Active Fixed Interrogator shall be powered by 100V-240V, 50-60 Hz AC, by 12-30V DC vehicle electrical systems and shall be electrically protected. All power connector/cable shall provide retention lock feature. All external connectors shall be protected from the environment (e.g. tethered seal or plug). The operational temperature range for the Active Fixed RFID Interrogator shall be -25C or less and +55C or greater and the Storage Temperature Range shall be -40C or less and +70C or higher. The Active Fixed Interrogator shall not exceed 1.0 cubic feet in volume and 10 pounds in weight. The software interface to PC shall be through the DoD Common Abstraction Interface Java Library .

4.1.2.2 Active Transportable RFID Interrogator.

The Active Transportable RFID Interrogator shall at a minimum meet all of the requirements of the Active Fixed RFID Interrogator. Active Transportable RFID Interrogator shall be easily mountable in a fixed location on a temporary basis, using a separately-orderable Mounting Kit or Mounting Structure. Accordingly, the Mounting Kit shall allow the user to securely attach, and easily detach, the Active Transportable Interrogator. Transportable Interrogators shall be operable from vehicle electrical systems; 50-60 Hz AC, by 12-30V DC and 100V-240V, 50-60 Hz AC shall be supported. The Contractor shall provide all Adapters and Cables required for operation from vehicle electrical systems with the Active Transportable Interrogator. The Contractor shall provide the following separately-orderable components for the Active Transportable Interrogator: Mounting Kit, Mounting Structure, AC/DC Power Cable, AC/DC Vehicle Power Cable, Rechargeable Battery, and Battery Charger.

4.1.2.3 Solar Power Source

The Solar Power Source shall have rechargeable batteries with sufficient capacity to power RFID-III equipment for a minimum of 12 hours without sunlight, and shall simultaneously recharge the batteries to full power in 12 hours or less in direct sunlight. The Solar Power Source shall include the following items: Solar Power Module, Rechargeable Batteries, a Battery Charger, a Tripod Mounting Structure, AC and DC Power Adapters and Cables for operation with vehicle electrical systems. The Solar Power Source and all of the associated RFID-III configurations requiring a Solar Power Source shall have a 90 day delivery requirement.

4.1.2.4 Active Hand-Held RFID Interrogator.

The Contractor shall provide ergonomically designed Active Hand-Held RFID Interrogator (HHI) with omni-directional, read and write functions for all Active Transponders provided under this contract. The HHI shall have a non-obstructed read and write range of at least 150 feet. The Contractor shall provide a Non-incendive, industrially hardened HHI that shall as a minimum be the functional equivalent of the fixed reader except as otherwise specified in this paragraph. The HHI shall have an operating temperature range of -10C or less and +50C or greater and a storage temperature range of -40C or less and +60C or greater. The Government desires a HHI that can operate in a wider temperature than the environmental temperatures stated here. The HHI shall have a memory capacity of at least 64MB RAM and at least 128MB of ROM. The HHI shall be user-programmable, and shall provide the user with assistance or prompts to perform required functions. The HHI shall not weigh more than 3 pounds, and be powered by a single replaceable, rechargeable battery and rechargeable spare battery with a charging cradle. The HHI, antenna, power supply, and any component required for operation shall be integrated into a single, Hand-Held unit. The Government requires the HHI to incorporate a feature that allows the user to query and identify information on an individual Data Rich, Sensor, and Container Security Active Transponders in an area that contains numerous Active Transponders. The HHI shall operate with the Microsoft Windows Mobile 5.0 (Windows CE.NET 5.2) or higher version operating system that shall be installed prior to delivery to the Government. The HHI shall have a manual data input interface (e.g. Keypad) as well as user-programmable functions. The manual data input interface shall utilize a full alphanumeric data entry system (26 alpha and 10 numeric characters) as well as special characters. The Active HHI display shall be a minimum of 320 X 240 pixels with at least 80 characters displayed without scrolling, user-selectable night-readable. The HHI display shall be touch screen enabled, readable in direct sunlight and, backlit. The Contractor shall provide a hands-free device (e.g., holster or belt clip) for carrying the Interrogator. The Contractor shall provide an Active Hand-Held 2D RFID Interrogator with integrated symbology reader and power supply. The HHI shall have wireless LAN capability using built in 802.11 (b/g) WiFi. The Contractor shall provide Rechargeable Batteries, and a charging/docking cradle to simultaneously charge the spare battery and the HHI, a HHI to PC charging/docking cradle with a USB 1.1 or greater PC data communication interface, Holster and Belt clip as not separately priced items with each HHI delivered. The Contractor shall also provide the following separately-orderable items for the Active Hand-Held RFID Interrogator: Holster or Belt Clip, AC Power Adapter (geographically specified), Rechargeable Battery, and Battery Charger.

4.1.2.4.1 Active Hand-Held RFID Interrogator Bar Code Requirements.

The Contractor shall provide Hand-Held Interrogators (with integrated bar code symbology readers). The following paragraphs detail the minimum equipment requirements for bar code symbologies and bar code densities.

4.1.2.5 Bar Code Symbologies.

The aRFID equipment provided shall decode symbologies that comply with industry standards and specifications for Code 39, Code 128, CODABAR, Interleaved 2 of 5, GS1 BarCodes, Universal Product Code (UPC), Data Matrix, and PDF 417. The Contractor provided equipment shall at a minimum read Medium (10.0) density Bar Code labels and, decode labels in accordance with the specifications defined in ANSI MH10.8.2 Data Application Identifier Standard, ANSI MH10.8.3M Material Handling - Unit Loads and Transport Packages – Two Dimensional Symbols, ANSI MH10.8M For Material Handling – Unit Loads and Transport Packages – Bar Code Symbols, and ANSI X3.182 Bar Code Print Quality Guidelines. When additional standards are developed during the life of the contract, the Government may require other symbologies.

4.1.2.6 Bar Code Density.

Bar code density is directly related to the width of the narrowest element (bar or space) of the bar code, which is called the “x” dimension. The “x” dimension is measured in mils (thousandths of an inch). Typical densities vary for each bar code symbology but are still related to the “x” dimension. The family of densities in this Specification is referred to as low density and medium density. The bar code density is critical in defining the ability of bar code readers to read various densities, and to the ability of bar code label printers to print various densities. The relationship of densities and the corresponding “x” dimensions are as follows:

Density	Nominal “X” Dimension (in Mils)

Low	12.5+
Medium	10.0

NOTE: The values listed in the right-hand column refer to “x” dimensions for linear bar code and PDF 417 and, cel width for Data Matrix.

4.1.3 Active RFID Transponders.

4.1.3.1 General Requirements.

The Government requires aRFID Transponders that conform to the DoD Over Air Interface Guidelines (see Attachment 1 of this Part) and the DoD Interoperability Guidelines for the Over Air Interface (see Attachment 4 of this Part). All Contractor provided transponders shall be industrially hardened weatherproof (rain, etc.) and shall comply with the IEC 60529 IP64 rating requirement. All Transponders shall have an operating temperature range of -30C to 70C a storage temperature range of -40C to 70C. Transponders shall be read from, and written to wirelessly by HHIs, Fixed and, Transportable Interrogators, at the distances specified in this Part. The RF signal transmission and reception shall be unaffected by Transponder orientation. All Active Transponders shall have a unique, pre-set serial or identification number furnished by the Contractor in accordance with ISO 18000-7:2008 standard practices. All Transponder antennas shall be omni-directional, internal to the transponder packaging and shall have 300ft operating read / write range (outdoors, non-obstructed) except as otherwise specified. The Contractor shall provide battery power for Transponder internal power. Replaceable batteries shall meet the requirements of the DoD Transponder Battery Guidelines, be replaceable without need for tools, shall be firmly secured in the battery compartment at all times, shall have a visual battery polarity indication, with a Battery life of at least 3 years with two collections per day, an easily discernable audible beep indicator for power on. Replaceable batteries shall allow for reverse battery insertion for battery storage. Transponder power on/off shall not be operated by an external switch. All Contractor provided Transponders with replaceable batteries shall be delivered with batteries that shall be inserted in the reverse position. All Contractor provided Transponders shall be delivered with a barcode label in accordance with DoD Transponder Barcode Labeling Guidelines (see Attachment 2 of this Part) and the barcode shall be visible in every transponder mounting orientation. The Transponder color shall be dark green or black.

4.1.3.2 Functional Requirements.

The Contractor shall provide at least six types of Active Transponders. All Contractor provided Active Transponders with replaceable batteries shall be able to store retrievable data for a minimum of five years.

4.1.3.3 Transponder Specific Requirements

4.1.3.3.1 License Plate Transponder

The License Plate Transponder shall have a read only Manufacturer ID and number assigned and written at time of manufacture in accordance with the ISO 18000-7:2008 Standard and shall have sufficient writeable memory for users to write a Routing Code (e.g., KUS000). The License Plate Transponder antennas shall be omni-directional and internal to the transponder packaging. The License Plate Transponder shall have a replaceable battery. The License Plate Transponder shall provide an indication of low Transponder battery power to the interrogator. The attachment methods shall include a Neodymium magnetic mount grade N28 or higher, and, a Mounting Bracket with minimally two holes for tie-wrap attachment. The Mounting Bracket shall be easily attached and detached, attachment shall require no modifications to conveyance commodity / platform, the Mounting Bracket shall positively hold transponder under all transport conditions. The License Plate Transponder size shall not exceed 7”L x 2.5”W x 2”H (including the mounting bracket).

4.1.3.3.2 Asset Transponder

The Asset Transponder shall be RF writeable and contain at least 2Kbytes of available database table memory (Reference DoD Interoperability Guidelines for the Over Air Interface) (see Attachment 4 of this Part). The Asset

Transponder shall provide an indication of low Transponder battery power to the interrogator. The Asset Transponder attachment methods shall include a Neodymium magnetic mount grade N28 or higher and a Mounting Bracket with a minimum of two holes on the bracket for tie-wrap attachment. The Mounting Bracket shall be easily attached and detached, require no modifications to conveyance commodity / platform and shall positively hold transponder under all transport conditions. The size of the Asset Transponder shall not to exceed 7"L x 2.5"W x 2"H (including the mounting bracket).

4.1.3.3.3 Asset Transponder With Non Replaceable Battery

The Asset Transponder With Non Replaceable Battery shall be RF writeable and contain at least 2Kbytes of available database table memory (Reference DoD Interoperability Guidelines for the Over Air Interface) (see Attachment 4 of this Part). The Asset Transponder With Non Replaceable Battery shall provide an indication of low Transponder battery power to the interrogator and shall have *a dormant (non-responsive) mode*. The Asset Transponder With Non Replaceable Battery attachment methods shall include adhesives, a minimum of two holes for screws, rivets, or tie-wrap attachment. The size of the Asset Transponder With Non Replaceable Battery shall not to exceed 6.8" L x 0.985" W x 0.68" H.

4.1.3.3.4 Container Security Transponder

The Container Security Transponder shall have a minimum of 128 Kbytes of available database table memory plus 32 Kbytes of memory available for sensor data logging (Reference DoD Interoperability Guidelines for the Over Air Interface) (see Attachment 4 of this Part). The Container security Transponder shall provide the sensors for Door Breach, Light Intrusion, Temperature, Humidity and Shock. The breach thresholds shall be user specified. The Government desires a Container Security Transponder that shall provide a user selectable "sensor activated/ deactivated" indication and type of sensor(s) selected indicator, alarm status indicator and transponder low battery indicator such that a fixed or handheld interrogator is not required to access this information in the field. The Container Security Transponder shall provide an indication of low Transponder battery power to the interrogator. The Hardwire Communication Interface shall be in accordance with the DoD Transponder Hardwire Electrical Interface & Data Protocol (see Attachment 3 of this Part) external connectors shall be protected from the environment (e.g. tethered seal or plug). The attachment method (ISO 20', 40' Shipping Containers) shall be an integrated door mounted bracket. All Sensors shall be internal to the container and the antenna shall be external to container.

4.1.3.3.5 Data Rich Transponder

The Data Rich Transponder shall have a minimum of 128 Kbytes of available database table memory (Reference DoD Interoperability Guidelines for the Over Air Interface) (see Attachment 4 of this Part). The Hardwire Communication Interface shall be in accordance with the DoD Transponder Hardwire Electrical Interface & Data Protocol (see Attachment 3 of this Part) external connectors shall be protected from the environment (e.g. tethered seal or plug). The Data Rich Transponder shall provide an indication of low Transponder battery power to the interrogator. Attachment methods shall include a Neodymium magnetic mount grade N28 or higher, and a Mounting Bracket with a minimum of two holes on bracket for tie-wrap attachment. The Mounting Bracket shall be easily attached /detached, and require no modifications to conveyance commodity / platform, and shall positively hold transponder under all transport conditions. The Data Rich Transponder Size shall not exceed 7"L x 2.5"W x 2"H (including the mounting bracket).

4.1.3.3.6 Sensor Transponder

The Sensor Transponder shall have a minimum of 128 Kbytes of available database table memory plus 32 Kbytes of memory available for sensor data logging (Reference DoD Interoperability Guidelines for the Over Air Interface) (see Attachment 4 of this Part). The Hardwire Communication Interface shall be in accordance with the DoD Transponder Hardwire Electrical Interface & Data Protocol (see Attachment 3 of this Part) external connectors shall be protected from the environment (e.g. tethered seal or plug). The Sensor Transponder shall have clearly visible labeling or other markings which clearly identifies the transponder's sensor capability. The Sensor Transponder shall be capable of communicating to an interrogator its sensor activation state and alarm status in an application

defined Universal Data Block (UDB) element during collects. The Government desires a Sensor Transponder that shall provide a user selectable method to access the sensor activation, alarm status, and low battery state of the transponder such that a fixed or handheld interrogator is not required to access this information in the field. The Sensor Transponder shall meet the stated battery life time requirements with a minimum of 50 local (non-interrogator or hardwire interface) accesses of sensor activation state and alarm status while powered by its internal power source. This is an additional requirement to the general requirements for battery lifetime associated with tag collections. The Sensor Transponder shall provide an indication of low Transponder battery power to the interrogator. Attachment methods shall include a Neodymium magnetic mount grade N28 or higher, and a Mounting Bracket with a minimum of two holes on bracket for tie-wrap attachment. The Mounting Bracket shall be easily attached / detached, and require no modifications to conveyance commodity / platform and shall positively hold transponder under all transport conditions. The Sensor Transponder Size shall not exceed 7”L x 2.5”W x 2”H (including the mounting bracket).

4.1.4 Field Data Unit.

The Contractor shall provide a Field Data Unit (FDU) for unattended operation of Active RFID data collection elements. The FDU shall be programmable to provide automatic data collection and forwarding through a modem or local area network to a central information system. The Contractor provided FDUs will be operated in either indoor or outdoor environments with the separately-orderable FDU enclosure.

The Contractor provided FDU shall fit inside the Field Data Unit Enclosure as specifed below for form factor, and shall provide sufficent cooling to prevent overheating of the FDU when it is operating in the Field Data Unit Enclosure. The Government desires a FDU that meets or exceeds the following minimum requirements:

a. Form factor (foot print) no larger than 13.40” (H) x 3.65" (W) x 12.35" (D)
b. 2.66GHz, 1333MHz FSB Dual Core Processor
c. Support for DirectX 9 graphics with:

    1. WDDM Driver
    2. 128 MB of Graphics memory
    3. Pixel Shader 2.0 in hardware
    4. 32 bits per pixel

d. 1 GB system memory, installed (DDR2 SDRAM), system capacity supporting 2 GB to 8 GB
e. 160 GB 7200 RPM STA Hard disk drive
f. 8X DVD+-RW SATA optical drive with minimum speeds: 8X DVD-RW 48X CD-ROM
g. VGA video port
h. Audio Output
i. Integrated 802.3ab-1000Base-T/RJ45
j. Full speed data rate USB 2.0 ports
k. The FDU shall be delivered with the MS Windows Vista Operating System or latest Army approved version (updated with the lastes Service Pack) installed and shall include all documentation.

The Government intends to request through the Contract Change Proposal process that Contractors provide a Government approved LINUX operating system and LINUX compatible Contractor developed FDU software as a future requirement.

4.1.4.1 Field Data Unit Enclosure.

The FDU Enclosure shall be constructed of 16 gauge galvanized steel with a White polyester powder finish with outside dimensions of 30”H x 24”W x 10”D see Attachment (17)). The FDU Enclosure shall be a fan ventilated, NEMA type IV electrical enclosure with top and bottom mounting tabs and a hinged cover that opens from top to bottom. The hinged cover shall be held in the horizontal position by hinged shelf supports that are strong enough to allow the operator to use the box cover as a working surface that shall support a minimum of 10 pounds. The hinged cover shall be secured in the closed position with a locking handle that has three contact points inside the box. The

FDU Enclosure shall have and internal back plate with three shelves. The bottom shelf shall be approximately one inch from the bottom of the Enclosure with the middle shelf located at the midpoint on the back plate, and the third shelf located approximately 75% up from the bottom of the back plate. The bottom shelf shall support the Field Data Unit (FDU) as described in the FDU specifications, the middle shelf is dedicated to the Uninterrupted Power Supply (not part of the contract). The upper shelf will support various communications equipment (e.g., external modem, LAN hub) that is not part of the contract. The upper shelf of the back plate shall have two electrical boxes and one thermostat to control a fan for ventilation. One of the electrical boxes shall contain a duplex outlet for 110AC power for the internal equipment and the other electrical box shall be used for the communications connection and shall have a Telephone RJ-11 Jack connector. The left side of the FDU Enclosure shall accommodate a cooling fan at the bottom and an exhaust port at the top. A fan capable of exchanging air inside the box at a rate of 10 times per minute shall be installed and controlled by a thermostat set to engage at an ambient temperature of 70 degrees Fahrenheit.

4.1.4.2 PDK Notebook Computer.

a. The notebook computer required for the Standard Active PDK and Active PDK with Portable Printer Transit Case Groups shall at a minimum be a ruggedized, Industrially Hardened, dual-core processor, with a shock mounted and removable 120GB Hard Disk Drive and 2 GB RAM and 1.83 GHz processing speed or better. Meets or exceeds the IP 54/IEC 60529 standard for sealed against water and dust intrusion and is NI in hazardous environment (UL 1604). The notebook computer should weigh no more than 7 lbs and be equipped with a touch screen display that is outdoor viewable. The power supply shall have a 7200 mAH (79.9) Lithium Ion main battery or better.

b. The PDK Notebook computer shall be configured with the Microsoft Windows Vista Operating System or latest Army approved version (updated with the latest Service Pack). The Contractor shall Harden the OS to the DISA Gold Disk Platinum settings. The POC at the Defense Information Systems Agency (DISA) for the Gold Disk is: fso_spt@disa.mil. The PDK Notebook Computer shall have contractor provided RFID-III functional software installed prior to delivery to the Government. The Contractor provided software shall accomplish the following functions: user registration to the Radio Frequency In-Transit Visibility (RF-ITV) server; transponder read and write; transmit transponder read and write data to the RF-ITV server (see paragraph 5.1 of this part and Attachment 14, Active RFID-III Software Functional Requirements, and Attachment 20, RFID-III ITV Server Interface Document to this Part); print produce MIL-Std-129P shipping labels. The software shall also contain a setup wizard that walks the user through the registration process with the RF-ITV Server.

4.2 PORTABLE BAR CODE LABEL PRINTER.

The following paragraphs detail the minimum equipment requirements for bar code symbologies and bar code densities for the Contractor provided Bar Code Printers. All Bar Code Printers shall be delivered with a Carrying Case with shoulder strap (for printer only); Print Head; AC Adapter; Interface Cable; an operating set and a spare set of Rechargeable Batteries; one roll of 4-inch by 6-inch Polyester Labels; one Thermal Transfer Printer Ribbon; a User's Guide ; and a Battery Charger. The Contractor shall provide a Portable Bar code Label Printer with a minimum of 2MB of memory with the following attributes and components:

a. The printer shall store and support at least one form such as, the DD Form 1348-1, and a minimum of four label formats;
b. The printer shall produce MIL-Std-129P shipping labels.
c. The printer shall weigh no more than 10 pounds;
d. Shall be easily fastened to a belt or shoulder strap;
e. Shall interface with the Contractor provided HHI;
f. Shall have a minimum four-inch throat size;
g. Shall be pre-configured from the factory to print bar code symbologies with a minimum nominal resolution of 10 mils, PDF 417, and Data Matrix;
h. Shall have a communications port which is compatible with the Contractor provided HHI;
i. Shall print at speeds of at least 1.5 inches-per-second;
j. Shall print labels while the printer is being carried by the user;
k. Shall print at least 1200 linear inches of labels utilizing the power supplied by single battery;

l. Printer Software shall be installed on the printer prior to delivery to the Government and shall not be separately priced;
m. All required documentation (reference the paragraph "Documentation Requirements" in this Part) shall be included and shall not be separately priced.

4.2.1 Bar Code Symbologies.

The Portable Bar Code Label Printer provided shall encode, and print symbologies that comply with industry standards and specifications for Code 39, Code 128, CODABAR, Interleaved 2 of 5, GS1 BarCodes, Universal Product Code (UPC), Data Matrix, and PDF 417. The Contractor provided equipment provided shall at a minimum produce labels in accordance with the specifications defined in ANSI MH10.8.2 Data Application Identifier Standard, ANSI MH10.8.3M Material Handling - Unit Loads and Transport Packages – Two Dimensional Symbols, ANSI MH10.8M For Material Handling – Unit Loads and Transport Packages – Bar Code Symbols, and ANSI X3.182 Bar Code Print Quality Guidelines. When additional standards are developed during the life of the contract, the Government may require other symbologies.

4.2.1.1 Bar Code Density.

Bar code density is directly related to the width of the narrowest element (bar or space) of the bar code, which is called the "x" dimension. The "x" dimension is measured in mils (thousandths of an inch). Typical densities vary for each bar code symbology but are still related to the "x" dimension. The family of densities in this Specification is referred to as low density, and medium density. The bar code label printers shall print low and medium densities. The relationship of densities and the corresponding "x" dimensions are as follows:

Density	Nominal "X" Dimension (in Mils)
Low	12.5+
Medium	10.0

NOTE: The values listed in the right-hand column refer to "x" dimensions for linear bar code and PDF 417 and, cel width for Data Matrix.

4.2.2 Separately Orderable Components.

The Contractor shall provide the following Separately Orderable Components for the Portable Bar Code Label Printer:

a. Printer Carrying Case with shoulder strap (for printer only);
b. Print Head, if required;
c. AC Adapter;
d. Interface Cable;
e. Rechargeable Battery; and
f. Battery Charger.

4.2.3 Consumable Supplies.

The Contractor shall provide the following Consumable Supplies for the Portable Bar code Label Printer:

a. Thermal transfer Printer Ribbon; and
b. Label Stock, 4" X 6" Labels, polyester.

4.3 CLOSED LOOP ACTIVE RFID SYSTEM

4.3.1 General Requirements.

The Closed Loop Active RFID System shall consist of Fixed Interrogators and Transponders. The configuration shall provide Fixed Interrogator to Transponder communication at omni-directional distances of at least 100 feet and Location Antennas to Transponder communication at omni-direction distances of at least12 feet. The system shall identify the specific location of a Transponder when it is within range of a Location Antenna. Readers shall discriminate among and communicate with any one Transponder among many and the System shall manage at least 100 Readers. Active Interrogators shall simultaneously search for user-specified data among multiple Active Transponders. Active Interrogators shall interface with Contractor-provided RF Relays to extend the range of the RF signal. The Closed Loop Active RFID System is not required to conform to the ISO/IEC 18000-7:2008 standard or comply with the DoD Interoperability requirements stated in this Part.

4.3.1.1 Closed Loop Active RFID System Fixed Interrogator.

The Closed Loop Active RFID System Fixed Interrogator shall be easily mountable in a fixed location using a separately-orderable Mounting Kit. The Active Fixed Interrogator shall operate at heights of at least 30 feet above ground level. The time interval and definition of the associated number and duration of interrogation cycles shall be user selectable. The Closed Loop Active RFID Fixed Interrogator shall have a minimum of 128 Kbytes of non-volatile configuration memory. The Contractor shall provide various Mounting Kits as Separately Orderable Components. Accordingly, the Mounting Kit shall allow the user to securely attach, and easily detach, the Closed Loop Fixed Active RFID Interrogator to manmade and natural structures.

4.3.1.2 Closed Loop Active RFID System Antennas.

Closed Loop Active RFID System antennas shall transmit a unique identifier to Transponders to notify them of their location. If required for the Contractor's technical solution, the Contractor shall provide separately-orderable Closed Loop Active RFID System Location Antenna(s). The location antennas shall be delivered with the necessary cable and mounting kit. At least one Closed Loop Active RFID System Antenna shall have a range of at least12 feet and communicate with transponders moving at a minimum of 0 to 40 mph. Closed Loop Active RFID System Antennas shall write data to Transponders and adjust Transponder operating parameters, including enabling and disabling the Transponder beacon and adjusting the Transponder beacon rate.

4.3.1.3 Closed Loop Active RFID System Transponder.

The Closed Loop Active RFID System Transponders shall be easily and securely attached to, or detached from, existing commodities and assets. Attachment of Transponders to commodities and assets equipment shall require no modifications to the items and shall be user-replaceable by hand or with the use of commonly available tools. Transponders shall transmit signals to a Reader at a distance of at least 100 feet. RF signal transmission shall be unaffected by Transponder orientation. All Transponders shall have a unique, pre-set serial or identification number. Transponders shall have a minimum of 16 bytes of user memory, as well as 16 bytes of storage for a user-designated identification number. At least one model of Transponder shall have a minimum useful battery life of four years (based on 10 antenna events per day and a beacon rate of once per minute).

4.3.1.4 Closed Loop Software Functional Requirements.

The Closed Loop software shall to activate and deactivate transponders when they enter the range of the reader. The software shall have the means to store and retrieve the transponder reads. The Software shall provide capability to add, delete, revise, configure, and test readers and transponders in the operating environment, provide operational status of all system components and indicate which components need attention. The software shall have the capability to report low battery power conditions for the transponders. All software shall be provided on CD ROMs and available for download from the Contractor’s web page identified in this Part.

4.4 DATA COMMUNICATIONS.

The Contractor shall provide small transceivers that are wired into network configurations (combined transceiver, controller, and bridge between wireless and wired communications) that extend the range of the RFID Configuration Systems. RF Relays and Satellite Communication Equipment shall be provided to support this extension. The transcievers shall be in compliance with IA requirements stated in Department of Defense Directive (DoDD) 8100.2, Use of Commercial Wireless Devices, Services, and Technologies in the Department of Defense (DoD) Global Information Grid (GIG), 14 April 2004 and Assistant Secretary of Defense Memorandum, Use of Commercial Wireless Local-Area Network (WLAN) Devices, Systems, and Technologies in the Department of Defense (DoD) Global Information Grid (GIG), 02 June 2006.

4.4.1 RF Relay.

The RF Relay shall have a wireless LAN capability utilizing built in 802.11 (b/g) WiFi Standards. The RF Relay is a transceiver or other RF device that extends the effective range of the RFID System. The RF Relay shall be easily mountable in a fixed location using the separately-orderable Mounting Kit or separately-orderable Mounting Structure. The Mounting Kit shall allow the user to securely mount the RF Relay to manmade and natural structures. The RF Relays shall provide wireless communication between Fixed Interrogators, Transportable Interrogators, and other change requirement function as a repeater RF Relays. The RF Relays shall be operable from electrical systems at voltages of 100V-240V, 50-60 Hz AC, by 12-30V DC vehicle electrical systems. The Contractor shall provide all Adapters and Cables required for operation to include operation from vehicle electrical systems as Separately Orderable Components. The RF Relays shall operate at heights up to 30 feet above ground level. The RF Relay shall receive RF-transmitted data from Interrogators and transmit that data via RF to other Interrogators or other RF Relays. The RF Relay shall receive data from and transmit data to a host computer and Interrogators via RF and wired data connections. The Government requires a RF Relay with an unobstructed operating range of minimum 2,000 feet. The RF Relay shall be suitable for mounting in a Fixed or Transportable configuration. The Contractor shall provide Rechargeable Batteries, a Battery Charger, a Mounting Structure, AC and DC Power Adapters (when required for operation) and Cables (for vehicle electrical systems), and a Mounting Kit as Separately Orderable Components.

4.4.2 Satellite Communication Equipment.

The Satellite Communications Equipment provided shall allow users to fully integrate an aRFID Configuration solution over great distances to transmit data captured by RFID Interrogators/Readers from remote locations to In-Transit Visibility Servers located in CONUS and OCONUS. The Contractor shall provide all necessary hardware, software and procedures required to process, install, operate, and configure the system, to allow the user to monitor and transfer data over an Iridium satellite link. Procurement of Government SIM cards and Iridium airtime through Defense Information Systems Agency (DISA) by the Government shall allow users to utilize the DoD Iridium gateway. The Contractor shall provide all documentation necessary to install, configure, and operate the Satellite Communications Equipment.

4.4.3 Satellite Modem.

The modem shall function globally, to include the Polar Regions and all ocean areas, without modification using a single approved (commercial or military) frequency (spectrum) except N. Korea, Sri Lanka, Poland, and Hungary. The modem shall provide real-time data and low propagation delays. The modem shall provide a minimum data rate of 2.4Kbps (10Kbps with compression), and integrate via standard RS232 cable (or 3- wire RS232 configuration) or a USB cable (latest version)) into a notebook computer, Hand-Held and other devices. The modem shall include a 10-foot serial cable that does not exceed 3db, omni-directional satellite antennas with 5-foot cable, internal Subscriber Identification Module (SIM) Card Reader for access authorization, and appropriate connectors. The Contractor shall provide Iridium antennas and cables, and related components. The modem shall operate effectively in temperature ranges from -20C (-4F) to 60C (140F), and in a FIPS 140-2 compliant environment. The FIPS 140-2 certified version of the Satellite Modem shall be proposed by the Contractor when the product becomes commercially available. The modem shall be operable from Rechargeable Batteries, vehicle electrical systems; the voltages of 100V-240V, 50-60 Hz AC, by 12-30V DC vehicle electrical systems shall be supported. The Government requires a modem that is provided with Rechargeable Batteries of sufficient capacity to power the modem. The modem shall meet the requirements of FCC Part 15, regulations for Government operations. The

Contractor shall provide the following separately-orderable items: Rechargeable Batteries, Battery Charger, Mast Mount Antenna, Stationary Magnetic Mount Antenna, Portable Magnetic Mount Antenna, GPS Antenna, AC and DC Power Adapters (when required for operation) and Cables (vehicle electrical systems).

4.5 TRANSIT CASES.

4.5.1 General Requirements.

The Contractor shall provide ruggedized, reusable, waterproof, rigid Transit Cases to store and transport RFID components by surface and air. The Contractor shall certify the Transit Cases have been previously accepted by the DoD (i.e., tested and certified under MIL-STD 810D) for use in a rugged environment or have been manufactured and tested in accordance with ATA Specification 300, "Packaging of Airline Supplies"-1960 (R1996), for Category 1 containers. The test parameters shall be as follows:

a. Drop Test or Revolving Hexagonal Drum Test. (Note: Only one of the following four drop tests need be performed depending on the size and weight of the configuration.)

- ASTM-D775, "Test Method for Drop Test for Loaded Boxes," which shall be performed to satisfy Objectives A and B of the test procedure;
- ASTM-D880, "Test Method for Impact Testing for Shipping Containers and Systems," which shall be performed to satisfy Objectives A and B of the test procedure;
- ASTM-D1083, "Test Method for Mechanical Handling of Unitized Loads and Large Shipping Cases and Crates," which shall be performed to satisfy Objectives A and B of the test procedure;
- ASTM-D782, "Test Method for Shipping Containers in Revolving Hexagonal Drum," which shall be performed to satisfy 100 revolutions of a 7-foot drum.

b. Test for Water Spray Resistance ASTM D951, "Test Method or Water Resistance of Shipping Containers by Spray Method," which shall be performed in conformance with the following conditions:

- Water temperature shall be within the range of 50 degrees Fahrenheit to 75 degrees Fahrenheit;
- Flow rate shall be not less than 4 inches per hour;
- Duration of test shall be not less than one hour.

c. Vibration Test ASTM D999, "Methods for Vibration Testing of Shipping Containers," which shall be performed with the following requirements:

- Procedure A2 shall be performed;
- Duration of the test shall be not less than two hours.

4.5.2 Contents.

Transit Cases provided by the Contractor shall contain cutouts or molded cushioning to protect the contents from damage during transit and storage. Inserts shall be split so as to be an integral part of the top and bottom pieces of the Transit Case. Cushioning material used for cutouts or molded compartments shall be permanent and reusable, and, to the maximum extent possible, attached to the Transit Cases.

4.5.3 Inventory List.

Each Transit Case shall have a durable and permanent inventory list of all items in the Case. Graphic packing instructions shall be affixed to the inside top cover and visible to the user.

4.5.4 aRFID Component Protection.

Transit Cases shall protect aRFID components from damage resulting from dropping during cargo loading, unloading, or when transported as loose cargo over unpaved secondary roads, and from water vapor, humidity, salt, and fog. The Transit Cases shall withstand the temperature extremes stated earlier in this Part.

4.5.5 Size and Weight.

The Contractor shall minimize the weight and size of the Transit Cases. The interior dimensions of the Transit Case shall be dependent upon the Contractor-provided Transit Case arrangement, and physical dimensions of components and support items and materials. With the exception of Transit Cases containing a Mounting Structure, Transit Cases shall not exceed the following exterior dimensions: 30 inches in width, 30 inches in length, and 30 inches in height. All Transit Cases with a total loaded Case weight between 35 and 70 pounds shall be clearly marked as "TWO-PERSON LIFT", and all cases with a total loaded Case weight exceeding 70 pounds shall be clearly marked as "FOUR-PERSON LIFT". The total loaded weight of any Transit Case shall not exceed 100 pounds.

4.5.6 Handles and Clasps.

Transit Cases shall be provided with a sufficient number of handles to facilitate movement by the specified number of personnel. Handles shall return to a closed position by a spring-loaded mechanism or simple restraining mechanism when not in use. Clasps shall be easily accessible and operable by personnel utilizing Mission Oriented Protective Posture (MOPP) Gear or wearing low-temperature, protective gloves.

4.5.7 Attributes.

Automatic pressure-vacuum relief valves shall accommodate differences in pressure from sea level to at least an altitude of 40,000 feet.

4.5.8 Color.

The Contractor shall provide Black Transit Cases.

4.5.9 Identification Plates.

An Identification (ID) Plate shall be provided on each Transit Case with UID markings. ID Plate letters, numerals, and characters shall be permanent, legible and consistent in appearance. ID Plates and mounting shall be resistant to abrasion, rain and salt spray, common cleaning solutions, and shall at a minimum survive temperature extremes between –20 degrees and +125 degrees Fahrenheit.

a. Required Information. Minimum required information shall be the contract number, Contractor and Government Entity (CAGE) Code, Transit Case serial number, Transit Case group name (as provided by the Government), and the words "PROPERTY OF THE U.S. GOVERNMENT." The Transit Case serial number shall also be bar coded (Code 39).
b. Location. ID Plates on Transit Cases shall be located at the left or center of the exterior, vertical surface facing the user when the case is ready to be opened. Location of ID Plates shall be consistent for all Transit Cases.

4.5.10 RFID Transit Case Groups (TCG).

Each Transit Case Group shall contain all necessary adapters, cables, user manuals, operation manuals, software, and any other components to permit total operation in the location specified in the Delivery Order. The Government requires the following Transit Case Groups of RFID components:

a. Active Hand-Held Interrogator Transit Case Group;
b. Active Hand-Held Interrogator with Barcode Printer Transit Case Group;
c. Active Transportable Interrogator Transit Case Group with Solar Power Source Transit Case Group;
d. Active Transportable Portable Deployment Kit (PDK) Transit Case Group;

e. Active Transportable PDK with Portable Printer Transit Case Group;
f. Active Transportable Early Entry Deployment Support Kit (EEDSK) Transit Case Group
g. RF Relay Transit Case Group;
h. Solar Power Source Transit Case Group.

4.5.10.1 Active Hand-Held Interrogator Transit Case Group.

The Active Hand-Held Interrogator Transit Case Group shall at a minimum contain the following:

a. Two Active Hand-Held Interrogators each provided with a carrying device;
b. User's Manual;
c. Communications Interface Cable /Adapter;
d. 2 Batteries (Operating and Spare);
e. Battery Charger;
f. Power Plug Adapter, when required;
g. Other Adapters and Cables, when required; and
h. Transit Case(s).

4.5.10.2 Active Hand-Held Interrogator with Barcode Printer Transit Case Group.

The Active Hand-Held Interrogator with Barcode Printer Transit Case Group shall at a minimum contain the following:

a. One Active Hand-Held Interrogator with a carrying device:
b. User's Manual;
c. Communications Interface Cable/Adapter;
c. Printer Interface Cable;
d. 2 HHI Batteries(Operating and Spare);
e. HHI Battery Charger;
g. Power Plug Adapter, when required;
h. Other Adapters and Cables, when required;
j. One Portable Barcode Printer;
k. 2 Printer Batteries (Operating and Spare);
l. Printer Battery Charger;
m. Printer AC Adapter (when required for AC operation);
n. Printer Power Plug Adapter, when required;
o. Other Printer Adapters and Cables, when required;
p. Additional Printer Print Head, if required;
q. Printer Label Stock, 4" X 6" labels, polyester material;
r. Printer Ribbon Cartridge, Resin; and
s. Transit Case(s).

4.5.10.3 Active Transportable Interrogator Transit Case Group With Solar Power Source Transit Case Group.

The Active Transportable Interrogator Transit Case Group with Solar Power Source Transit Case Group shall have a 90 day delivery requirement and shall at a minimum contain the following:

a. One Active Transportable Interrogator, with Mounting Kit;
b. Mounting Structure;
c. Solar Power Source Transit Case Group;
d. User's Manual;
e. Communications Interface Cable /Adapter;
f. 2 Batteries (operating and spare);
g. Battery Charger;
h. AC Adapter (when required for AC operation);
i. Power Plug Adapter, when required;
j. Other Adapters and Cables, when required;

k. DC Power Cable (for operation from vehicle electrical systems);
m. Tripod; and
n. Transit Case(s).

4.5.10.4 Active Transportable Portable Deployment Kit (PDK) Transit Case Group.

The Active Transportable PDK Transit Case Group shall have a 90 day delivery requirement and shall at a minimum contain the following:

a. Ruggedized notebook computer;
b. AC Power supply with universal plug adapter kit;
c. DC Power cable with cigarette lighter adapter input;
d. DC Power cable with NATO slave connector;
e. HHI with appropriate battery chargers with extra battery and caring case;
f. Iridium Satellite modem;
g. Antenna for Satellite Modem;
h. GPS Antenna;
i. Transportable Interrogator;
j. Wiring diagram place card; and
k. User's guide.

4.5.10.5 Active Transportable PDK with Portable Printer Transit Case Group

The Active PDK with Portable Printer Transit Case Group shall have a 90 day delivery requirement and shall at a minimum contain the following:

a. Ruggedized notebook computer;
b. AC Power supply with universal plug adapter kit;
c. DC Power cable with cigarette lighter adapter input;
d. DC Power cable with NATO slave connector;
e. HHI with appropriate battery chargers with extra battery and caring case;
f. Iridium Satellite modem;
g. Antenna for Satellite Modem;
h. GPS Antenna;
i. Transportable Interrogator;
j. Wiring diagram place card;
k. User's guide;
l. Portable label printer;
m. Printer Interface Cable;
n. Tutorial application to provide the user with all information required to successfully install and operate a read or write station;
o. 2 Printer Batteries (Operating and Spare);
p. Printer Battery Charger;
q. Printer AC Adapter (when required for AC operation);
r. Printer Power Plug Adapter, when required;
s. Other Printer Adapters and Cables, when required;
t. Additional Printer Print Head, if required;
u. Printer Label Stock, 4" X 6" labels, polyester material;
v. Printer Ribbon Cartridge, Thermal Transfer; and
w. Transit Case(s).

4.5.10.6 Active Transportable Early Entry Deployment Support Kit (EEDSK) Transit Case Group

The Active Transportable EEDSK Transit Case Group shall have a 90 day delivery requirement and shall at a minimum contain the following:

a. 1 Active PDK with Portable Printer Transit Case;

b. 2 Transit Cases with foam inserts to support the below items;
c. 1 RS-232 to USB Adapter;
d. 1 RS-232 to RS-485 Adapter;
e. 1 Interrogator;
f. 2 RF Relays;
g. 1 Data Rich Transponder;
h. 2 Tripods;
i. 1 Mounting Kit;
j. 1 Technician Tool Kit (required tools and supplies to set up EEDSK);
k. 2 6-outlet Power Strips;
l. 2 25 ft. Extension Cord, 14 gauge, triple outlet;
m. 2 50 ft. Extension Cord, 14 gauge, single outlet;
n. 6 Padlocks with key (2 per case, includes a set for the PDK);
o. 1 DC-to-AC Inverter, 300W with cigarette lighter adapter and alligator clip;
p. 1 Transponder read cable;
q. Diagrams for each case;
r. Packing lists for each case; and
s. Installation Manual & hardware manuals for individual RFID products.

The Contractor shall provide a hard copy and electronic setup manual with the EEDSK that specifies the step-by-step instructions with illustrations for equipment connection, setup and use. Each Notebook computer shall include an on-line tutorial application to provide the user with all information required to successfully install and operate a read and write station. In addition to the above required equipment, two deliverables shall accompany this Transit Case Group: the Setup Manual shall describe the procedures required to assemble and make operational the Active PDK Transit Case Group (also, an electronic version).

4.5.10.7 RF Relay Transit Case Group.

The RF Relay Transit Case Group shall have a 90 day delivery requirement and shall at a minimum contain the following:

a. One RF Relay, with Mounting Kit;
b. Solar Power Source Transit Case Group
c. Mounting Structure;
d. User's Manual;
e. Communications Interface Cable/Adapter;
f. 2 Batteries(operating and spare);
g. Battery Charger;
h. AC Adapter (when required for AC operation);
i. Power Plug Adapter, when required;
j. Other Adapters and Cables, when required;
k. DC Power Cable (for operation from vehicle electrical systems); and
l. Transit Case(s).

4.5.10.8 Solar Power Source Transit Case Group.

The Solar Power Source Transit Case Group shall have a 90 day delivery requirement and shall at a minimum contain the following:

a. One Solar Power Module;
b. Tripod Mounting Structure;
c. User's Manual;
e. Rechargeable Battery or batteries (operating and spare);
f. Battery Charger;
g. Battery Charger AC Adapter (for AC charging operation);
i. Other Adapters and Cables, when required;

j. Battery Charger DC Power adapter (for charging batteries from vehicle electrical systems); and
k. Transit Case(s).

5 SOFTWARE, FIRMWARE, AND SECURITY REQUIREMENTS.

5.1 SOFTWARE REQUIREMENTS.

5.1.1 Environment.

The Government requires Software that shall support, at a minimum, with Windows-compatible PCs the following operating systems: Win XP, Windows Vista, or the most current version of the operating system, to include the most recent Service Packs, patches and updates. HHIs shall be provided with an industry standard operating system which allows users to execute applications on the HHI. The operating system on the Hand-Held Interrogators shall be an IA compliant Windows Operating System Win Mobil 5 or the most current version of the operating system. The Contractor shall provide as a minimum, Configuration/Operational Software to utilize all components that make up the RFID Class of devices for each technology for the Desktop PCs and HHIs, Software Development Kit license, and Application Development Software.

5.1.2 Graphical User Interface.

All Contractor-provided software for Desktop PCs shall provide a Graphical User Interface (GUI), which shall be the industry-based application software package that supports that particular Class of RFID Technology. The Government requires that the GUI shall also be integrated on the HHIs, when the Class of RFID technology allows.

5.1.3 Functional Requirements.

RFID Software shall activate and deactivate the RFID Transponder sensor features on those Transponders with that function. RFID Software shall add, delete, revise, configure, and test Interrogators and Transponders in the operating environment, provide operational status of all RFID System components and indicate which components need attention, and provide selective addition and deletion of data. RFID Software shall schedule Interrogator time management and report low battery power conditions for Interrogators and Transponders that are battery operated. RFID Software shall perform ad hoc and global searching for specific Transponder data stored in a database and in turn, manage queried data via database functions; import and export data to database files; and print reports from data gathered from the RFID System, such as manifests, and lists of Transponders and Interrogators present in the operating environment. RFID application software on the HHI shall perform ad hoc searches for specific data stored in a Transponder's on-board database (for Transponders in range of the HHI) and display query results to the user. The HHI application software shall manage queried data via database functions; allow user to store captured data to files on the HHI; and transfer these data files to a PC running a PM J-AIT approved O/S through a cable or docking station. For example, the HHI application shall allow the user to save Manifest data read from Transponders and lists of Transponders which responded to the HHI to files for later transfer to a PC. Additional software functional requirement details are identified in Attachment 14, Active RFID-III Software Functional Requirements, and Attachment 20, RFID-III ITV Server Interface Document to this Part.

5.2 CONFIGURATION/OPERATIONAL SOFTWARE FOR PC.

The Government requires Configuration/Operational Software for PC that shall, as a minimum, provide to users the software utilities to set up, control, and operate the RFID equipment in actual operational environments. The Government requires software that is programmable for the development, and execution of code using High Order programming languages The PC Configuration/Operational Software shall be installed on the PC prior to delivery to the Government and shall not be separately priced. All required documentation (reference the paragraph "Documentation Requirements" in this Part) shall be included and shall not be separately priced.

5.3 CONFIGURATION/OPERATIONAL SOFTWARE FOR HHI.

The Government requires Configuration Software for HHI to enhance the users' ability to manage the RFID hardware when away from the host computer. As a minimum, the Configuration Software for HHI shall provide Government users with the software utilities to set up, control, and operate the RFID hardware in actual operational environments. The Government understands that some software functions on the HHI are developed as part of the firmware; however, the Government requires software that shall execute code using High Order programming languages. The HHI Configuration Software shall be installed on the HHI prior to delivery to the Government and shall not be separately priced. All required documentation (reference the paragraph "Documentation Requirements" in this Part) shall be included and shall not be separately priced.

5.4 APPLICATION DEVELOPMENT SOFTWARE.

The Government requires Application Development Software that shall support, at a minimum, with Pentium-compatible PCs the following operating systems: Win XP, Windows Vista, or the most current version of the operating system, to include the most recent Service Packs, patches and updates. The software shall allow the Government to program, develop, and execute code to support the RFID Configuration Software. Desired features of the Application Development Software include: the ability to download executable code American Standard Code for Information Interchange (ASCII) file import and export function; and, Structured Query Language (SQL) function. Any hardware specific tool kits to include software utility libraries for software developers developed by the vendors required for software development shall be provided as Separately Orderable Components.

5.5 SOFTWARE CHANGES AND UPDATES FOR CONTRACTOR DEVELOPED SOFTWARE.

Whenever changes or updates are made to Contractor developed software the Contractor shall submit the software to PM J-AIT for approval prior to fielding the software. Upon notification by the Contracting Officer the Contractor shall place the approved software on the dedicated web site specified in paragraph 13.1 of this Part. The Contractor shall notify each Government POC (previously identified in Contract Orders) via email that the approved software is available for download.

5.6 FIRMWARE REQUIREMENTS.

The Contractor shall provide necessary firmware as part of the equipment configuration of RFID-III contract components. Firmware shall reflect the baseline configuration and all subsequent Government-approved Engineering Changes. All firmware available to the user shall be selectable by DIP-switch or software. All firmware shall be installed prior to equipment delivery.

5.7 SECURITY.

5.7.1 Passwords.

The Contractor shall provide software to initiate password protection at the device level for the aRFID HHI only. No other password authentication is required

5.7.2 Security Standards

a. Office of Management and Budget (OMB) Circular No. A-130 Revised, (Transmittal Memorandum No. 4) Management of Federal Information Resources – Appendix III, Security of Federal Automated Information Resources, 28 November 2002.
b. National Institute of Standards and Technology (NIST) Federal Information Processing Standards (FIPS) Publication 140 – 2, Security Requirements for Cryptographic Modules, 25 May 2001.
c. Department of Defense Directive (DoDD) 8100.2, Use of Commercial Wireless Devices, Services, and Technologies in the Department of Defense (DoD) Global Information Grid (GIG), 14 April 2004.
d. Assistant Secretary of Defense Memorandum, Use of Commercial Wireless Local-Area Network (WLAN) Devices, Systems, and Technologies in the Department of Defense (DoD) Global Information Grid (GIG), 02 June 2006.

e. Department of Defense Directive (DoDD) 8500.01E, Information Assurance (IA), 24 October 2002, current as of April 24, 2007.
f. Department of Defense Instruction (DoDI) 8500.2, Information Assurance (IA) Implementation, 06 February 2003.
g. Department of Defense Instruction (DoDI) 8510.01, DoD Information Assurance Certification and Accreditation Process (DIACAP), November 28, 2007.
h. Army Regulation (AR) 25-2, Information Assurance, 24 October 2007.
i. Best Business Practice 03-EC-M-0003 , Wireless Security Standards, Version 2.0, 15 June 2007.
j. All new versions, amendments, and modifications made to the above listed documents and standards.

After award, the contractor may propose alternatives at no additional cost to the Government that meet or exceed the provisions of the listed standards.

5.7.3 DoD Wireless Device Security Requirements

RFID implementations that utilize Institute of Electrical and Electronics Engineers (IEEE) Standard 802.11 Wireless Local Area Network (WLAN) products to store, process, or transmit unclassified information shall comply with the requirements specified in Assistant Secretary of Defense Memorandum, Use of Commercial Wireless Local-Area Network (WLAN) Devices, Systems, and Technologies in the Department of Defense (DoD) Global Information Grid (GIG) (reference d). RFID implementations that utilize other wireless of cellular technologies (e.g., 2.5G, 3G, 4G, 802.15.1 (Bluetooth), proprietary Radio Frequency, 802.16 (WIMAX), and infrared) shall comply with the requirements specified in DoD Directive 8100.2 Use of Commercial Wireless Devices, Services, and Technologies in the Department of Defense (DoD) Global Information Grid (GIG) (reference c).

5.7.4 Army Wireless Device Security Requirements.

Army RFID-III implementations that utilize Institute of Electrical and Electronics Engineers (IEEE) Standard 802.11 Wireless Local Area Network (WLAN) products or other wireless technologies to store, process, or transmit unclassified information shall comply with the applicable requirements specified in Army Regulation (AR) 25-2, *Information Assurance* (reference h) and Army Best Business Practice 03-EC-M-003, *Wireless Security Standards* (reference i) (see Attachment 19 of this part). Other Services (eg., USAF, USN) RFID-III implementations that may include wireless devices will have the security requirements stated in the individual contract order.

5.8 COMMON CRITERIA COMPLIANCE REQUIREMENTS.

Common Criteria compliance is determined and verified by favorable product testing against a Common Criteria Protection Profile (CCPP). CCPPs are developed under sponsorship of the National Security Agency (NSA). Common Criteria tests are conducted by a Common Criteria Test Laboratory (CCTL) that has been approved and accredited by the National Information Assurance Partnership (NIAP). NIAP is a partnership agreement between NSA and the National Institute of Standards and Technology (NIST). No such CCPP currently exists for Active RFID technology. Therefore, upon approval and adoption of a CCPP for Active RFID technology, the Contractor shall no later than six months after the adoption of a relevant CCPP submit product(s) with documentation to a designated CCTL for Common Criteria testing. Subsequently, only products tested and compliant at the Medium Robustness level (as defined in the CCPP standard) shall be permitted through this Contract. Information regarding Common Criteria Compliance can be obtained from the following web site: http://www.commoncriteriaportal.org/ .

5.8.1 Radio Frequency Relay (RFR) Security Specification.

The Radio Frequency Relay (RFR) shall comply with the Department of Defense (DoD) wireless security policy specified in DoD Directive (DoDD) 8100.2, Use of Commercial Wireless Devices, Services, and Technologies in the Department of Defense (DoD) Global Information Grid (GIG). Specifically, the RFR shall comply with the following requirements:

Encryption of data for transmission to and from the RFR is required. At a minimum, data encryption must be implemented end-to-end over an assured channel and shall be validated under the Cryptographic Module Validation Program as meeting requirements per Federal Information Processing Standards (FIPS) Publication (PUB) 140-2, Overall Level 2.

Compliance with the Information Assurance (IA) requirements for an IA–enabled product as defined in DoD Directive 8500.01E.

Compliance with the DoD mobile code security requirements (i.e., control DCMC-1) for Mission Assurance Category III systems as specified in DoD Instruction 8500.2.

5.8.2 Security Maintenance Services

The Contractor shall ensure that the devices and/or systems provided under this contract comply with all new versions, amendments, and modifications made to the security documents and standards cited in this Solicitation, when applicable and commercially available. To ensure continued compliance, the Contractor shall perform the necessary configuration changes, as approved by the Government. These configuration changes may include, but are not limited to: performing system configuration changes, installing patches and bug fixes; conducting hardware/software upgrades, updates, and replacements.

5.8.3 Government Evaluation

The Contractor shall support Government compliance verification evaluation and security certification and accreditation of the products provided under this contract. The Government will coordinate the scheduling of any evaluation with the Contractor. The Contractor shall cooperate with Government personnel and Government representatives who plan, conduct, and report any Government testing. Support of Government testing, when requested, includes Government or its agents access to contractor facilities, documentation, and/or personnel used by the Contractor to produce the products provided under this contract. The Contractor shall assist in resolving any problems resulting from the Government verification evaluations and security certification and accreditation process. This shall address problem reports, technical investigations, and any testing performed.

6 MANAGEMENT.

6.1 RFID-III PROGRAM MANAGEMENT.

a. The Contractor shall provide the following RFID-III Program Management activities and services.

1. Timely and sustained response to program issues and problems that occur during the execution of the contract as identified by PM J-AIT,
2. Provide an up-to-date Product and Services Ordering Catalog (OC) throughout the Contract ordering period,
3. Conduct Project Progress Reviews (PPR),
4. Provide Monthly Contract Status Report,
5. Provide a Monthly Warranty Status Reports,
6. Provide Monthly Equipment and Service Reports (MESR),
7. Perform risk management activities, and
8. Perform Contractor Manpower Reporting.

b. The Government desires Contractors, and their respective subcontractors, teaming partners and commercial manufacturers currently hold and maintain commercial quality certifications, e.g. ISO certifications, Lean Six Sigma, Capability Maturity Model Integration (CMMI), over the life of the Contract.

6.1.1 Points of Contact.

a. The Program Manager shall serve as the manager of the contract and shall be the Contractor's authorized point-of-contact with the COR and Contracting Officer. The Program Manager shall be responsible for formulating and enforcing work standards, assigning schedules, and reviewing work discrepancies, communicating policies, purposes, and goals of the organization to the assigned Contractor personnel for all projects. The Program Manager shall manage all Delivery Order and Task Order performance.

b. The Contractor shall provide a list of Contractor points-of-contact to the Contracting Officer's Representative (COR) no later than ten calendar days after the effective date of the Notice to Proceed. The list shall include names, telephone numbers, facsimile numbers, and areas of responsibility for the Contract, addresses, and e-mail addresses. When a key point-of-contact is replaced, the Contractor shall notify the COR no later than five workdays afterward.

6.1.2 Contractor Program Office.

The Contractor shall be available to meet with the Government at the Government facilities within 24 hours notice, without added cost to the Government. This Contractor function shall handle RFID-III programmatic issues, facilitate information exchange, and enhance management coordination.

6.1.3 Product and Services Ordering Catalog.

6.1.3.1 Purpose.

The Contractor shall provide a Product and Services Ordering Catalog (OC) to assist Government users in determining the system configuration that shall best meet their operational requirements. The Contractor shall provide the OC no later than 90 calendar days after issuance of the Contract effective date specified in the Notice to Proceed.

6.1.3.2 Product and Services Ordering Catalog.

The Contractor shall provide a draft OC electronically to the COR, PM J-AIT, and Contracting Officer for review no later than 30 calendar days after issuance of the Contract effective date specified in the Notice to Proceed. The Contracting Officer will either approve the OC or provide comments to the Contractor for incorporation into the OC. The Contractor shall then have no more than 15 workdays to edit and return the OC based on Government comments. Upon Government acceptance and approval by the Contracting Officer of the draft, the Contractor shall post the OC on the Contractor's web site.

6.1.3.3 Product and Services Ordering Catalog.

The initial OC shall be approved by the Contracting Officer prior to posting the OC on the Contractor's web site. Subsequent revisions resulting from a formal contract modification shall be posted to the web site no later than five workdays after issuance of the contract modification. The Contractor shall update the OC for other changes (e.g., Government point of contacts) no later than five workdays after the receipt of a request from the COR. The Contractor shall post Contractor-related changes no later than five workdays after the change. The Contractor shall immediately post price changes related to breakpoints for range pricing.

6.1.3.4 Format.

The OC shall be provided in sections for ease of use. The Sections shall provide a user with a complete product list, with detailed description of features and prices for ordering of all hardware, software, cables, documentation, training, and technical services provided. The OC shall also include Sections which provide information on warranty, maintenance support, ordering procedures, customer support, and CLIN list with prices, and other support services. The Contractor shall provide access for Government users to the approved OC via the World Wide Web.

6.1.3.5 Sections.

Each section of the OC shall be technically accurate and complete with descriptions of the equipment (to include pictures), software, and services. CLINs shall be used throughout the document to allow the user to properly

identify the appropriate item. CLINs shall be clearly annotated on drawings, charts, product descriptions, specification sheets, etc. When a product requires the purchase of additional CLINs to make a complete workable product, the CLINs shall be clearly identified in the description. All references to a geographic area where products may, or may not, be used shall be clearly annotated in the description, when applicable. The OC shall include, but not be limited to, the Sections identified below which address the minimum requirements in each Section.

6.1.3.6 Ordering Procedures.

This section shall contain procedures that provide the user with all the necessary information required to order RFID-III products and services.

6.1.3.7 Equipment.

The Equipment section shall be organized into sub-sections based upon the major types of equipment provided, and shall include a discussion of the main features of each piece of equipment, including physical dimensions, power requirements (wattage and voltage), and heat generated by equipment. Precautions, such as the minimum distance between various devices, shall be provided. All cable requirements for equipment installation shall be described in the Section titled "Cables." This Section shall clearly indicate the appropriate cables and interfaces for the various RFID-III components and provide a reference to the applicable parts of the Section titled "Cables". The OC shall contain instructions for users to specify equipment destination to ensure the RFID-III equipment is compatible with the commercial power supply and adapter plugs for the geographic area in which it shall be operated.

6.1.3.8 Software.

This Section shall provide a full description of all software packages that includes the primary function, minimum memory requirements, program capabilities, and major features and benefits. This section shall explain, in non-technical terms, the recommended software packages for specific applications.

6.1.3.9 Cables.

This Section shall list all provided cables, and equipment cable requirements in a chart format that shall allow the user to identify the correct cables for connecting aRFID devices. CLINs shall be provided on the chart.

6.1.3.10 Technical Engineering Services.

This Section shall contain procedures that provide the user with all necessary information required to order Technical Engineering Services. All Technical Engineering Services identified in the paragraph entitled "Technical Engineering Services" shall be addressed in this Section.

6.1.3.11 Training.

This Section shall provide course descriptions, lengths, prerequisites, course objectives, and recommended audiences for each Training Course.

6.1.3.12 Warranty Support.

This Section shall address the warranty provisions of the Contract.

6.1.3.13 Maintenance Support.

This Section shall describe the various maintenance services available to users worldwide and instructions for ordering maintenance support.

6.1.3.14 CLIN List and Prices.

This Section shall provide the CLIN List and Prices.

6.2 RFID-III Management Plan.

The Contractor shall provide a RFID-III Management Plan. The Plan shall be submitted to the COR no later than 30 calendar days after issuance of the Contract effective date specified in the Notice to Proceed. The PM J-AIT will either approve the RFID-III Management Plan, or provide comments to the Contractor for incorporation into the Plan. The Contractor shall then have 10 workdays to incorporate the Government's comments into the Plan, and resubmit the Plan to the COR. The Contractor shall manage the Contract in accordance with the Government-approved RFID-III Management Plan. The RFID-III Management Plan shall include, but not be limited to the following:

a. Management and Reporting Methodology for Gathering, Validating and Generating Reports;
b. RFID-III Configuration Management Plan;
c. Risk Management;
d. Repair Center Approach;
e. Integrated Process Team (IPT) Methodology;
f. Electronic Commerce and Electronic Data Interchange Methodology;
g. Web Site Methodology;
h. Training Development and Support;
i. Technology Assessment and Control;
j. Logistics Support to include the Contractor's approach to satisfying unusual or surge requirements and to deal with crisis situations.

6.2.1 Project Progress Reviews.

The Contractor shall conduct Project Progress Reviews (PPRs) for Government personnel at a mutually agreeable facility. The PM J-AIT will schedule the initial PPR. It is anticipated the first PPR will occur no later than 90 calendar days after date of notice to proceed. Thereafter, PPRs shall occur on a monthly basis for the next twelve months of the contract, and quarterly thereafter, for the life of the Contract. During each PPR, the Contractor shall present material that addresses:

a. Status of current technological substitutions and additions;
b. Status of configuration and risk management activities;
c. Status of Task Orders, Delivery orders and Credit Card Orders, to include but not limited to, received and processed dates (listed by ordering agency), scheduled delivery date, and shipped date;
d. Actions under warranty and maintenance;
e. Significant trends (quantities by CLINs, component reliability safety issues, problems, and recommended solutions);
f. Minutes from the previous PPR;
g. Activities determined to be of importance to the Government, such as unanticipated problems, and high visibility issues identified by the Government;
h. Status of significant program events;
i. Customer feedback;
j. Agencies and organizations contacted and initiatives with each; and
k. Reasons for delinquent Task Orders, Delivery Orders, and Credit Card Orders.

The Contractor shall include in each review, a current organizational chart that includes the names and telephone numbers of all key personnel, and any key personnel changes highlighted. The key personnel for this Contract are Senior Information Systems Engineer; Project Manager; Senior Programmer performing on Task Orders and, the Contract Program Manager. The Contractor shall prepare and coordinate with the COR, an agenda for all PPRs at least five workdays before a scheduled PPR. The Contractor shall provide the briefing charts to the COR electronically at least three workdays prior to the day of the PPR. The Contractor shall prepare and coordinate minutes of the PPRs with PM J-AIT no later than five workdays after the PPR. Coordination shall be done through electronic mail. Upon PM J-AIT approval, the Contractor shall, have no more than five workdays to post the minutes on the web site specified in paragraph entitled "Web Site" in this Part. The Contractor shall hotlink the web site to the PM J-AIT web site.

6.2.2 Contract Status Report.

The Contractor shall prepare and submit a Status Report in Microsoft Office EXCEL format, when requested by the Government, but not more than once per month. The report shall include orders placed by Government contractors in accordance with the paragraph entitled "Government Contractors' Use of Contract" in Part C-1-1. The report shall include, as a minimum, a list of all equipment delivered by:

a. CLIN by month, by Service or Agency, total quantities and dollar amount;
b. Year-to-date, total quantities and dollar amount; and
c. Contract-to-date, total quantities and cumulative dollar amount.

The report format is listed in Exhibit B in this Part.

6.2.3 Contractor Manpower Reporting

The Office of the Assistant Secretary of the Army (Manpower & Reserve Affairs) operates and maintains a secure Army data collection site where the contractor shall report ALL contractor manpower (including subcontractor manpower) required for performance of this contract. The contractor is required to completely fill in all the information in the format using the following web address: https://cmra.army.mil/. The required information includes: (1) Contracting Office, Contracting Officer, Contracting Officer's Technical Representative; (2) Contract number, including task and delivery order number; (3) Beginning and ending dates covered by reporting period; (4) Contractor name, address, phone number, email address, identity of contractor employee entering data; (5) Estimated direct labor hours (including sub-contractors); (6) Estimated direct labor dollars paid this reporting period (including sub-contractors); (7) Total payments (including sub-contractors); (8) Predominant Federal Service Code (FSC) reflecting services provided by contractor (and separate predominant FSC for each sub-contractor when different); (9) Estimated data collection cost; (10) Organizational title associated with the Unit Identification Code (UIC) for the Army Requiring Activity (the Army Requiring Activity is responsible for providing the contractor with its UIC for the purposes of reporting this information); (11) Locations where contractor and sub-contractors perform the work (specified by zip code in the United States and nearest city, country, when in an overseas location, using standardized nomenclature provided on website); (12) presence of deployment or contingency contract language; and (13) Number of contractor and sub-contractor employees deployed in theater this reporting period (by country). As part of its submission, the contractor shall also provide the estimated total cost (when any occurs) incurred to comply with this reporting requirement. Reporting period shall be the period of performance not to exceed 12 months ending 30 September of each government fiscal year and shall be reported by 31 October of each calendar year. Contractors may use a direct XML data transfer to the database server or fill in the fields on the website. The XML direct transfer is a format for transferring files from a contractor's systems to the secure web site without the need for separate data entries for each required data element at the web site. The specific formats for the XML direct transfer may be downloaded from the web site.

6.3 CONFIGURATION MANAGEMENT.

6.3.1 RFID-III Configuration Management Plan.

RFID-III equipment shall be configuration-controlled, accounted, and audited in accordance with the Government-approved, RFID-III Configuration Management Plan. The Contractor shall provide the RFID-III Configuration Management Plan as an Annex to the RFID-III Management Plan, which shall be submitted to the COR for approval no later than 30 calendar days after issuance of the Contract effective date specified in the Notice to Proceed. The RFID-III Configuration Management Plan shall reflect best commercial practices and shall be in accordance with accepted industry standards. The Plan shall define those instances in which the Government will be notified of pending changes to the RFID-III Equipment Baseline Configuration.

6.3.2 Changes and Modifications.

All OEM changes prior to Contract Award shall be included in equipment provided under this contract at no additional cost to the Government. The Contractor shall notify the Contracting Officer of all OEM-sponsored changes to any equipment provided on the Contract. All such changes shall be provided to the Government no later

than 45 calendar days prior to implementation. The changes are subject to the Contracting Officer's approval before the changed products may be placed on the Contract.

6.3.3 Changes to Software.

The Contractor shall notify the Contracting Officer of any changes to the software and documentation throughout the warranty period, including any software updates and upgrades (for example, bug fixes, new features, enhancements, and revisions) as they become available. Software changes are further defined as any software product and documentation which is provided for any other customer free of charge, or which the software manufacturer does not consider a new product. Changes to software or documentation (including packaging and shipping) shall be at no additional cost to the Government.

6.3.4 Notification of Software Changes.

For any software change involving a change to form, fit or function, the Contractor shall provide PM J-AIT one copy of the changed software (with documentation) for each affected software item previously accepted by the Government. After Government evaluation of the changed software, the Contracting Officer will notify the Contractor of the acceptance or rejection of the software change. Software changes not involving a change to form, fit or function shall be provided on the contract after notification is provided to the Contracting Officer.

6.3.5 Correction of Safety Hazards or Equipment Malfunctions.

In accordance with commercial practices, the Contractor shall notify the Contracting Officer and PM J-AIT of all OEM-sponsored changes to correct safety hazards or equipment malfunctions. The Contractor shall implement changes to correct safety hazards in accordance with commercial practices. The implementation shall be in accordance with a mutually agreed-upon schedule. All such changes shall be implemented at no additional cost to the Government.

6.3.6 Configuration Audits.

The Government is required to maintain configuration control over functional and performance requirements (form, fit, and function). Subject to the issuance of a Technical Engineering Services Task Order, the Contractor shall support the Government in performing Functional Configuration and Physical Configuration Audits. The Contractor shall provide a demonstration of the equipment. At least seven workdays prior to commencement of the equipment demonstration, the Contractor shall deliver a Demonstration Plan to the Government. The Plan shall include the agenda, demonstration procedures, and a matrix identifying the baseline equipment. The baseline matrix shall include, at a minimum: Equipment Nomenclature, Model Number, Firmware Version, Software Version, Relevant Specification Paragraph, and any constraints. The matrix shall be in Microsoft Office format.

6.3.7 Physical Configuration Audit.

The Government may perform a Physical Configuration Audit (PCA). A PCA is the formal examination of the "as-built" configuration of a commercial item against its technical documentation to establish or verify the commercial item's product baseline.

6.3.8 Functional Configuration Audit.

The Government may perform a Functional Configuration Audit (FCA). A FCA is the formal examination of the functional characteristics of a configuration item to verify that the item has achieved the requirements specified in its functional and allocated configuration documentation. The Functional Configuration Audit is performed by the Government's Configuration Management Team or Quality Control Representative, by auditing the requirements specifications against the RFID-III Contractor specifications of each configuration item (hardware, middleware, and software).

6.4 RISK MANAGEMENT.

Risk Management is an essential part of program management. The Contractor shall continually identify, assess, manage, and control project risks. The objective is to reduce program uncertainties, and to classify risks according to their probability of occurrence, and possible consequences. In accordance with the Government-approved RFID-

III Management Plan, the Contractor shall identify project risks or actions that affect the accomplishment of program objectives. The program risk events include, but are not limited to:

a. Technical performance;
b. Operational performance;
c. Schedule performance;
d. Training;
e. Technical standards; and
f. Logistics readiness.

The Contractor shall prioritize project risks and determine the status of risk reduction or mitigation efforts. The Contractor shall report the status of risk management efforts during the PPRs.

6.5 MONTHLY EQUIPMENT AND SERVICE REPORT.

The Contractor shall provide PM J-AIT, the COR, and Contracting Officer with a Monthly Equipment and Service Report (MESR) in Microsoft Excel format via electronic mail and post it on the Contractor's web site for on-line viewing and ad hoc inquiries by authorized users. The initial MESR shall be submitted covering the month the first RFID item is received by the Contractor for repair (warranty or maintenance), and shall be provided no later than 10 calendar days after the end of each subsequent month e.g., January report is due by 10 February. The Contractor shall provide, as part of the MESR, a consolidated list of service user calls for troubleshooting assistance. This detailed information on warranty and maintenance repairs will be used to identify trends and compliance with equipment turn-around requirements. The MESR shall include a separate line item of description for each RFID item service incident and, as a minimum, shall include the following:

a. Return Material Authorization (RMA) number and date assigned to user Category of service action: Per-incident maintenance, Monthly Maintenance, On-call maintenance or Warranty;
b. Indicate when a user requested the return of the same serial numbered item. Also, note when a user changed their mind because of time delay involved to return the same serial numbered item.
c. Identity of the Federal agency (e.g., Army, Navy, DLA, etc.), Government user, Point of Contact, and site requiring the maintenance;
d. Parts breakout: nomenclature; National Stock Number (NSN), when available; part numbers; model number, CLIN; and serial number;
e. Quantity of each type of component repaired or replaced by CLIN under the Contract to date;
f. Equipment warranty expiration date;
g. Equipment maintenance start date and expiration date for monthly maintenance;
h. Delivery order number or credit card purchase date and activity;
i. Date field engineer arrival on-site, or receipt of the failed RFID equipment at the repair facility;
j. Date repair action was completed, or equipment was sent back to the user, shipper or carrier; and
k. Remarks section providing information outside of the items listed above, which gives a brief, non-technical description of equipment problems identified, repair action accomplished, parts replaced, serial numbers of replacement RFID-III items (when the item was replaced by the Contractor), problems identified but causes not isolated, or a statement of no evidence of failure.

6.6 WARRANTY STATUS REPORT.

The Contractor shall provide a Warranty Status Report in Microsoft Excel format, once a year when requested by PM J-AIT, to include but not limited to, a list of all equipment due to leave warranty status within the next twelve months with serial number, model number, Federal Agency, Unique Control Number, Delivery Order Number, shipping date, warranty end date, Government user, point of contact and telephone number. The initial report format shall be provided by the Contractor for Government review and approval no later than 30 calendar days after issuance of the Contract effective date specified in the Notice to Proceed.

7 RESERVED

8 CUSTOMER SUPPORT.

8.1 TECHNICAL ASSISTANCE.

The Contractor shall provide Technical Assistance, as follows:

a. Troubleshooting and correction of equipment problems;
b. Processing requests for On-call Maintenance;
c. Processing Mail-in warranty and maintenance service issues; for example, assigning RMA numbers; and
d. Providing Contractor address of the RCs.

8.1.1 Toll-Free Customer Support Help Desk.

The Contractor shall provide toll-free telephonic support for a Customer Support Help Desk for CONUS and OCONUS Government users. The Help Desk shall be staffed 24 hours a day, 7 days per week . The Help Desk shall respond to all user's calls no later than 4 hours after receiving a user's call at least 95% of the time. Except for the purpose of leaving a phone number for the Contractor to return a call no later than one hour during periods of high call volume, recorded answering services are not acceptable to the Government; however, the Contractor may use an on-line knowledge base, and an on-line RMA input functionality to assist Help Desk staff meet the workload. Contractor personnel staffing the Customer Support Help Desk shall possess sufficient expertise to recommend troubleshooting procedures and possible corrective actions for RFID-III equipment and software. Contractor personnel staffing the Help Desk shall understand and speak fluent English. The Contractor shall maintain a database of calls received, action taken, and track user calls for troubleshooting assistance capturing the following information: failed component Point-of-Contact, location, date, problem, and resolution. This information shall be provided in the MESR.

8.1.2 Web Site.

The Contractor shall establish and maintain a worldwide web site for Government users no later than 60 calendar days after issuance of the Contract effective date specified in the Notice to Proceed. The web site shall be hot linked to the PM J-AIT web site and available daily on a 24-hour basis, for the life of the contract. The web site shall not be password protected and shall allow access to all users accessing the web site from ".mil" and ".gov" internet domains. As a minimum, the Web site shall include, or provide hotlinks to:

a. Methods for users to track status of delivery orders and task orders using the Government's order number and Unique Control Number;
b. Warranty and maintenance support;
c. Warranty maintenance tracking using the RMA number;
d. Exchange technical information between the Contractor and individual users and groups;
e. Point-of-Contact, telephone and facsimile number, email address and mailing address for each RC;
f. Technical troubleshooting support;
g. Failed equipment tracking and status;
h. Product and Services Ordering Catalog;
i. Reference and user manuals (i.e., commercial manuals, technical manuals, software manuals);
j. Project management reports (schedules, IPT and PPR minutes, etc.);
k. Recent news items from PM J-AIT or the Contractor (for example, notifications of the web site being down for maintenance, etc.);
l. Other data as mutually agreed to by the Government and the Contractor;
m. RFID-III device drivers;
n. Monthly Equipment and Service Report, Status Report, and Warranty Status Report.
o. List of products that fully comply with Section 508 of the Rehabilitation Act.

The Contractor shall ensure that all hardware device drivers for the aRFID Fixed Readers, Transportable Readers, and HHIs are posted to the web site. At a minimum, the Contractor shall post to the web site those drivers that were developed by the Contractor for use under this Contract. Any initial drivers shall be posted to the web site no later than 60 calendar days after Notice to Proceed. New and updated drivers shall be posted to the web site no later than

48 hours after Government approval. In the event that drivers are updated, the original version shall also be maintained on the web site.

8.1.3 Application Development Support

The contractor shall provide the appropriate unlimited telephonic and email or on-line technical programming support to assist the customer software engineer or programmer during the development of aRFID applications.

9 WARRANTY.

The Contractor shall provide a three-year warranty, including all parts, labor, and transportation costs for all RFID components provided under this Contract. The Contractor shall provide a three-year warranty on all software products. The Contractor shall repair or replace all failed RFID-III components covered under warranty for this Contract in accordance with the procedures outlined below. All warranties shall be included in the purchase price of the component, and not priced separately. The Contractor shall immediately notify the ordering Contracting Officer and order Point of Contact (POC) regarding equipment requiring repair or replacement due to apparent user abuse, negligence, or missing significant parts, such as circuit cards or boards.

9.1 WARRANTY SUPPORT.

The warranty shall not apply when damage to the equipment is occasioned by fault or negligence of the Government. During the equipment warranty period, the Contractor shall implement changes to correct equipment malfunctions in accordance with best commercial practices. The implementation shall be in accordance with a mutually agreed-upon schedule. These changes shall be made at no additional cost to the Government. The warranty shall at a minimum fully protect the Government against equipment malfunctions due to material defects, workmanship, or intrinsic operating problems. The warranty period for items ordered by delivery order shall begin upon Government acceptance of the equipment. In the event the Contractor is authorized to use a Certificate of Conformance, the warranty period for items ordered by delivery order shall begin on the date of shipment. The warranty period for items ordered by Credit Card shall be in accordance with the paragraph entitled “Use of Government-wide Commercial Purchase Card” in Part C-1-1. The warranty shall include mail-in procedures as specified below.

9.2 WARRANTY MAIL-IN PROCEDURES.

The requirement for warranty mail-in service, including commercial carriers, is that the Contractor shall bear all shipping costs, both from and back to Government sites. The Contractor shall be responsible for the equipment from the time of receipt until safe return to the Government. The Government will provide the Contractor with any unusual transportation instructions for return shipment after repair or for replacement. When the same serial number equipment is not required by the user, the Contractor shall ship a replacement item no later than 24 hours after notification of failed RFID-III components. If the same serial number equipment is required by the user, the Contractor shall restore all malfunctioning equipment covered under warranty to a fully operational condition and ship the equipment back to the user no later than ten workdays after receipt of the failed equipment (CONUS and OCONUS). When a user requests the return of the same serial number item and the item cannot be repaired, the Contractor shall notify the Government user no later than three workdays after receipt of the component at the Contractor’s facility. The Government user will provide the Contractor with disposition instructions for un-repairable RFID-III components. The Contractor shall ship a replacement item no later than 24 hours after notification to the user.

9.3 COMPONENT RETURN AND TRACKING.

The Contractor shall provide a method to enable the Government user and the Contractor to quickly identify and track components being forwarded to, and returned from, the Contractor RC for warranty service. The Contractor shall assign the user a RMA number prior to the Government mailing-in the failed equipment to the RC for repair or replacement. The user shall be informed of the RMA number and serial number of each RFID-III component returned to the Contractor for warranty service. All failed equipment returned to the RC shall be identified by the

RMA number. The RMA number will be used by the Government to help track the failed component through the warranty service process.

9.4 WARRANTY REPLACEMENT PARTS.

For Contractor Warranty service support, only new parts, or parts warranted as new by the OEM, shall be used for repairs on failed Government RFID components. Additionally, all replacement parts shall be equal to or better than the replaced parts in terms of quality and performance. Failed parts replaced by the Contractor shall become the property of the Contractor. The effective warranty for all replacement items installed during the initial warranty period shall be equal to the remaining warranty period on the original item, or 90 calendar days, whichever is greater. However, the Government reserves the right to purchase unserviceable parts containing sensitive or classified material, as required by statute or regulation.

9.5 PACKAGING.

The Government may use a Transit Case to ship a RFID-III component or components to the Contractor for warranty service. When this occurs, the Contractor shall return serviced RFID-III components to the user in the same Transit Case in which the components were received.

10 MAINTENANCE.

Upon expiration of the warranty, the Contractor shall provide worldwide Monthly Mail-in, Mail-in Per-Incident, and On-Call Maintenance services to repair or replace RFID-III components covered under Maintenance services ordered by users. Maintenance services shall include all parts, labor, and transportation back to the user.

10.1 MAIL-IN MONTHLY MAINTENANCE SERVICE.

The Government may, at its sole discretion, order Mail-In Monthly Maintenance Service to be effective immediately upon the expiration of the warranty and continuously thereafter for any item for which Mail-In Monthly Maintenance Service is required. If ordered, Mail-In Monthly Maintenance Service will be ordered by the Government for a minimum of twelve months. When the Government orders Mail-In Monthly Maintenance Service after a lapse in coverage due to the expiration of the warranty or a lapse in monthly maintenance, then the Contractor may subject such items to inspection to assure the item is in proper working order. When any such item requires repair, the Government must order Per Incident Maintenance Service for that item before the Contractor is required to accept that item under Mail-In Monthly Maintenance Service. The Contractor shall then accept for Mail-In Monthly Maintenance Service any item which it has inspected and found to be in working order. Any item for which an inspection is not conducted (at the discretion of the Contractor) then the Contractor shall no later than five days after receipt of an order for monthly maintenance accept the item for Monthly Mail-in Maintenance. Mail-In Monthly Maintenance Service shall not apply when damage to the equipment is occasioned by fault or negligence of the Government.

10.2 MAIL-IN PER INCIDENT MAINTENANCE SERVICE.

The Government may, at its sole discretion, order Mail-In Per Incident Maintenance Service for those items not covered by Monthly Maintenance. Mail-In Per Incident Maintenance Service will be ordered by the Government on an as required basis.

10.2.1 Mail-In Maintenance Procedures.

The Contractor shall replace or return RFID-III components to a fully operational status and ship the repaired RFID-III component back to the user no later than five workdays after receipt of the failed component at the Contractors RC for CONUS locations and no later than seven workdays after receipt of the failed component at the Contractors RC for OCONUS locations. Transportation arrangements shall be in accordance with the provisions of the paragraph entitled “Transportation” in this Part. In the event a RFID-III component cannot be repaired or when any discrepancy is noted between the component(s) received and the maintenance request, the Contractor shall notify the

Government user no later than three workdays after receipt of the component at the Contractor's RC. The Government user will provide the Contractor with disposition instructions for un-repairable RFID-III components. In the case of RFID-III components are received in Transit Cases, the Contractor shall annotate on maintenance requests any component shortages discovered while inventorying the equipment. The Contractor shall provide the Government with a written notice of all component shortages no later than one workday after receipt of the equipment.

10.2.2 Mail-In Component Return and Tracking.

The Contractor shall provide a method to enable the Government user and the Contractor to quickly identify and track components being forwarded to, and returned from, the Contractor RC for maintenance service. The Contractor shall assign the user a RMA number prior to the Government mailing-in the failed equipment to the RC for repair or replacement. The user shall be informed of the RMA number and serial number of each RFID-III component returned to the Contractor for maintenance service. All failed equipment returned to the RC shall be identified by the RMA number. The RMA number will be used by the Government to help track the failed component through the maintenance service process.

10.2.3 Transportation.

Transportation of RFID-III components shipped to the Contractor for Mail-In Maintenance Service will be arranged and paid for by the Government. Return transportation of repaired or replaced components shipped to the Government user shall be arranged and paid for by the Contractor. The Contractor shall use a return shipping method equal to or better than the Government user's method of shipment to the Contractor. The Government will provide the Contractor with any unusual transportation instructions for return shipment after repair.

10.3 ON-CALL MAINTENANCE.

The Contractor shall provide worldwide On-Call Maintenance for equipment that cannot be mailed-in by the Government. The Government will order On-Call Maintenance on an as required basis . When maintenance service is ordered for CONUS locations, the Contractor shall replace or return the RFID-III components to a fully operational status no later than five workdays from the time the Contractor is notified of the malfunction. For OCONUS locations, the Contractor shall replace or return the equipment to fully operational status no later than seven workdays of notification.

The Contractor shall provide On-Call Maintenance outside the official hours of operation when required by the Government user. When On-Call Maintenance outside the official hours of operation is ordered for CONUS locations, the Contractor shall replace or return the equipment to a fully operational status no later than five calendar days from the time the Contractor is notified of a failure. For OCONUS locations, the Contractor shall replace or return the equipment to fully operational status no later than seven calendar days after notification. The Contractor shall provide the required On-Call Maintenance service in accordance with a task order issued for the instant requirement; or in accordance with a task order issued pursuant to the subparagraph entitled "Maintenance" in Part C-1-1.

10.4 MAINTENANCE REPLACEMENT PARTS.

Contractor Maintenance services shall utilize only new parts, or parts warranted as new by the Original Equipment Manufacturer for repair of failed Government RFID-III components. Additionally, all replacement parts shall be equal to or better than the replaced parts in terms of quality and performance. Failed parts replaced by the Contractor shall become the property of the Contractor. However, the Government reserves the right to purchase unserviceable parts containing sensitive or classified material, as required by statute or regulation. The effective warranty for all replacement parts installed during the maintenance period shall be a minimum of 90 calendar days.

10.5 PREVENTIVE MAINTENANCE.

Preventive maintenance includes all actions performed in an attempt to retain an item in an operational condition by providing systematic inspection, detection, and prevention of incipient failures. Unless otherwise specified, Government personnel will perform all preventive maintenance on items purchased under this Contract. The

Contractor shall provide, in detail, all requirements and procedures for the Government user to perform preventive maintenance checks, service schedules and, troubleshooting-level diagnostics, in documentation and user manuals. The Contractor shall provide Material Safety Data Sheets in accordance with FAR Clause 52.223-3 in Part C-1-1. Preventive maintenance documentation shall be provided by the Contractor for each appropriate RFID-III hardware CLIN. The Contractor shall be responsible for all other maintenance services.

10.6 Software Maintenance.

Software maintenance shall be provided for all commercial software provided under this Contract in accordance with customary commercial software maintenance terms and conditions offered to the general public to include all fixes, updates and changes necessary to maintain the software in an operational state.

10.7 TRANSPORTATION.

Transportation of RFID-III components shipped to the Contractor for Maintenance will be arranged and paid for by the Government. Return transportation of repaired or replaced components shipped to the Government user shall be arranged and paid for by the Contractor. The Contractor shall use a return shipping method equal to or better than the Government user's method of shipment to the Contractor. The Government will provide the Contractor with any unusual transportation instructions for return shipment after repair.

10.7.1 Packaging.

The Government may use a Transit Case to ship a RFID-III component or components to the Contractor for maintenance service. When this occurs, the Contractor shall return serviced RFID-III components to the user in the same Transit Case in which the components were received.

11 TECHNICAL ENGINEERING SERVICES.

11.1 GENERAL.

Technical Engineering Services (TES) shall be ordered by a Task Order only. The Contractor shall provide Technical Engineering Services on-site at various world wide Government locations and at the Contractor's facility as specified in the Task Order. TES shall include those services required for RFID turn-key implementation, IUID implementation support, equipment integration, site analysis, installation, de-installation, relocation, problem-solving, user unique training, supporting IPTs, conducting PCAs and FCAs, software development; communications, interfaces with other Government systems, equipment and systems engineering services, systems integration, and, assistance in obtaining host-nation certification and approval for commercial communications and radio frequency equipment, when needed. Any cables or adapters not available in this Contract, middleware or other items and materials required for installation of Contractor-provided RFID components, may be ordered through this contract in accordance with the provision entitled "Incidental Materials" in Part C-1-1. AR 25-2 requires that all Contractor personnel requiring access to DoD networks shall complete the specified IA Security Awareness Training before issuance of a password for network access. Providing the necessary Security Awareness Training for Contractor personnel will be the responsibility of the organization issuing the TES Task Order requiring access to a DoD network.

11.1.1 TES Request for Proposal.

The Contractor shall submit a proposal for required TES in accordance with the paragraph entitled "Task Order – Technical Engineering Services" in Part C-1-1.

11.1.2 Travel.

Prices for Contractor personnel travel and per diem to perform technical engineering services shall be in accordance with the paragraph entitled "Task Order – Technical Engineering Services (TES)" in Part C-1-1.

11.1.3 TES Trip Report.

The Contractor shall submit a TES Trip Report to the Task Order POC or Task Order COR, when applicable, no later than five workdays after the completion of each authorized trip. The trip report shall be in the Contractor's format and shall contain as a minimum:

a. Report Date;
b. Customer Name, address, POC and telephone number;
c. Project Name;
d. Time arrived, time departed;
e. Any recommended or provided Incidental Material description;
f. Contractor's summary of work completed; and
g. Contractor POC name and signature.

11.1.4 TES Response Time.

The Contractor shall provide TES within the time specified in the Task Order for specific technical services. The on-site locations and objectives of the TES to be provided shall be stated in the Task Order.

11.1.5 Software Development Services.

Software Development Services (SDS) shall be limited to development incidental to the RFID related mission that utilizes equipment purchased under this contract. RFID-III SDS shall be limited to 30,000 lines of instructions per application. RFID-III SDS shall be limited to the development work required to modify, interface, and integrate aRFID application(s) to an existing Government application(s) and database(s). Services include new software development, which may include translation of existing Government code that has been determined necessary to ensure operation of the system.

11.2 INSTALLATION/DE-INSTALLATION/RELOCATION.

11.2.1 Installation/De-installation/Relocation.

The Contractor shall conduct Installation/De-installation/Relocation services as specified in the Task Order for each location requiring the services. The ordering contracting officer will issue proposal requests with schematic drawings of the Government site. Additionally, aRFID Contractors submitting TES proposals may conduct site surveys at their own expense or at aRFID Contractor's own discretion rely solely on the Government-furnished site information when formulating their proposals. The Government does not guarantee accuracy and completeness of the Government-furnished site information.

11.2.2 Installation/De-installation.

The Contractor shall install and de-install aRFID configurations as specified in the Task Order. The Contractor shall provide all necessary installation support equipment, cables for the interface of the various components forming an installation, including the aRFID devices, servers, peripheral devices, and power sources as required. Upon receipt of a Task Order requiring installation/de-installation, and in accordance with the schedule contained therein, the Contractor shall install/de-install aRFID equipment in accordance with the approved Installation Plan. In instances where work to be performed by the Contractor requires interaction with existing facilities and equipment, the Contractor shall be responsible for any damage to existing facilities or equipment. After installation is completed, the Contractor shall remove all packing, shipping, and storage materials left over from the installation.

11.2.3 Relocation of aRFID Components.

Upon receipt of a Task Order requiring relocation, and in accordance with the schedule contained therein, the Contractor shall install aRFID equipment in accordance with the approved Installation Plan. The extent of the services to be performed by the Contractor shall be specified in the Task Order and will vary from minimal involvement to total responsibility for the relocation.

11.2.4 Installation Plans.

Each Offeror shall submit an Installation Plan with supporting documentation and attachments for evaluation as a part of their Task Order proposal. The Installation Plan shall include, but is not limited to, the following items:

a. Specific details on the methodology for installation and the resources required;
b. Detailed description, by major subheadings, of all installation work to be done by the Contractor at the site, and scheduling and dependency of the various tasks;
c. Site layout plan including detailed drawings of all components, such as racks, cabinets, or consoles;
d. General component specifications including equipment, physical specifications, templates, manufacturer's specific machine configuration and space requirements, special operational line-of-sight requirements between various components, lighting requirements, site construction requirements, power requirements, cabling requirements, network connections, communication lines including satellite communications, cooling requirements, shipping requirements, and all special requirements that do not fall under normal operating conditions;
e. Description of any actions, such as site modifications, which the Government will complete prior to installation of the RFID equipment, in sufficient detail to facilitate successful installation of the equipment.

11.3 CONTRACT SUPPORT PERSONNEL.

The Contractor shall provide all technical labor categories described in Attachment 16 of this part. The Government will issue requests for proposal for specific tasks to be performed under task orders. Personnel performing on this contract under Technical Engineering Services and training task orders shall meet the qualifications the contractor requires for, and be part of the same work force, providing such services to the general public. The contractor shall provide labor categories that represent a blend of demonstrated technical, supervisory and managerial expertise, analytical skills and knowledge to provide specific tasks, using efficient and state-of-the-art processes, made up of functions including, but not limited to, the following:

a. component integration;
b. installation and de-installation;
c. user unique training, on-site or class room;
d. systems integration;
e. complex programming support;
f. designing, developing, and troubleshooting complex applications;
g. modeling simulation;
h. analysis in designing operating systems utilities;
i. troubleshooting, following established testing procedures to ensure equipment is properly working;
j. development and revision of technical documentation for software, hardware, and systems;
k. testing online documents for correct operation, content and usability;
l. analyzing systems to identify project objectives and data elements;
m. preparing high level flow-charts and diagrams from which detailed program design may be further developed;
n. database management, associated data analysis and design, and data dictionary tools, as well as distributed systems, and data base development methods and techniques;
o. total system development and integration efforts, including all equipment, software, telecommunications, and networks, based on expert knowledge of automatic identification and data capture fields;

p. outlining problems, and providing solutions to data communication projects and problems based on expert knowledge of modern data transfer methods and network; and
q. technical problem analysis and resolution based on expert knowledge of RF equipment and systems, wireless technologies, and wireless test procedures requirement analysis.

A Project Manager shall serve as primary manager of a large project and shall be responsible for management, performance, and completion of their assigned major project. The Project Manager shall be responsible for formulating and enforcing work standards, assigning schedules, and reviewing work for their assigned project.

12 DOCUMENTATION REQUIREMENTS.

12.1 GOVERNMENT RIGHTS.

The Government shall have full and unrestricted rights, in accordance with copyright laws and regulations, to use and reproduce for its own use, all documentation provided under this contract. The Contractor shall provide the RFID user community with online access to, including the rights to download all user manuals and software reference documentation for any piece of equipment that interfaces with a host computer system. User manuals and software documentation shall be in the Contractor's format using Portable Document Format (PDF).

12.2 COMMERCIAL USER MANUALS.

The Contractor shall provide commercial user manuals for each piece of equipment delivered. The commercial user manuals shall provide step-by-step procedures for each function performed by the equipment and shall identify all preventive maintenance tasks and troubleshooting procedures. The commercial user manuals shall be included with each delivered piece of equipment and shall not be separately priced.

12.3 SOFTWARE REFERENCE DOCUMENTATION.

The Contractor shall provide software reference documentation to be used by software developers creating RFID-III applications. The documentation shall contain specific details for the integration of RFID-III equipment. The documentation shall be at a level of detail sufficient to fully define the operator interface and application operations. The software reference documentation shall be included with each delivered piece of equipment and shall not be separately priced.

13 TRAINING.

13.1 MULTIMEDIA TRAINING.

The Contractor shall provide multimedia training on CD-ROMs and via the internet on a dedicated web site that blocks access to all users except those users accessing the web site from ".mil" and ".gov" internet domains. The multimedia training shall instruct the students on how to operate, maintain, repair, and develop unique application software programs for Active and Closed Loop aRFID equipment acquired under this Contract. The Contractor is required to provide a CD ROM and web-based training package for the first year of the contract. The Government may order updates to the Training for years two and three of the contract when required. Training updates may include addition of new or modified products and other types of training updates as necessary.

13.1.1 Target Audiences and Areas.

Target audiences utilizing the RFID-III training will include technically skilled specialists responsible for supporting and implementing the use of RFID-III components and end users responsible for operating the Contractor-provided hardware and software. The RFID-III Configuration Training shall encompass an overview of instruction in the following areas:

a. RFID-III Configuration Overview (hardware, software, communications). Hardware characteristics and principles of operation, RFID-III Configuration hierarchy and software components (including the

Operating System communication software interfaces), data structures, queues, and internal tables of the Operating System;

b. Hardware and Software Architecture. Communications processing (including protocols), software designs, interfaces, and assembly (Operating System development) language;
c. Operating System commands;
d. Operating System tailoring and generation, method for the distribution of fixes, problem resolution, and implementation of new software releases;
e. Operations. Set Interrogator parameters, collect loaded information, read and write information, search data to identify priorities and find specific items, create prioritized lists of containers to be unloaded, and locate specific containers based on container number or content data;
f. Diagnostics. Problem definition and resolution, and diagnostic software utilization;
g. Security features (including management considerations, controls, procedures, and software design); and
h. Hardware maintenance and support. Preventive maintenance checks and services, and user-level repair operations.

13.1.2 Web Based and CD-ROM Training.

The Contractor shall provide both Web Based and CD-ROM training as a Multimedia Training package (MMTP). The MTMP will be accessible by users utilizing MS Internet explorer version 7 or higher. The MMTP shall provide information in the areas of hardware and software installation, addressing initial problem diagnostics, performance measurements, diagnostic software, and basic component operations. The MMTP shall be developed for the specific target audiences and areas identified in the paragraph entitled “Target Audiences and Areas” in this Part. The MMTP shall be a stand-alone software training package providing menu-driven selection of hardware introduction or specific operational task selection using loaded data to simulate real-time scenarios. The MMTP shall be of a type to allow the Government to copy and paste selected information from the CD-ROM into other Government applications. The Contractor shall provide the Government all necessary documentation to enable the Government to perform modifications to the CD-ROM, and the Government shall have the right to modify, copy, and distribute the MMTP as required for its own use within the U.S. Government. Any software license or notice that is embedded in, or otherwise accompanies, the MMTP shall in no way supersede or limit the Government’s rights under this contract or Federal law. Each training module within the MMTP shall be no longer than 50 minutes in length. All Training shall be developed for the Levels I and II as follows:

a. Basic Interactivity (Level I) This is the lowest level of development. Level I lessons are linear (one idea after another) and often introduce an idea or concept. There is little "interaction" other than the student touching the screen or using a keystroke or mouse click to continue. Branching is not a feature other than in the use of a menu system. Testing includes immediate feedback. Level I does not include the use of a Computer Managed Instruction (CMI) system. The media used are primarily text and graphics (not complex), but may also include audio and video.

b. Medium Interactivity (Level II) This level involves all levels of learning from recall of information to performing skills. Level II allows the user to have increased control over lesson presentation; that is, there is more interaction. Multiple objects may appear on the screen and may move independently, or the user may be able to control their use. This level combines audio, video, text, graphics, and animation. Level II uses branching (one to two levels), testing, and immediate feedback. Lessons use CMI features to track and analyze student performance. Level II lessons include designs for recall of facts, rules, and concepts, but they also support other instructional strategies at the low end such as tutorials, drill/practice, collaborative learning, and discovery method.

13.1.3 Draft MMTP.

The Contractor shall provide the COR draft storyboards, and graphics materials no later than 60 calendar days after the date of a Task Order for the RFID Training Master CD-ROM or for the RFID Web-based training. The COR will review and approve the drafts and provide comments to the Contractor. The Contractor shall amend or edit the draft MMTP based on the Government’s comments and resubmit a revised draft no later than 14 calendar days after receipt of the Government’s comments. The Contractor shall provide the final MMTP no later than 30 calendar days after receipt of the COR’s final approval of the draft MMTP materials.

At the Government’s discretion, the Contractor shall attend a minimum of two meetings at PM J-AIT designated facilities to provide for Government review and input into the MMTP prior to COR final approval of the draft

MMTP materials. The Contractor shall provide COR draft storyboards, scripts, and graphics materials no later than ten workdays prior to each meeting. The Contractor shall also provide an agenda at least ten workdays prior to each meeting, and shall provide meeting minutes no later than ten workdays after the conclusion of each meeting.

13.1.4 Training Deliverables.

If ordered, the Contractor shall provide the following items in accordance with the approved MMTP within 45 days after approval of the MMTP or within 45 days after the date of the order, whichever is later:

a. Web-based training

b. One (1) Master CD-ROM to be used by the Government for reproduction and distribution purposes. This Master CD-ROM, along with a one (1) copy of the CD-ROM, shall be delivered to the COR.

c. An updated version of the Web-based training

d. An updated version of the Master CD-ROM and copy of the CD-ROM.

14 CERTIFICATION.

14.1 RFID-III CERTIFICATIONS.

14.1.1 Energy Star.

Equipment meeting the specifications defined in PB 95-250304 shall be certified by the Contractor and properly labeled as meeting the Environmental Protection Agency requirements.

14.1.2 Non-incendive Certification.

The Contractor shall certify that equipment identified as Non-incendive no later than 90 days after Notice to Proceed, as well as its sub-components, shall be designed, manufactured and tested to Non-incendive standards, as specified in the National Electrical Code.

14.1.3 Rugged Environment Certification.

Transit Cases shall be manufactured and tested in accordance with ATA Specification No. 300, “Packaging of Airline Supplies” - 1960 (R1996) for Category 1, or have previously been accepted by DoD for use in a rugged environment.

14.1.4 Product Safety Certification.

Equipment shall be certified by an authorized, Nationally Recognized Testing Laboratory to ANSI/UL1950-1997.

14.1.5 Electromagnetic Compatibility (EMC) Compliance and Hazards of Electromagnetic Radiation to Ordnance (HERO) Compliance.

All applicable equipment shall meet, as appropriate, the requirements of National Telecommunications and Information Administration (NTIA) Manual Annex K and FCC Part 15, regulations for Government operations. In order to certify the use of commercial RFID-III equipment in these environments, the Government will subject representative categories of equipment to radiated emission and susceptibility tests (See MIL-STD 461D: Requirements for the Control of Electromagnetic Interference Emissions and Susceptibility, and MIL-STD-462D: Measurement of Electromagnetic Interference Characteristics). The applicable equipment shall remain unchanged after installation of Contractor-provided radio frequency devices. All applicable equipment for CONUS shall meet the International Special Committee on Radio Interference (CISPR) 22, Class A (International) standards for Radio Frequency Interference/Electromagnetic Interference, and be Underwriters Laboratory (or equivalent) and European

Community certified. The Contractor shall test and certify equipment per the guidance provided in the U.S. Department of Commerce NTIA, FCC, and International Standards.

14.1.6 Self-Certification.

The Contractor's self-certification of standards (e.g., ISO 18000-7:2008) shall be based on the results of testing or inspection the Contractor undertakes or authorizes others to undertake on the Contractor's behalf. Self-certification shall be performed in accordance with ANSI Z-34.2-1987, American National Standard for Certification — Self-Certification by Producer or Supplier.

15 BACKGROUND INVESTIGATIONS FOR CONTRACTOR PERSONNEL.

15.1 BACKGROUND.

When applicable, Contractor personnel performing services under this contract, task order shall be required to undergo a background investigation. Task Orders may require Contractor personnel to have access to Unclassified Sensitive information in accordance with DoDD 8500.01E, DoDI 8500.2, AR-25, and the Privacy Act of 1974 (Public Law 93-579). At a minimum, some CONUS and OCONUS Task Orders will require the Contractor personnel accessing this information to have a favorable National Agency Check (NAC) and/or a DoD Secret clearance (Interim Secret clearances are acceptable). Investigative packages may contain the following forms:

1. SF-85, Questionnaire for Non-Sensitive Positions, 09/1995
2. SF-85P, Questionnaire for Public Trust Positions, 09/1995
3. SF-86, Questionnaire for National Security Positions, 09/1995
4. Credit Report Release Form
5. FD-258, Fingerprint Card,

15.2 NAC FILE RECORDS.

The Contractor shall take the necessary steps to ensure the ability to timely respond to the Task Orders stating a requirement for a NAC or DoD Secret clearance. When a Task Order specifically addresses a requirement for a NAC, the Contractor personnel assigned to this effort shall complete a Standard Form 85 or 85P. When a Task Order specifically addresses a requirement for a DoD Secret clearance, the Contractor personnel assigned to this effort shall complete a Standard Form 86.

The completed paperwork shall be submitted to the Contractor Security Manager for review of completeness. The Contractor Security Manager shall obtain a DoD Secret clearance from the Defense Security Service (DSS) or from the appropriate Government agency. The Contractor shall maintain a record of all requested NAC and DoD Secret clearance approvals and disapprovals.

16 Continued Performance During Support of Crisis Situations, Contingency or Exercise.

The Contractor shall provide continued performance during support of crisis situations, contingency or exercise in accordance with the paragraph entitled "Continued Performance During Support of Crisis Situations, Contingency or Exercise" in Part C-1-1.

EXHIBIT-A

SAFE SEPARATION DISTANCE BETWEEN A RF
SOURCE AND UNSHIELDED MUNITIONS CONTAINING
10 mA NO-FIRE CURRENT ELECTRO-EXPLOSIVE DEVICES
(EEDs)

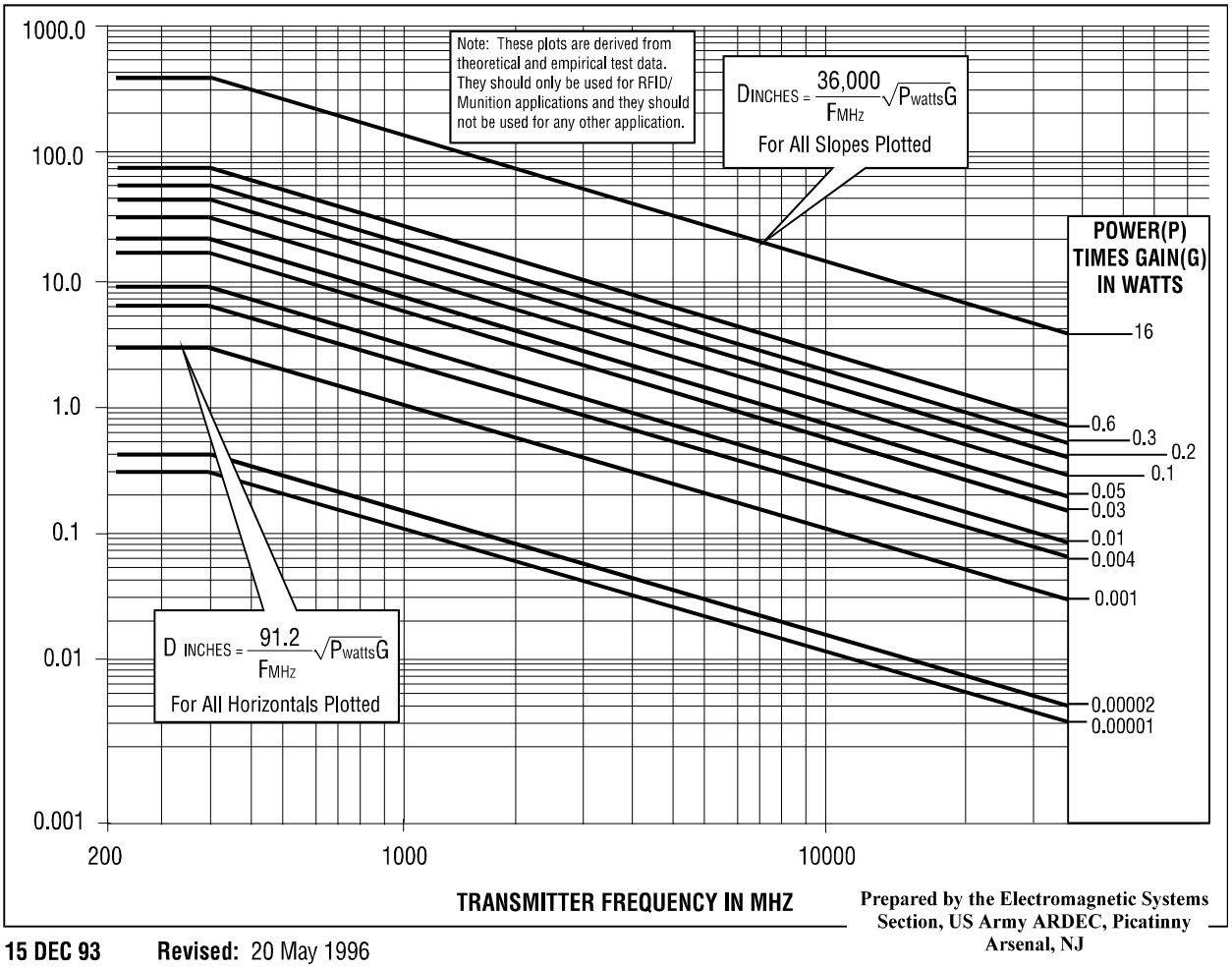

EXHIBIT-B CONTRACT STATUS REPORT

RFID-III Contract Status Report

		[Month-Year]		Year-to-Date		Contract-to-date	
CLIN	Service	Quantity	Total Amt	Quantity	Total Amt	Quantity	Total Amt
0001AA	Army	5	$5	10	$10	30	$30
	AF	1	$1	3	$3	30	$30
	Navy	10	$10	30	$30	50	$50
	Marine	0	$0	5	$5	10	$10
	Coast Grd	0	$0	5	$5	10	.$10
	DLA/Other	4	$4	5	$5	10	$10
	TOTALS	20	$20	58	$58	140	$140
0002BA	Army	10	$50	20	$100	50	$250
	AF	0	$0	3	$15	10	$50
	Navy	5	$25	10	$50	20	$100
	Marine	0	$0	0	$0	2	$10
	Coast Grd	0	$0	0	$0	0	$0
	DLA/Other	0	$0	5	$25	10	$50
	TOTALS	15	$75	38	$190	92	$460

Note: The CLINs, Quantity numbers and Total Amounts shown above are for illustrative purposes only. The contractor may provide each of the three summaries (Current month, Year-to-date, and Contract-to-date) on separate worksheets of the same spreadsheet file.