

<b>AWARD/CONTRACT</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 700)			RATING DO-A7	PAGE OF PAGES 1   101	
2. CONTRACT (Proc. Inst. Ident.) NO. M67854-12-C-0211		3. EFFECTIVE DATE 28 Sep 2012		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. M9545012RCR2FD0			
5. ISSUED BY MARINE CORPS SYSTEMS COMMAND, CTQ ATTN: MOHAMED ELMI 2200 LESTER STREET QUANTICO VA 22134		CODE M67854	6. ADMINISTERED BY (If other than Item 5) DCMA PHOENIX TWO RENAISSANCE SQUARE SUITE 400 40 NORTH CENTRAL AVE PHOENIX AZ 85004-4424			CODE S0302A	SCD: A
7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code) GENERAL DYNAMICS C4 SYSTEMS, NC. LORETHA JOHNSON 8201 E MCDOWELL RD SCOTTSDALE AZ 85257-3812				8. DELIVERY [ ] FOB ORIGIN [ X ] OTHER (See below)		9. DISCOUNT FOR PROMPT PAYMENT Net 30 Days	
CODE 1VPW8				FACILITY CODE 1VPW8		10. SUBMIT INVOICES 1 (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN: ITEM <b>Section G</b>	
11. SHIP TO/MARK FOR NAVAL SURFACE WARFARE CENTER, CRANE DIV MR. STAN HODGES (JXSP) 300 HWY 361, BLDG 41, RECEIVING SUPPLY OP CRANE IN 47522-5001		CODE N00164	12. PAYMENT WILL BE MADE BY DFAS - COLUMBUS CENTER DFAS - COWEST ENTITLEMENT OPERATIONS P.O. BOX 182381 COLUMBUS OH 43218-2381			CODE HQ0339	
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: [ X ] 10 U.S.C. 2304(c)( 1 ) [ ] 41 U.S.C. 253(c)( )			14. ACCOUNTING AND APPROPRIATION DATA <b>See Schedule</b>				
15A. ITEM NO.	15B. SUPPLIES/ SERVICES		15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT	
<b>SEE SCHEDULE</b>							
<b>15G. TOTAL AMOUNT OF CONTRACT</b>						<b>\$41,356,802.00</b>	
16. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
<b>PART I - THE SCHEDULE</b>				<b>PART II - CONTRACT CLAUSES</b>			
X	A	SOLICITATION/ CONTRACT FORM	1	X	I	CONTRACT CLAUSES	69 - 95
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2 - 6	<b>PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS</b>			
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	7 - 48	X	J	LIST OF ATTACHMENTS	96 - 101
X	D	PACKAGING AND MARKING	49 - 50	<b>PART IV - REPRESENTATIONS AND INSTRUCTIONS</b>			
X	E	INSPECTION AND ACCEPTANCE	51 - 52		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	53 - 54		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
X	G	CONTRACT ADMINISTRATION DATA	55 - 66		M	EVALUATION FACTORS FOR AWARD	
X	H	SPECIAL CONTRACT REQUIREMENTS	67 - 68				
<b>CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE</b>							
17 [ X ] CONTRACTOR'S NEGOTIATED AGREEMENT Contractor is required to sign this document and return 1 copies to issuing office ) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein (Attachments are listed herein )				18 [ ] AWARD (Contractor is not required to sign this document ) Your offer on Solicitation Number M67854-12-R-0211-0004 including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your offer, and (b) this award/contract No further contractual document is necessary			
19A. NAME AND TITLE OF SIGNER (Type or print)				20A. NAME OF CONTRACTING OFFICER MOHAMED H. ELMI / CONTRACTING OFFICER TEL: 703-432-3233 EMAIL: mohamed.elmil@usmc.mil			
19B. NAME OF CONTRACTOR		19C. DATE SIGNED		20B. UNITED STATES OF AMERICA		20C. DATE SIGNED 29-Sep-2012	
BY _____ (Signature of person authorized to sign)				BY _____ (Signature of Contracting Officer)			

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	CAC2S Developmental System FPI FOB: Destination MILSTRIP: M9545012RCR2FD0	1	Lot		\$41,356,802.00
				TARGET COST	(b) (4)
				TARGET PROFIT	(b) (4)
				TOTAL TARGET PRICE	\$41,356,802.00
				CEILING PRICE	(b) (4)
				SHARE RATIO ABOVE TARGET	50/50
				SHARE RATIO BELOW TARGET	50/50
	ACRN AA CIN: M9545012RCR2FD00001				\$0.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000101	Funding ACRN AA FFP FOB: Destination MILSTRIP: M9545012RCR2FD0 PURCHASE REQUEST NUMBER: M9545012RCR2FD0				\$0.00
				NET AMT	\$0.00
	ACRN AA CIN: M9545012RCR2FD0000101				\$15,000,000.00

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002	CAC2S Data FFP	1	Lot		NSP
	The Contractor shall provide the data items in accordance with the DD1423s, Contract Data Requirements Lists (CDRLs), contained in Section J of this contract. THIS CONTRACT LINE ITEM IS NOT SEPARATELY PRICED. ANY COSTS ASSOCIATED WITH THIS CLIN SHOULD BE PRICED INTO CLIN 0001.				
	FOB: Destination				

---

NET AMT

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0101	CAC2S Limited Deployment System	4	Each	(b) (4)	
OPTION	FFP				
	FOB: Destination				

TARGET COST	(b) (4)
TARGET PROFIT	(b) (4)
TOTAL TARGET PRICE	(b) (4)
CEILING PRICE	(b) (4)
SHARE RATIO ABOVE TARGET	50/50
SHARE RATIO BELOW TARGET	50/50

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0102		5	Each	(b) (4)	
OPTION	CAC2S Limited Deployment System FPI FOB: Destination				

TARGET COST	(b) (4)
TARGET PROFIT	
TOTAL TARGET PRICE	
CEILING PRICE	
SHARE RATIO ABOVE TARGET	50/50
SHARE RATIO BELOW TARGET	50/50

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0103		1	Lot	(b) (4)	
OPTION	CAC2S Software Maintenance FFP FOB: Destination				

NET AMT	(b) (4)
---------	---------

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0104		1	Lot	(b) (4)	
OPTION	CAC2S Refurbishment and Spares FFP FOB: Destination				

NET AMT	(b) (4)
---------	---------

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0105 OPTION	CAC2S Data FFP	1	Lot		NSP
<p>The Contractor shall provide the data associated with CLINs 0101 - 0104 in accordance with the DD 1423s, Contract Data Requirements Lists (CDRLs), contained in Section J of this contract. THIS CONTRACT LINE ITEM IS NOT SEPARATELY PRICED.</p> <p>FOB: Destination</p>					

---

NET AMT

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0106 OPTION	CAC2S Software Maintenance FFP	1	Lot	(b) (4)	
<p>FOB: Destination</p>					

---

NET AMT

(b) (4)

DETERMINATION OF CEILING PRICE  
 DETERMINATION OF CEILING PRICE AND SHARE RATIOS.

The ceiling price for this contract is 120% of the total Target Price for each Fixed-Price-Incentive (FPI) CLIN. The share ratio for above target is 50/50. The share ratio for below target is 50/50.

The FPI basic contract structure is: Target cost; Target profit; Profit Adjustment Formula (the under-target and over-target sharing formulas) and the Ceiling price.

**Target Cost** – is the optimistic allowable cost estimate. If the contractor completes the effort at the target cost, no positive or negative incentives apply

**Target Profit/Fee** – is the difference between the (estimated) allowable cost and negotiated price at target cost

**Target Price** – is the Target Cost plus Target Profit.

**Profit/Fee Adjustment Formula** or Share Agreement –is the objective formula (representing allocation of risk) to adjust profit/fee as cost increases or decreases. Share Agreement Ratio must add up to 100%

**Ceiling Price** = Ceiling % \* Target Price

**Point of Total Assumption (PTA)** = is the point where cost risk responsibility shifts completely to the contractor. Each additional dollar of cost will reduce the contractor's profit or increase the contractor's loss by one dollar.

$PTA = (\text{Ceiling Price} - \text{Target Price} / \% \text{Gov't Over Target Share}) + \text{Target Cost}$

**Final Contract Price will be determined using the following steps:**

*Step 1. Determine Profit/Fee Adjustment*

**Profit/Fee Adjustment** = (Target Cost – Final Cost) \* Contractor's share ratio

*Step 2. Determine Final Profit/Fee*

**Final Profit/Fee** = Target Profit +/- Profit/Fee Adjustment

*Step 3. Determine Possible Contract Final Price*

**Contract Final Price** = Final Cost + Final Profit/Fee

*Step 4. Perform Ceiling Price Check*

- If Contract Final Price **is greater than** Ceiling Price.....**Pay Ceiling Price**
- If Contract Final Price **is less than** Ceiling Price.....**Pay Final Price**

## Section C - Descriptions and Specifications

### SECTION C

## Section C - Descriptions and Specifications

### **Statement of Work (SOW) for Common Aviation Command and Control System (CAC2S)**

#### **1.0 SCOPE**

This Statement of Work (SOW) defines the effort required for the design, engineering development, fabrication, and test of Engineering Development Models (EDMs), Technical Data Package (TDP), Limited Deployment Units (LDUs) and Software/Hardware Maintenance of the Common Aviation Command and Control System (CAC2S). It includes the associated program management, systems engineering, information assurance, testing, logistics support planning, and execution requirements.

#### **1.1 BACKGROUND**

The CAC2S acquisition approach is structured to ensure the CAC2S Program Management Office (PMO) fields ready and proven technologies at the earliest opportunity to enable effective command and control (C2) of all aviation assets in support of the Marine Air-Ground Task Force (MAGTF). To achieve this, CAC2S Increment I requirements are being developed, integrated, tested and fielded in two phases.

The CAC2S PMO has initiated Phase 1 to accommodate rapid fielding of operationally relevant capabilities to include mobility, situational awareness, tactical communications, information dissemination and operational flexibility that will establish the baseline CAC2S capabilities for the Marine Air Command and Control System (MACCS) and AC2 capability. This is being accomplished by upgrading fielded MACCS equipment with mature, ready technologies and will establish an initial product baseline to include the Processor Display Subsystem (PDS) and Communication Subsystem (CS). A Government field activity In-Service Engineering Agent (ISEA) will oversee the integration and upgrades of the previously developed AN/TSQ-239 (V) Combat Operations Center (COC) and AN/MRQ-12 (V) 4, currently produced under previously competed contracts and agreements. Phase 2 has been structured to accommodate the integration of technologies necessary for the CAC2S Sensor/Data Subsystem (SDS) to meet remaining Common Aviation Command and Control System (CAC2S) Increment I Capability Production Document (CPD) requirements. Phase 2 will implement CAC2S Increment I capabilities by leveraging Phase 1 to the maximum extent possible and by creating an integrated SDS with relevant Phase 1 PDS and CS, thereby fully meeting CAC2S Increment I requirements. The Phase 2 effort will produce a complete CAC2S Increment I capability by integrating Technology Readiness Level (TRL) 8, or higher, components and providing the smallest CAC2S transportability footprint possible.

#### **2.0 APPLICABLE DOCUMENTS**

The following documents form a part of this SOW to the extent specified herein. The most recent revision of the referenced document at the time of contract award shall be used unless otherwise specified in a contract modification. In the event of conflict between the applicable documents and this SOW, the SOW shall take precedence. All second tier and below references cited in mandatory compliance documents shall be considered as guidance only. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

Offerors may obtain the specifications, standards, plans, drawings, data item descriptions, and other pertinent documents cited in this solicitation from the on-line Acquisition Streamlining and Standardization Information System (ASSIST). If not available in ASSIST specific activity and the address from which to obtain the document will be provided in the appropriate section below.

**2.1 Military Standards and Specifications - Mandatory Compliance**

MIL-STD-130N	Identification Marking of U.S. Military Property
MIL-STD-1366E	Interface Standard for Transportability Criteria
MIL-STD-2361C	Digital Publications Development
MIL-STD-461F	Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment
MIL-STD-464C	Electromagnetic Environmental Effects Requirements for Systems
MIL-STD-882D	Standard Practice for System Safety
MIL-STD-31000	Technical Data Packages
MIL-STD-6018	Integrated Broadcast Service (IBS) Common Message Format (CMF) Standard
MIL-STD-6020B	Data Forwarding Between Tactical Data Links

**2.2 Military Standards and Specifications - Guidance Only**

MIL-STD-1686C	Electrostatic Discharge Control Program for Protection of Electrical and Electronics Parts, Assemblies and Equipment
MIL-STD-1472F(1)	Human Engineering
MIL-STD-3018(1)	Parts Management
MIL-STD-46855A	Human Engineering Requirements for Military Systems, Equipment, and Facilities

**2.3 Federal Standard – Mandatory**

Not Applicable

**2.4 Drawings**

See Applicable Contract Data Requirements List (CDRL) items

**2.5 Handbooks - Guidance Only**

MIL-HDBK-2036	Preparation of Electronic Equipment Specifications
MIL-HDBK-237D	Electromagnetic Environmental Effects and Spectrum Supportability Guidance for the Acquisition Process
MIL-HDBK-29612/2A	Instructional Systems Development/Systems Approach to Training and Education
MIL-HDBK-502	Acquisition Logistics
MIL-HDBK-61A	Configuration Management Guidance
MIL-HDBK-759C(2)	Human Engineering Design Guidelines

**2.6 Other Government Documents**

Unless otherwise stated, the following documents may be obtained from the Document Automation and Production Service, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094 or visit <http://dodssp.daps.dla.mil>.

DOD 5200.1-R	Information Security Program Regulation
DOD 8570.01-M	Information Assurance Workforce Improvement Program
DOD CIO Memo	DoD's Migration to Use of Stronger Cryptographic Algorithms, of 14 October 2010
DODI 5200.01	DoD Information Security Program and Protection of Sensitive Compartmented Information
DODI 6055.11	Protecting Personnel from Electromagnetic Fields
DODD 8500.01E	Information Assurance
DODI 8500.2	Information Assurance Implementation

DODI 8510.01	DoD Information Assurance Certification and Accreditation Process (DIACAP)
DODI 8520.2	Public Key Infrastructure (PKI) and Public Key (PK) Enabling
DODI 8552.01	Use of Mobile Code Technologies in DoD Information Systems
DODI 8580.1	Information Assurance in the Defense Acquisition System
DODI S5230.28	Low Observable (LO) and Counter Low Observable (CLO) Programs
HSPD-12	Policies for a Common Identification Standard for Federal Employees and Contractors
MCO 1553.2B	Management of Marine Corps Formal Schools, Professional Military Education (PME) Schools and Training Detachments
NAVMC 1553.1	Systems Approach to Training Users Guide
NAVSEAINST 9310.1B	Naval Lithium Battery Safety Program
NAVSEA OP 3565, Vol. 1	Electromagnetic Radiation Hazards (Hazards to Personnel, Fuel and Other Flammable Material)
NAVSEA OP 3565, Vol. 2	Electromagnetic Radiation Hazards (Hazards to Ordnance)
NIST SP 800-147	BIOS Protection Guidelines (Copies of NIST SP 800-147 are available from National Institute of Standards and Technology 100 Bureau Drive, Stop 8900, Gaithersburg, MD 20899-8900 or visit <a href="http://www.nist.gov">www.nist.gov</a> )
OMB M-11-11	Continued Implementation of Homeland Security Presidential Directive (HSPD) 12– Policy for a Common Identification Standard for Federal Employees and Contractors
SIAP TECH REPORT	Single Integrated Air Picture (SIAP) Technical Report (Copies of SIAP Technical Report copies are available via <a href="http://www.dtic.mil">www.dtic.mil</a> )
TM S9310-AQ-SAF-010	Technical Manual for Batteries, Navy Lithium Safety Program Responsibilities and Procedures (Copies of TM S9310-AQ-SAF-010 are available from Naval Weapons Support Center, Code 3057, Building 36, Crane, IN 47522-5060)
U-DASC-PCL-00393	DASC Pocket Checklist (Copies of U-DASC-PCL-00393 are available from Marine Corps Tactical Systems Support Activity (MCTSSA), Camp Pendleton, CA 92055-5171)

## 2.7 Non-Government Documents

ANSI/EIA-748	Earned Value Management (EVM) General Provisions
ANSI-GEIA-STD-0009	Reliability Program Standard for Systems Design Development and Manufacturing
ASME Y14.24	Types and Applications of Engineering Drawings
ASME Y14.34M	Associated Lists
ASME Y14.100	Engineering Drawing Practices (Copies of ASME documents are available from <a href="http://www.asme.org">www.asme.org</a> or American Society of Mechanical Engineers Information Central Orders/Inquiries, P.O. Box 2300, Fairfield, NJ 07007-2300.)
GEIA-STD-0007	Logistics Product Data and Handbook
NIST FIPS 140-2	Security Requirements for Cryptographic Modules
NIST FIPS Pub 201-1	Personal Identity Verification of Federal Employees and Contractors PIV Standard
NIST SP 800-53	Recommended Security Controls for Federal Information Systems and Organizations
NIST SP 800-78-3	Cryptographic Algorithms and Key Sizes for Personal Identity Verification
NSTISSP No.11	National Information Assurance Acquisition Policy

<a href="#">ISO/IEC</a> 15408	International Common Criteria for Information Technology Security Evaluation
JESD625-A	Requirements for Handling Electrostatic Discharge-Sensitive (ESDS) Device (Copies of JESD625-A are available from <a href="http://www.jedec.org">www.jedec.org</a> or Joint Electron Device Engineering Council, 3103 North 10th Street, Suite 240-S, Arlington, VA 22201-2107.)
ANSI EIA-649-B	National Consensus Standard for Configuration Management (Copies of ANSI EIA-649-B are available from <a href="http://www.techamerica.org">www.techamerica.org</a> or TechAmerica, 601 Pennsylvania Avenue, NW, North Building, Suite 600, Washington, DC 2004.)
IEEE/EIA 12207.0 IEEE/EIA 12207.1	Standard for Information Technology – Software Life Cycle Processes Software Life Cycle Processes-Life Cycle Data (Copies of IEEE/EIA 12207 are available from <a href="http://www.ieee.org">www.ieee.org</a> or Institute of Electrical and Electronics Engineers Service Center, 445 Hoes Lane, Piscataway, NJ 08854-1331.)

## 2.8 FORMS

DD Form 1921	Cost Data Summary Report
DD Form 1921-1	Functional Cost-Hour Report

## 3.0 REQUIREMENTS

### 3.1 CAC2S Developmental System (CLIN 0001)

The Contractor shall provide all labor and materials necessary to design, engineer, develop, integrate, fabricate, test and deliver four (4) Information Assurance (IA) compliant Engineering Development Models (EDMs), that meet the requirements of CAC2S System, Subsystem Specification (SSS) (Attachment 1) and deliver a build to print Technical Data Package (TDP). Additionally, the contractor shall deliver spares to support Development Test (DT) and Operational Assessment (OA). All EDMs shall be utilized to collect Reliability, Availability and Maintainability (RAM) data. Additionally, the Contractor shall provide Government Purpose Rights to all data and computer software in accordance with paragraph 3.2.2.2.

The EDMS shall be delivered as follows:

#### **EDM #1 – Tactical Air Operation Center (TAOC) System Test and Integration Lab (STIL) Configuration**

- Electronics/Computing package (includes all software, operating systems, firmware, servers, switches, laptops, cables, peripherals & data radios)
- Transportability package (includes the signal entry panels)
- Operations facilities (tables only if the tables include power and data ports)

#### **EDM #2 – Full TAOC Configuration**

- Electronics/Computing package (includes all software, operating systems, firmware, servers, switches, laptops, cables, peripherals & data radios)
- Transportability package (includes the transport package and transport environmental controls during movement)
- Operations facilities (includes personnel working space (such as tents), tables, chairs, lights and power distribution unit)
- 

#### **EDM #3 – Full TAOC Configuration**

- Electronics/Computing package (includes all software, operating systems, firmware, servers, switches, laptops, cables, peripherals & data radios)
- Transportability package (includes the transport packaging, transport environmental controls during movement)
- Operations facilities (includes personnel working space (such as tents), tables, chairs , lights and power distribution unit)

**EDM #4 – Full TAOC Configuration Scalable to Tactical Air Command Center (TACC)**

- TAOC Electronics/Computing package (includes all software, operating systems, firmware, servers, switches, laptops, cables, peripherals & data radios)
- TAOC Transportability package (includes the transport package, transport environmental controls)
- TAOC Operations facilities (includes personnel working space (such as tents), tables, chairs , lights and power distribution unit)Any additional Electronics/Computing package software, operating systems, firmware, servers, laptops, cables & peripherals required to reconfigure a TAOC EDM to a TACC EDM configuration). This supports the TACC Crew Minimum System Requirements (Attachment 2).

NOTE: The Contractor is responsible for providing the full requirements of the EDMs, except in those cases where the Government has provided GFP.

**3.1.1 CAC2S Data (CLIN 0002, 0105)**

The Contractor shall provide data items in accordance with the DD1423s, Contract Data Requirements Lists (CDRLs), identified in Section J of this contract.

**3.1.2 CAC2S Limited Deployment System (Option CLIN 0101)**

If option is exercised, the Contractor shall provide all labor and materials necessary to fabricate, integrate, test, prepare associated documentation and deliver four (4) Limited Deployment Units (LDUs). The Contractor shall provide all logistics, technical and field service support, including but not limited to training, technical manuals, IA compliant operational software and spares for Operational Testing. Three (3) of these LDUs will be in the Full TAOC configuration and one (1) LDU will be in the Full TACC configuration defined in TACC Crew Minimum System Requirements (Attachment 2).

**3.1.3 CAC2S Limited Deployment System (Option CLIN 0102)**

If option is exercised, the Contractor shall provide all labor and materials necessary to fabricate, integrate, test, prepare associated documentation and deliver five (5) LDUs. Additionally, the Contractor shall provide all logistics, technical and field service support, including but not limited to training, technical manuals, IA compliant operational software, and sufficient spares to support two (2) years of fielding to operational locations. All LDUs delivered under CLIN 0102 will be delivered in the Full TAOC configuration.

**3.1.4 CAC2S Software Maintenance (Option CLIN 0103 and 0106)**

If option(s) is(are) exercised, the Contractor shall provide all labor and materials necessary to support any fielded CAC2S unique software (to include IA updates and software corrections) delivered under this contract, for a period of twelve (12) months from option exercise date. The support provided under this CLIN includes all LDUs fielded under this contract and all CAC2S Full Deployment Units (FDUs) fielded under future production contracts if the FDUs are fielded within the period of performance for this CLIN.. For the purposes of this CLIN, unique software is defined as software developed specifically for CAC2S that is not currently supported in a DoD inventory.

### **3.1.5 CAC2S Refurbishment and Spares (Option CLIN 0104)**

If option is exercised, the Contractor shall provide all labor and materials necessary to refurbish the LDUs procured under CLIN 0101 for fielding. The Contractor shall provide twenty-four (24) months of spares beginning with CLIN 0104 option exercise date, in preparation for fielding of the LDUs procured under CLIN 0101.

## **3.2 Program and Data Management (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

### **3.2.1 Program Management (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain program management practices throughout the life of this contract. Program management practices shall include but not be limited to, visibility into the Contractors' organization and techniques used in managing the program, including subcontractor and data management. The Contractor shall plan and monitor the execution of all program tasks and shall maintain regular communications to keep the Government apprised of all program issues and status. Additionally, requirements that are specified within the terms and conditions of this contract shall apply to subcontractor performance. The Contractor shall be accountable for ensuring all subcontractors are compliant with the terms and conditions of this contract. . The Contractor shall submit a Monthly Status Report (MSR) to the Government in accordance with CDRL B001.

CDRL B001, Monthly Status Report (MSR)

#### **3.2.1.1 Assignment of Responsibility and Authority (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall identify the organizational elements responsible for the conduct of the activities required under this contract. Responsibilities shall be assigned and clear lines of authority defined for determining and controlling the resources necessary to deliver the requirements of this contract. The Contractor shall notify the Contracting Officer of any substitution of Key Personnel in accordance with the Key Personnel clause of this contract.

#### **3.2.1.2 Post Award Conference (CLINs 0001 and 0002)**

The Contractor shall host a Post Award Conference (PAC) at the Contractor's facility no later than 14 calendar days after contract award. The purpose of the PAC is to achieve a clear and mutual understanding of all contract requirements and identify and resolve potential problems. As part of the PAC, the Contractor shall introduce key personnel and present program implementation processes to be utilized under this contract.

CDRL B002, Meeting Minutes

#### **3.2.1.3 Monthly Contract Reviews (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall host a Monthly Contract Review (MCR), via telephone conference call, to allow the Government to assess the efforts being performed under this contract in support of the CAC2S program. The MCR will be held the second Tuesday of each month unless agreed to in advance by the Government. The Contractor is required to provide all conference dial in information for the MCR. This MCR shall include, but not be limited to, review of all contract issues, both open and new, related to the execution of the contract and other issues having direct impact on cost, schedule, and performance.

CDRL B002, Meeting Minutes

#### **3.2.1.4 Meetings, Formal Reviews, Conferences, and Audits (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall plan, host, attend, coordinate, support and conduct meetings, formal reviews, conferences, and audits (hereinafter called "reviews") in conjunction with the Government. These reviews shall consist of, as a minimum, In Process Reviews (IPRs), Integrated Baseline Review (IBR), Systems Engineering Technical Reviews, Logistics Reviews (e.g. Provisioning, Training, ILS) and others as defined in this contract. The reviews will be conducted at Contractor and/or Government facilities. Reviews requiring demonstration and/or examination of equipment will be conducted at a Government approved location. All reviews under this contract shall be included in the program IMS. Multiple reviews may be held concurrently with the Government's advance written approval. The Contractor shall prepare agendas in accordance with CDRL B003. The Contractor shall prepare briefing materials and minutes in accordance with CDRLs B002 and B004. The Government reserves the right to cancel any review or require additional reviews be scheduled at critical points during the performance of this contract. Action item documentation, including assignment of responsibility and due dates, shall be established prior to adjournment of all reviews and included as part of the review minutes.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material

#### **3.2.1.5 In-Process Review (CLINs 0001, 0002, 0104, 0105 and 0106)**

In Process Reviews (IPR) shall be held quarterly, or as required, at dates and locations agreed to in advance by the Government. The Government reserves the unilateral right to cancel or postpone any IPR for any reason. The initial IPR shall be conducted at the Contractor's facility and held no earlier than 70 calendar days after the PAC and no later than 100 calendar days after contract award. Subsequent IPRs are anticipated to be conducted equally between the Contractor's facility and the Government's location at or near Quantico, Virginia. Areas addressed at the IPR shall include, but are not limited to, Cost Schedule and Performance in accordance with the agenda agreed to in advance by the Government. Additionally, outstanding management issues, risk (cost, performance and schedule) identification and resolutions, IA compliance, actual versus expected performance of each area and Integrated Product Team results shall be addressed. The Contractor shall prepare briefing materials which provide an overview of all agenda items. The Contractor shall provide an agenda, briefing materials, and written minutes for each IPR in accordance with CDRLs B002, B003, and B004.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material

#### **3.2.1.6 Integrated Product Teams (IPT) (CLINs 0001, 0002, 0104, 0105 and 0106)**

The Contractor shall participate in the Government established IPT process as described in the CAC2S System Engineering Plan (SEP) (Attachment 3). The Contractor shall participate in all nine IPTs identified in the SEP. Each IPT shall be held quarterly. The Contractor shall host no more than two (2) IPT meetings (per IPT) a year at their facility. The remaining 2 IPT meetings (per IPT) shall be held at the Government's location at or near Quantico, Virginia. To the greatest extent possible, individual IPT meetings shall be aligned with the conduct of IPRs, to enable IPTs to out brief activities and results during IPRs. For each IPT meeting, the Contractor shall assist the Government in developing an agenda and producing minutes. The Contractor shall provide briefing material, as required, to support the IPT meetings in accordance with CDRL B004. Additionally, the Contractor shall respond to action items, as required.

CDRL B004, Briefing Material

**3.2.1.7 Integrated Master Plan (IMP) and Integrated Master Schedule (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall maintain and deliver a contract level IMP and a contract level IMS for all efforts to be performed under this contract. The contract IMP and IMS shall be provided to the Government for review and approval in accordance with the CDRLs B005 and B006. The IMP and IMS submitted with the contractor's proposal will serve as the initial Performance Measurement Baseline (PMB) – any required updates will be made to this initial version. The contract IMS shall meet the below requirements:

Define all tasks required to execute the Government-approved Contract IMP.

Define all internal and external schedule dependencies and resources (hours and material dollars) necessary to execute the Contract IMS.

Define the program's critical path and near-critical paths to the closest major acquisition milestone, each key system-level technical review, and other high risk items as identified by the Government.

Include Contractor Tasks required to accomplish each IMP Event and relevant subcontractor scheduled milestones necessary to the achievement of each Contract IMS event.

Include all CDRL deliveries and events as defined by the IMP.

Provide all necessary data for development of the monthly EVMS reviews.

Be vertically traceable to the IMP, the Contract Work Breakdown Structure, and the Statement of Work contained in this contract.

The Government must approve in advance all changes to the baseline IMP and IMS.

CDRL B005, IMP

CDRL B006, IMS

**3.2.1.8 Risk Management (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

For the life of this contract, the Contractor shall maintain a risk management program in accordance with the Contractors' Risk Management Plan (RMP), delivered as part of the proposal. The contractor will participate in the Government's risk program as described in the CAC2S Risk Management Plan (Attachment 4), including the CAC2S monthly Risk Review Team (RRT) and quarterly Risk Management Board (RMB). The Contractor shall input their identified risks (cost, schedule and performance) into the Government Risk Exchange database to support the RRT and RMB. The Government will provide the Contractor's risk management team appropriate access to the Government Risk Exchange database.

**3.2.1.9 Contractor Performance Measurement (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)****3.2.1.9.1 Contract Work Breakdown Structure (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall maintain and deliver the Contract Work Breakdown Structure (CWBS) and dictionary in accordance with CDRL B007, using the WBS structure contained in the Cost and Software Data Reporting (CSDR) Plan (Attachment 5). The Contractor shall extend the CWBS to the appropriate level required to provide adequate internal management, surveillance, and performance measurement, regardless of the reporting level stipulated in the contract for Government visibility. The Contractor shall use the CWBS as the primary framework for contract planning, budgeting, and reporting the status of cost, schedule and technical performance to the Government. Changes to the CWBS or associated definitions at any reporting level shall require advance written approval of the Government.

CDRL B007, Contract Work Breakdown Structure

**3.2.1.9.2 Performance Measurement System (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall utilize their existing, internal performance management system to plan, schedule, budget, monitor, manage, and report cost, schedule, and technical status/updates applicable to the contract. The Contractor's internal performance management system shall serve as the single, formal, integrated system that meets both the Contractor's internal management requirements and the requirements of the Government for timely, reliable, and auditable performance information. The Contractor's system shall comply with ANSI/EIA-748 and all terms and conditions of this contract, including the Statement of Work.

The Contractor shall maintain and use an Earned Value Management (EVM) system which:

- Relates time-phased budgets to specific actions required to perform this contract.
- Indicates work progress.
- Properly relates cost, schedule and technical accomplishments to the established performance baseline.
- Enables planning and controlling costs and schedules.
- Is fully integrated with the Contractor's IMP and IMS at the event/accomplishment/criteria/work package level.
- Is based on the WBS specified in the CAC2S Contract Cost and Software Data Reporting (CSDR) Plan (Attachment 5).

#### **3.2.1.9.2.1 Application To Subcontractors (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall flow-down EVM requirements to subcontractors as follows:

Those subcontractors with an individual contract value at or greater than \$50M shall have an EVM System that has been formally validated by Defense Contract Management Agency (DCMA) and accepted by the Procuring Contracting Officer (PCO).

Those subcontractors with an individual contract value at or greater than \$20M shall be required to submit CPRs and an Integrated Master Schedule (IMS) to the prime Contractor.

The Contractor shall integrate cost, schedule and technical performance information reported by the subcontractors into the Contractor's EVMS system. The Contractor shall be responsible for reviewing and assuring the validity of all subcontractor reports.

#### **3.2.1.9.2.2 Integrated Baseline Review (IBR) (CLIN 0001 and 0002)**

An IBR shall be held at the Contractor's facility no later than 180 calendar days after contract award. The purpose of this review is for the Contractor to formally present to the Government the PMB, which identifies key milestones and supporting schedules; to show that resources are adequate and available for contractual tasks; to demonstrate that required tasks are adequately planned and can be objectively measured; to detail the Contractor's program implementation processes, including EVMS. Participation in the IBR will include representatives from the Government and the Contractor. The Contractor shall flow-down the IBR requirements to those subcontractors that meet the applicable thresholds for EVM reporting.

CDRL B002, Meeting Minutes

CDRL B003, Meeting Agenda

CDRL B004, Briefing Material

#### **3.2.1.9.3 Over Target Baseline (OTB)/Restructuring Action (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor may conclude that existing approved baselines no longer represent a realistic plan in terms of budget/schedule execution. In the event the Contractor realizes an OTB/restructuring action is necessary, the Contractor shall prepare and submit a request to the Contracting Officer outlining the requested OTB/Restructuring

action. The request should also include detailed implementation procedures as well as an implementation timeframe for the requested OTB/Restructuring action. The Contractor shall not implement the OTB/restructuring action prior to receiving written approval from the Contracting Officer.

#### **3.2.1.9.4 Integrated Program Management Reporting (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall report EVM data under this contract in accordance with the requirements stated within the contract and the Contract Performance Report (CPR). All reporting shall correspond to applicable CWBS elements. The CPR shall be submitted in accordance with CDRL B008.

The Contractor shall provide the Government electronic access to the EVMS system information and supporting documentation upon submittal of the CPR to the Government. The Contractor shall include complete data, in a format compatible with WinSight Software as a part of each report. Retroactive changes to records pertaining to work performed that would change previously reported amounts for direct costs, or budgets, except for correction of errors and routine accounting adjustments, shall be prohibited.

The Contractor shall reconcile the cost/schedule data elements in the Contract Funds Status Report (CFSR) submitted under CDRL B009 with the CPR when these documents are submitted in the same month. The Contractor shall provide a reconciliation of the CFSR with CPR as an addendum to the CPR. The CFSR shall be submitted in accordance with CDRL B009.

CDRL B008, Contract Performance Report (CPR)  
CDRL B009, Contract Funds Status Report (CFSR)

#### **3.2.1.9.4.1 Contractor Cost Data Reporting (CCDR) and Functional Cost-Hour Report (FCHR) (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall systematically collect and report actual contract costs to provide DoD cost analysts with needed data to estimate future costs of Government programs. The Contractor shall provide CCDRs and FCHRs in accordance with the approved Contract CSDR Plan (Attachment 5) and deliver in accordance with CDRLs B010 and B011. Each CCDR and FCHR will include cost estimates on DD Forms 1921 and 1921-1 respectively, as required by the Contract CSDR Plan, using the CWBS dictionary.

The Contractor shall flow down CCDR requirements to any subcontract valued at over \$50 million or any subcontracts valued between \$7 million and \$50 million that are designated by the Government as being high risk, high value, or of high technical interest.

CDRL B0010, Contractor Cost Data Reporting (CCDR) (DD Form 1921)  
CDRL B011, Functional Cost-Hour Report (FCHR) (DD Form 1921-1)

#### **3.2.1.9.4.2 Software Resources Data Reporting (SRDR) (CLINs 0001, 0002, 0104, 0105 and 0106)**

The Contractor shall submit the completed SRDR Initial Developer Report for the entire software product, and after initiation of each software release or build in accordance with CDRL B012. The Contractor shall submit a completed SRDR Final Developer Report of each delivered software release in accordance with CDRL B013. The Contractor shall submit a completed SRDR Final Developer Report for the entire software product delivery of the final software element in accordance with CDRL B013.

CDRL B012, Software Resources Data Reporting (SRDR): Initial Developers Report and Data Dictionary  
CDRL B013, Software Resources Data Reporting (SRDR): Final Developers Report and Data Dictionary

**3.2.1.10 Government Furnished Property (GFP) (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

GFP consists of the Government Furnished Equipment and Government Furnish Information identified in Attachment 6 of this contract. As part of the Monthly Status Report delivered under CDRL B001, the Contractor shall update the Government on all received, held and returned GFP. In accordance with the GFP clause of this contract, the Contractor shall inspect and inventory all GFP received and identify and report any discrepancies/deficiencies to the Government. Any changes to the status of GFP shall be updated in the Monthly Status Report.

CDRL B0001, Monthly Status Report

**3.2.2 Data Management (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain a single, centralized, unclassified Data Management System (DMS) for management of all data to include, but not limited to, all necessary technical data (e.g. requirements, specifications, drawings (conceptual design, developmental design, product), engineering notebooks, parts lists, etc), management plans and updates thereto, and historical archives and updates of minutes of meetings and reviews. Tracking of Action Items resulting from various program reviews, IPRs and IPT meetings shall be accomplished and displayed in the DMS. The Contractor, in developing information that will be furnished to the Government, shall make the maximum use of existing data and provide maximum multiple use of technical information. Specific data management functions shall include schedule control for deliverables, maintenance of deliverables, approval of deliverable format, and distribution of data products. The DMS shall also serve as the Data Accession List to be delivered in accordance with CDRL B014. The system shall include facilities for storage of all data developed or utilized for this contract, and shall provide equal access to data by the Government. The DMS shall use Microsoft® Office or compatible products unless agreed to in advance by the Government. The Contractor shall ensure all data is centrally available with Government access for review via an Integrated Data Environment (IDE). The Government reserves the right to review all data associated with and developed for the CAC2S program under this contract.

Classified material will be transmitted via one hard copy and one CD/DVD to MCSC Classified mailing address. Prior to shipping of classified material, the Contractor will coordinate with the Contracting Officer Representative (COR) to identify the associated Government POC. After shipping of classified material, the associated tracking number will be forwarded to the COR

CDRL B014, Data Accession List

**3.2.2.1 Integrated Data Environment (IDE) (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain a secure IDE for hosting all data used on or produced in support of this contract, including cost, schedule, and technical data and deliverables. All data deliveries, unless specifically agreed to in advance by the Contracting Officer, shall be delivered via the IDE. The purpose of the IDE is to create a seamless, collaborative data environment for the Contractor and Government team which contains all pertinent data about the project throughout its development and delivery. This data management program, including IDE structure, format, processes, and procedures, shall be documented as part of the contract Data Management Plan provided at contract award and incorporated by reference herein. The Contractor shall provide the Government team access to all data listed in the DAL by actively using the IDE. The DAL shall contain the list of all data generated in support of this contract. Deliveries of data in addition to the IDE shall be as indicated in the CDRL attachment. Data shall be protected in accordance with the appropriate Program Protection Plans and Information Assurance guidelines. The Government reserves the right to witness all Contractor efforts to accomplish the SOW requirements and maintains the right to comment on processes.

**3.2.2.1.1 Government Work Area (CLIN 0001, 0101, 0102, 0103, 0104 and 0106)**

The Contractor shall provide a separate room at the Contractor's facility to accommodate four (4) Government (non-DCMA) individuals. The room shall have one (1) telephone line capable of conference calling, must be lockable, and shall have internet access to accommodate 4 individual hookups.

### **3.2.2.2 Data Rights (CLIN 0001)**

In accordance with the DFARs clauses 252.227-7013 (Rights in Technical Data—Non Commercial Items) and 252.227-7014 (Rights in Noncommercial Computer Software and Noncommercial Computer Documentation), the Contractor shall provide at a minimum, Government purpose rights for all Contractor developed hardware, all Contractor developed software including documentation and the TDP delivered under this contract. Under CLIN 0001, the Contractor shall provide Government purpose rights for tactical components/interfaces developed prior to this contract that the Contractor claims rights to and were produced utilizing Contractor funded development included in the final CAC2S solution. The Government does not intend to procure Government purpose rights for any commercial software or hardware.

(b) (4)

### **3.2.3 Requests For Information (CLIN 0001 and 0002)**

From time to time, the Government may request the Contractor provide a technical analysis on a specific subject item or issue, including estimated costs, if included in the official request. The official request will include in detail the specific technical analysis requested, any requested estimated cost estimates, and requested delivery date of the analysis. Once the Contractor receives the official request from the Government, the Contractor shall develop and deliver a technical report providing in-depth analysis of the subject item. These technical reports shall be delivered as white papers and briefing packages. Each technical report shall provide the technical viability of the subject item and how the subject item impacts the CAC2S, or for potential new/changes to requirements, how the subject item could be integrated into CAC2S. It is anticipated that these technical analyses will be requested no more than 20 times throughout the life of this contract and each analysis effort will not exceed a total of 360 hours to complete. The PCO is the only Government official authorized to request a technical analysis under these CLINs.

CDRL B004, Briefing Material  
CDRL B015, Requests For Information

### **3.2.4 Documents Incorporated By Reference (CLIN 0001)**

Upon award of this contract, the following documents, that were included in the Contractor's proposal, shall be accepted by the Government and incorporated by reference into the contract: Systems Engineering Management Plan, Open Architecture Assessment, Software Development Plan, Reliability, Availability, Maintainability Program Plan, Integrated Support Plan, ESOH Program Plan, Quality Assurance Program Plan, Configuration Program Plan, Information Assurance Plan, Parts Management/DMSMS Management Plan, Program Management Plan, Data Management Plan, Subcontracting Plan, and Risk Management Plan. Any required updates under this contract, shall be made against these documents.

### **3.3 Systems Engineering (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain systems engineering practices in accordance with the Contractors' Systems Engineering Management Plan (SEMP) throughout the life of this contract. The Contractor shall utilize the CAC2S System Engineering Plan (SEP) (Attachment 3) to establish engineering policies and procedures in the SEM. The system engineering practices shall provide visibility into the Contractors' organization and techniques used in providing systems engineering throughout the development, integration, testing, and delivery of the CAC2S

under this contract. The Contractor shall plan and monitor the execution of all systems engineering tasks and shall maintain regular communications to keep the Government apprised of all systems engineering issues and status. The Contractor's SEMP shall flow down to all subcontractors. The Contractor shall be accountable for subcontractors' compliance with the SEMP and is responsible for ensuring all deliverable products comply with the terms and conditions of this contract. The SEMP shall be maintained and updated, as required, to support program acquisition milestones in accordance with CDRL A001. As stated in paragraph 3.2.4 above, the SEMP, submitted as part of the contractor's proposal, is accepted at contract award and forms the baseline for which any updates shall be made.

CDRL A001, Systems Engineering Management Plan (SEMP)

### **3.3.1 Open Systems Design (CLINs 0001 and 0002)**

The Contractor shall define, document, and follow an open systems approach for using modular design, standards-based interfaces, widely-supported consensus-based standards and commercial best practices. The Contractor shall update, maintain, and deliver an Open Systems Management Plan (OSMP) as a subsection of the Contractor's SEMP (CDRL A001) which shall address the cost/risk analysis of individual open interfaces and shall demonstrate compliance with this plan during all technical design reviews.

CDRL A001, Systems Engineering Management Plan (SEMP)

#### **3.3.1.1 Open Architecture Assessment (CLINs 0001 and 0002)**

The Contractor shall perform an Open Architecture Assessment of the system architecture using the Navy's Open Architecture Assessment Tool, and deliver in accordance with CDRL A002. For Open Architecture Assessment Tool (OAAT) information access the Defense Acquisition University (DAU) Web site located at <https://acc.dau.mil/CommunityBrowser.aspx?id=121180>.

CDRL A002, Open Architecture Assessment

#### **3.3.1.2 Treatment of Proprietary or Vendor-Unique Elements (CLINs 0001 and 0002)**

If, after award of this contract and prior to Government acceptance of the design, the Contractor requests the use of proprietary elements in the design, the Contractor shall prepare and deliver a Contractor Technical Study/Business Case Analysis (BCA) (CDRL A003) demonstrating to the Government that the use of proprietary elements proposed do not preclude or hinder other component or module developers from interfacing with or otherwise developing, replacing, or upgrading open parts of the system. All proprietary or vendor-unique elements that become part of the design require advance written approval of the Government. The Contractor shall deliver the BCA in accordance with CDRL A003. After the Government accepts the contractor's design at CDR, all requests for changes to the CAC2S design shall be submitted in accordance with the CAC2S Configuration Management Plan (CMP) (Attachment 24).

CDRL A003, Contractor Technical Study/Business Case Analysis (BCA)

#### **3.3.1.3 Design Information (CLINs 0001 and 0002)**

The Contractor shall provide a System Subsystem Design Description in support of CDR documenting and modeling the system or component (e.g., software, hardware, middleware) design information using industry standard formats, (e.g., Unified Modeling Language), and use tools that are capable of exporting model information in a standard format (e.g., Extensible Markup Language Metadata Interchange and AP233/International Standards Organization 10303). The Contractor shall maintain the design information, including models used, so that it is

current with the as-built system. The Contractor's design shall be compliant with Government approved architectures identified in Attachment 7. The Contractor shall deliver a System Subsystem Design Description in accordance with CDRL A004.

CDRL A004, System Subsystem Design Description (SSDD)

### **3.3.2 Technical Reviews**

#### **3.3.2.1 Requirements Validation Review (CLINs 0001 and 0002)**

The Contractor shall host at their facility, a Requirements Validation Review (RVR) no later than 60 calendar days after contract award. The RVR shall be conducted in accordance with the CAC2S Critical Design Review (CDR) Technical Review Action Plan (TRAP) (Attachment 8).

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material

During the RVR, the Contractor shall provide evidence that the Contractor fully understands the PDS/SDS subsystem requirements from the CAC2S Subsystem System Specification (SSS) (Attachment 1) and the Requirements Traceability Matrix (Attachment 9). The Contractor shall deliver a PDS/SDS Requirements Traceability Matrix and a System Subsystem Design Description (SSDD) in accordance with the below listed CDRLs. The Requirements Traceability Matrix (RTM) shall show the traceability between requirements listed in the CAC2S System/Subsystem Specification (SSS) (Attachment 1) and the CAC2S Increment I Capabilities Production Document (CPD) (Attachments 10 and 11), with emphasis on Key Performance Parameters (KPPs), Key System Attributes (KSAs), and Critical Technical Parameters (CTPs) through the design, build, test, and verification phases of development. The RTM shall identify how all SSS requirements will be assessed/verified and the associated test information. The RTM shall be used for the development of the Evaluation Framework Matrix in the Test and Evaluation Master Plan (TEMP). The following CDRLs shall be reviewed at the RVR:

CDRL A001, Systems Engineering Management Plan (SEMP) (Update only if required)  
CDRL A004, System Subsystem Design Description (SSDD)  
CDRL A005, Requirements Traceability Matrix  
CDRL A011, Software Development Plan (SDP)  
CDRL A039, FMECA Report  
CDRL D001, Integrated Support Plan (ISP)  
CDRL F002, Critical Training Tasks List

#### **3.3.2.2 Functional Allocation/Architecture Validation Review (CLINs 0001 and 0002)**

The Contractor shall host at their facility, a Functional Allocation/Architecture Validation Review no later than 150 calendar days after contract award. The Functional Allocation/Architecture Validation Review shall be conducted in accordance with the CAC2S Critical Design Review (CDR) TRAP (Attachment 8).

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material

The following CDRLs shall be reviewed at the Functional Allocation/Architecture Validation Review:

CDRL A001, Systems Engineering Management Plan (SEMP) (update only if required)  
 CDRL A004, System Subsystem Design Description (SSDD)  
 CDRL A005, Requirements Traceability Matrix  
 CDRL A006, System Views and Technical Views  
 CDRL A007, Software Requirements Specification (SRS)  
 CDRL A008, Interface Requirements Specification (IRS)  
 CDRL A009, Software Design Description (SDD)  
 CDRL A010, Software Build Plan  
 CDRL A011, Software Development Plan (SDP)  
 CDRL A012, Critical Technology Analysis Report  
 CDRL A039, FMECA Report  
 CDRL A076, Supportability Analysis  
 CDRL D001, Integrated Support Plan (ISP)  
 CDRL F001, Training Program Plan  
 CDRL F002, Critical Training Tasks List  
 CDRL F003, Learning Analysis Report (LAR)  
 CDRL F004, Instructional Media Requirements Analysis

### 3.3.2.3 Pre-CDR Status Review (CLINs 0001 and 0002)

The Pre-CDR Status Review shall be conducted in accordance with the CAC2S CDR TRAP (Attachment 8). The Pre-CDR Status Review shall be held at the Contractor's facility no later than 240 calendar days after contract award. The Contractor shall conduct an engineering analysis that demonstrates how the Contractor's hardware and software designs will meet performance requirements identified within the SSS and System Design Specification (SDS), J Attachment (35). The Contractor shall provide the status of all the CAC2S PDS/SDS artifacts that are required to meet the success criteria of the CAC2S CDR within the CAC2S CDR TRAP. Additionally, the Contractor shall identify all issues, concerns, risks, etc., that may impact the ability to meet the contracted CDR.

CDRL B002, Meeting Minutes  
 CDRL B003, Meeting Agenda  
 CDRL B004, Briefing Material

The Contractor shall deliver an allocated baseline package in accordance with CDRL A013. The allocated baseline shall be supplemented by specifications, drawings, and related data as necessary to specify: (1) the essential Configuration Item (CI) functional characteristics, as allocated from higher-level CI; (2) external and internal interface requirements for each CI; (3) physical characteristics necessary to ensure compatibility with associated systems and CI's; and (4) constraints on the design of a CI, including Government Furnished Equipment (GFE) employed, envelope dimensions, component standardization and ILS requirements. Government approval shall be required prior to making changes to the allocated baseline. If the solution delivered under this contract includes the use of the HMMWV, the contractor shall also provide detailed HMMWV vehicle design information, including information on integrated (transportability configuration) weight/payload, weight distribution, interface design drawings, and center of gravity calculations. The following CDRLs shall be reviewed at the Pre-CDR Status Review:

CDRL A001, Systems Engineering Management Plan (SEMP) (Update only if required)  
 CDRL A004, System Subsystem Design Description (SSDD)  
 CDRL A005, Requirements Traceability Matrix  
 CDRL A006, System Views and Technical Views  
 CDRL A010, Software Build Plan  
 CDRL A011, Software Development Plan (SDP)  
 CDRL A013, Allocated Baseline Package  
 CDRL A014, Internal Interface Design Description  
 CDRL A015, Human Engineering Design Approach Document (HEDAD) – Operator

CDRL A016, Human Engineering Design Approach Document (HEDAD) – Maintainer  
 CDRL A017, Technical Performance Measures (TPM) Plan  
 CDRL A018, Corrosion Prevention and Control Compliance Report  
 CDRL A019, Test Program Plan (TPP)  
 CDRL A020, Reliability Availability, Maintainability Program Plan  
 CDRL A021, DX/DR Data Recording, Extraction, Reduction Data Definitions /  
 Recording  
 CDRL A022, Technical Data Package  
 CDRL A033, Reliability Block Diagram  
 CDRL A034, Fault Tree Analysis  
 CDRL A036, Reliability Prediction Report  
 CDRL A039, FMECA Report  
 CDRL A075, Energy Conservation Program Report  
 CDRL A076, Supportability Analysis  
 CDRL D001, Integrated Support Plan (ISP)  
 CDRL D002, Level of Repair Analysis  
 CDRL E003, Technical Manual Validation Plan  
 CDRL F001, Training Program Plan  
 CDRL F002, Critical Training Tasks List  
 CDRL F003, Learning Analysis Report (LAR)  
 CDRL F004, Instructional Media Requirements Analysis

#### **3.3.2.4 Pre-CDR Validation Review (CLINs 0001 and 0002)**

The Pre-CDR Validation Review shall be conducted in accordance with the Critical Design Review (CDR) TRAP (Attachment 8). The Pre-CDR Validation Review shall be held at the Contractor's facility no later than 300 calendar days after contract award.

CDRL B002, Meeting Minutes  
 CDRL B003, Meeting Agenda  
 CDRL B004, Briefing Material

The following CDRLs shall be reviewed at the Pre-CDR Validation Review:

CDRL A001, Systems Engineering Management Plan (SEMP) (Update only if required)  
 CDRL A002, Open Architecture Assessment  
 CDRL A003, Contractor Technical Study/Business Case Analysis (BCA) (If required)  
 CDRL A004, System Subsystem Design Description (SSDD)  
 CDRL A005, Requirements Traceability Matrix  
 CDRL A006, System Views and Technical Views  
 CDRL A007, Software Requirements Specification (SRS)  
 CDRL A008, Interface Requirements Specification (IRS)  
 CDRL A009, Software Design Description (SDD)  
 CDRL A010, Software Build Plan  
 CDRL A011, Software Development Plan (SDP)  
 CDRL A013, Allocated Baseline Package  
 CDRL A014, Internal Interface Design Description  
 CDRL A015, Human Engineering Design Approach Document (HEDAD) – Operator  
 CDRL A016, Human Engineering Design Approach Document (HEDAD) – Maintainer  
 CDRL A017, Technical Performance Measures (TPM) Plan  
 CDRL A018, Corrosion Prevention and Control Compliance Report  
 CDRL A019, Test Program Plan (TPP)  
 CDRL A020, Reliability Availability, Maintainability Program Plan

CDRL A021, DX/DR Data Recording, Extraction, Reduction Data  
     Definitions/Recording  
 CDRL A022, Technical Data Package  
 CDRL A023, Producibility Analyses Report  
 CDRL A032, Hardware Requirements Specification  
 CDRL A033, Reliability Block Diagram  
 CDRL A034, Fault Tree Analysis  
 CDRL A036, Reliability Prediction Report  
 CDRL A039, FMECA Report  
 CDRL A040, Safety Assessment Report (SAR)  
 CDRL A041, System Safety Hazard Analysis (SSHA) Report  
 CDRL A042, Operating and Support Hazard Analysis (O&SHA) Report  
 CDRL A043, Health Hazard Assessment Report (HHAR)  
 CDRL A045, Subsystem Hazard Analysis Report  
 CDRL A046, Hazardous Materials Management Program (HMMP) Report  
 CDRL A071, Security Technical Implementation Guides (STIGs) Report  
 CDRL A075, Energy Conservation Program Report  
 CDRL A076, Supportability Analysis  
 CDRL D001, Integrated Support Plan (ISP)  
 CDRL D002, Level of Repair Analysis  
 CDRL E003, Technical Manual Validation Plan  
 CDRL F001, Training Program Plan  
 CDRL F002, Critical Training Tasks List  
 CDRL F003, Learning Analysis Report (LAR)  
 CDRL F004, Instructional Media Requirements Analysis

### 3.3.2.5 Critical Design Review (CLINs 0001 and 0002)

The CDR shall be conducted in accordance with the CDR TRAP (Attachment 8). The CDR shall be held at the Contractor's facility no later than 360 calendar days after contract award. The Contractor shall present a final design that meets the performance requirements of CAC2S Increment I and presents the methods used to verify and validate the design.

CDRL B002, Meeting Minutes  
 CDRL B003, Meeting Agenda  
 CDRL B004, Briefing Material

The following CDRLs shall be reviewed at the CDR:

CDRL A001, Systems Engineering Management Plan (SEMP) (Update only if required)  
 CDRL A003, Contractor Technical Study/Business Case Analysis (BCA) (If required)  
 CDRL A004, System Subsystem Design Description (SSDD)  
 CDRL A005, Requirements Traceability Matrix  
 CDRL A006, System Views and Technical Views  
 CDRL A007, Software Requirements Specification (SRS)  
 CDRL A008, Interface Requirements Specification (IRS)  
 CDRL A009, Software Design Description (SDD)  
 CDRL A010, Software Build Plan  
 CDRL A011, Software Development Plan (SDP)  
 CDRL A013, Allocated Baseline Package  
 CDRL A014, Internal Interface Design Description  
 CDRL A015, Human Engineering Design Approach Document (HEDAD) – Operator  
 CDRL A016, Human Engineering Design Approach Document (HEDAD) – Maintainer

CDRL A017, Technical Performance Measures (TPM) Plan  
 CDRL A018, Corrosion Prevention and Control Compliance Report  
 CDRL A019, Test Program Plan (TPP)  
 CDRL A020, Reliability Availability, Maintainability Program Plan  
 CDRL A021, DX/DR Data Recording, Extraction, Reduction Data  
     Definitions/Recording  
 CDRL A022, Technical Data Package  
 CDRL A023, Producibility Analyses Report  
 CDRL A032, Hardware Requirements Specification  
 CDRL A033, Reliability Block Diagram  
 CDRL A034, Fault Tree Analysis  
 CDRL A036, Reliability Prediction Report  
 CDRL A039, FMECA Report  
 CDRL A040, Safety Assessment Report (SAR)  
 CDRL A041, System Safety Hazard Analysis (SSHA) Report  
 CDRL A042, Operating and Support Hazard Analysis (O&SHA) Report  
 CDRL A043, Health Hazard Assessment Report (HHAR)  
 CDRL A045, Subsystem Hazard Analysis Report  
 CDRL A046, Hazardous Materials Management Program (HMMP) Report  
 CDRL A075, Energy Conservation Program Report  
 CDRL A076, Supportability Analysis  
 CDRL D001, Integrated Support Plan (ISP)  
 CDRL D002, Level of Repair Analysis  
 CDRL E003, Technical Manual Validation Plan  
 CDRL F001, Training Program Plan  
 CDRL F002, Critical Training Tasks List  
 CDRL F003, Learning Analysis Report (LAR)  
 CDRL F004, Instructional Media Requirements Analysis

### **3.3.2.6 Functional Configuration Audit (CLINs 0001 and 0002)**

The Contractor shall participate in the Government-performed Functional Configuration Audit (FCA) after the completion of Developmental Test (DT)/Operational Assessment (OA) with the Government chairing the audit. If requested by the Government, the Contractor shall prepare briefing materials and assist the Government in preparing minutes. The FCA will be accomplished at the Contractor's facility and at a time mutually agreed to. The FCA is a multi-disciplined product and process assessment to ensure that CAC2S Increment I can proceed into Limited Deployment Unit Production within cost, schedule, risk, and other system constraints. The Contractor shall prepare and submit a Configuration Audit Summary Report (Functional) in accordance with CDRL A024 and an Item Unique Identification (IUID) Bar Code Identification Report in accordance with CDRL A074.

CDRL A022, Technical Data Package  
 CDRL A024, Configuration Audit Summary Report (Functional)  
 CDRL A074, Item Unique Identification (IUID) Bar Code Identification Report  
 CDRL B004, Briefing Material

### **3.3.2.7 Assembly Review (CLINs 0101, 0102 and 0105)**

The Assembly Review (AR) shall be performed after completion of the FCA to formally evaluate the Contractor's production readiness to produce Limited Deployment Units (LDUs). The AR shall identify existing or projected manufacturing problems and areas of risk. The Contractor shall demonstrate progress in the following areas: (1) attaining the program's production goals, (2) resolving manufacturing problems (or that a plan for their resolution, acceptable to the Government, has been developed), and (3) mitigating all production risks. The Contractor shall

show that the system design has included those key production factors (e.g., least cost, minimum time, manufacturing simplicity/flexibility, resource availability) necessary to assure the system can be acquired on schedule. The Assembly Review date shall be Contractor-proposed, Government-approved, and incorporated into the program schedule. The Contractor shall prepare an Assembly Plan in accordance with CDRL A025.

- CDRL A025, Assembly Plan
- CDRL A065, Tempest Control Plan
- CDRL A066, Tempest Test Plan
- CDRL A068, Tempest Test Procedures
- CDRL A070, Test Procedure (HERP, HERF, HERO)
- CDRL B002, Meeting Minutes
- CDRL B003, Meeting Agenda
- CDRL B004, Briefing Material

The following CDRLs shall be reviewed at the AR:

- CDRL A023, Producibility Analysis Report
- CDRL A060, Factory Acceptance Test (FAT) Procedures

### **3.3.2.8 Physical Configuration Audit (CLINs 0101 and 0105)**

The Physical Configuration Audit (PCA) shall be performed after IOT&E to verify CAC2S Increment I and its configuration items (CIs) are accurate, complete, compatible, and that the CIs have achieved the performance and functional characteristics defined in the functional configuration baseline. The Government and the Contractor shall conduct the PCA jointly, at the Contractor's facility and at a mutually agreed to time, with the Government chairing the audit. The PCA shall verify that the drawings delivered under CDRL A022 reflect the "as-built" configuration of all newly developed or modified portions of the system; accurate form, fit, function information is provided on control drawings for non-developmental/ commercial off-the-shelf items; and confirm the drawings accurately represent the "as-built" production configuration. The Contractor shall document the results of the PCA in accordance with CDRL A026.

- CDRL A022, Technical Data Package
- CDRL A026, Configuration Audit Summary Report (Physical)

### **3.3.3 Software (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall define a software development approach appropriate for the computer software effort to be performed under this contract. This approach shall be documented in a Software Development Plan (SDP) in accordance with CDRL A011. The Contractor shall follow this SDP for all computer software to be developed and maintained under this effort. The SDP submitted with the contractor's proposal, is baselined at contract award.

The SDP shall define the Contractor's proposed life cycle model and the processes used as a part of the model. In this context, the term "life cycle model" is defined in IEEE/EIA Std. 12207.0. The SDP shall describe the overall life cycle and shall include primary, supporting, and organizational processes based on the work content of this Statement of Work. In accordance with the framework defined in IEEE/EIA Std. 12207.0, the SDP shall define the processes, the activities to be performed as a part of the processes, the tasks which support the activities, and the techniques and tools to be used in performing the tasks. The SDP shall contain the information defined by IEEE/EIA Std. 12207.1, section 5.2.1 (generic content) and the Plans or Procedures in Table 1 of IEEE/EIA Std. 12207.1. In all cases, the level of detail shall be sufficient to define all software development processes, activities, and tasks to be conducted. Information provided must include, at a minimum, the specific standards, methods, tools, actions, strategies, and responsibilities associated with development and qualification.

CDRL A011, Software Development Plan (SDP)

### **3.3.3.1 Software Build Plan (CLINs 0001, CLIN 0002, CLIN 0103, 0105 and 0106)**

The Contractor shall develop and deliver a Software Build Plan (SBP), in accordance with CDRL A011, which accommodates the delivery of Software Releases, to include engineering, baseline, and maintenance releases, during the life of this contract. The SBP will utilize the CAC2S Test Strategy (Attachment 12) as guidance. The SBP will identify the requirements to be implemented in each engineering, baseline, and maintenance software release. The Contractor shall define the process to create the base images and maintain them to keep current with Information Assurance patches. Each software release will include delivery of the corresponding SVD, installation instructions, user manuals and maintenance manuals.

CDRL A010, Software Build Plan

### **3.3.3.2 Software Metrics (CLIN 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall develop and maintain software metrics in accordance with the Contractor's SDP and utilizing the CAC2S Software Acquisition Management Plan (Attachment 13) as guidance. Software metrics will be included in the monthly status report CDRL B001.

CDRL B001, Monthly Status Report

### **3.3.3.3 Implementation of External Interface Requirements Specifications (CLIN 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall implement the external interfaces referenced in the following attachments:

- Attachment (14) AC2 Interface Documentation (Distro F)
- Attachment (15) TAOC Radar System Interface Specification (Distro C)
- Attachment (16) MINIMPs – J Series (Distro D)
- Attachment (17) MINIMPs – K Series (Distro D)
- Attachment (18) MINIMPs – M Series (Distro D)
- Attachment (19) MIL-STD-1397C(SH) Input/Output Interfaces, Standard Digital Data, Navy Systems (Distro A)
- Attachment (37) MIL-STD-6018 Integrated Broadcast Service (IBS) Common Message Format (CMF) Standard (Classified)
- Attachment (38) MIL-STD-6020B Data Forwarding Between Tactical Data Links (Classified)

The Contractor shall participate in the external interface IPTs/Working Groups (WGs) to track/manage changes to the interfaces. For the TPS-63, the Contractor may either implement the TAOC Radar System Interface Specification (Attachment 15) or the NTDS MIL-STD-1397C (SH) Input/Output Interfaces, Standard Digital Data, Navy Systems (Attachment 19). If the Contractor implements the TAOC Radar System Interface Specification, the Contractor shall be solely responsible for TAOM TPS-63 TIU maintenance and/or replacement. The Contractor shall be a participant in the Interface Control Working Group (ICWG) established between the CAC2S PMO, PEO Land Systems, and Product Group 11 (Marine Corps Systems Command) and others, as required. The ICWG will meet, as necessary, to resolve any interface issues leading up to the CAC2S OA and IOT&E. If there are changes to the interface attachments provided under this contract, due to the ICWG efforts, the Contractor shall implement the updated interface changes as directed by the Government. It is anticipated that the changes will be minor and will require minimal effort to implement per change. Minor is considered as any interface change that would take less than a week to develop and implement. It is assumed that integration and testing shall occur during scheduled

Contractor and Government test events. If the Contractor believes the requested changes are other than minor, the Contractor shall, prior to making any changes, promptly notify the Contracting Officer of their belief the change is considered other than minor. The notification shall include the reasons they believe the change is other than minor, the impact of making the change, and any additional proposed costs associated with making the change.

CDRL B004, Briefing Material

#### **3.3.3.4 Software Release (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall deliver IA compliant Software Releases, to include engineering, baseline, and maintenance releases, in accordance with the Software Build Plan and IMS. Each software release shall include the delivery of Source Code for non-commercial software in accordance with CDRL A077, executable code in the form of installation “gold disk” in accordance with CDRL A077, corresponding Software Version Description (SVD), installation instructions, and user and maintenance manuals. Engineering releases will be delivered to the Government for installation in support of Government test events. Software releases shall be delivered to the Government for acceptance by the Government IV&V Team. If priority 1 & 2 software issues are identified by the Government that prevent acceptance by the Government IV&V Team, the Contractor shall analyze and correct the issues and re-submit the release for Government acceptance. Additionally, the Contractor shall prepare a list of all open software issues related to this build in accordance with CDRL A030 and CDRL A071.

CDRL A030, Software Version Description (SVD)  
CDRL A071, Security Technical Implementation Guides (STIGs) Report  
CDRL E001, Commercial Off-The-Shelf Manual and Associated Supplemental Data (If update is required)  
CDRL E002, Interactive Electronic Technical Manual (IETM) (If update is required)  
CDRL A077, Software Release

#### **3.3.3.5 Software Transition (CLINs 0103, 0105 and 0106)**

The Contractor shall deliver a listing of all Software Support Environment Tools (SSET) (CDRL A029) used to develop software/firmware for CAC2S and automated test tools used to test the CAC2S software prior to delivery to the Government. The source and executable code for any tools developed specifically for CAC2S shall be delivered to the Government.

CDRL A027, SSET Listing  
CDRL A028, Automated Test Tool Listing  
CDRL A029, Automated Test Tools

#### **3.3.3.6 Software Version Description (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall deliver a Software Version Description (SVD) with each software release in accordance with CDRL A030, to include engineering, baseline, and maintenance releases. The SVD shall identify and describe a software version consisting of one or more SCIs and shall be used to release, track, and control software versions.

CDRL A030, Software Version Description (SVD)

#### **3.3.3.7 Software Maintenance Plan (CLINs 0103, 0105 and 0106)**

The Contractor shall develop and deliver a Software Maintenance Plan, in accordance with CDRL A031. The software maintenance plan shall describe the contractor’s processes and software corrections as a formal release to

the Government. The Contractor shall release software to the Government quarterly. Each quarterly release shall include applicable Information Assurance and vulnerability patches. Additionally, as part of every other quarterly release the Contractor shall include software corrections identified via the Test Incident Report (TIR) process. Additionally, the Software Maintenance Plan shall define the Contractor's testing that will occur to ensure verification of the software corrections and IA implementation prior to Government DD250 software acceptance process.

CDRL A031, Software Maintenance Plan

### **3.3.4 Design Documentation (CLINs 0001 0002, 0103, 0105 and 0106)**

The Contractor shall develop a Hardware Requirements Specification (HRS) using MIL-HDBK-2036 as guidance, and deliver in accordance with CDRL A032.

CDRL A032, Hardware Requirements Specification (HRS)

#### **3.3.4.1 Technical Data Package (CLINs 0001 and 0002)**

The Contractor shall develop and deliver two-dimensional technical drawings of the integrated CAC2S hardware solution as defined in MIL-STD-31000 and in accordance with CDRL A022. Technical drawings, developed by the Contractor, shall comply with ASME Y14.100, ASME Y14.24 and ASME Y14.34M. These drawings shall include: assembly, item, detail, parts lists, wiring diagrams, and wiring schematic drawings for items designed, developed, and integrated to represent the CAC2S. All drawings shall provide necessary design, engineering, manufacturing and quality assurance data necessary to enable the procurement or manufacture of an item or interchangeable item. The Technical Data Package shall also identify all commercial end item nomenclature/commercial part numbers (slick sheet information) for items used as components of CAC2S, and altered vendor item drawings for all commercial off the shelf (COTS) items that do not conform to recognized government or industry specifications, non-developmental items (NDI), and proprietary components. The Technical Data Package shall specify the applicable performance specification form, fit, function and interface information needed for competitive re-procurement of that item or an interchangeable item. The Technical Data Package shall also include interface design drawings that fully describe interface and attachment hardware for mounting and securing the CAC2S transportability configuration to the M1152A1 IAP HMMWV vehicle. To assist the Contractor in developing the TDP, the Phase 1 Technical Data Package is provided as reference (Attachment 20).

CDRL A022, Technical Data Package

### **3.3.5 Human Systems Integration and Human Systems Engineering Program (CLINs 0001, 0002, 0101, 0103, 0105 and 0106)**

The Contractor shall utilize the CAC2S Human Systems Integration Management Plan (HSIMP) (Attachment 21) to establish a human systems engineering program. The human engineering practices shall provide visibility into the Contractors' organization and techniques used in providing human engineering throughout the development, integration, testing, and delivery of CAC2S. The Contractor shall plan and monitor the execution of all human systems engineering tasks utilizing MIL-STD-1472F(1) and MIL-STD-46855A as guidance and shall maintain regular communications to keep the Government apprised of all human engineering issues and status. The Contractor shall develop and maintain a Human Engineering Program Plan (HEPP)/ Human Systems Integration Program Plan (HSIPP) as a subsection of the Contractor's SEMP. The Contractor shall develop human engineering design approaches for operators and maintainers. The Contractor shall deliver a Human Engineering Design Approach Document (HEDAD) – Operator in accordance with CDRL A015. The Contractor shall deliver a Human Engineering Design Approach Document (HEDAD) – Maintainer in accordance with CDRL A016. The Government will conduct a preliminary Personnel Survivability and Habitability Assessment in conjunction with the

Pre-CDR Status Review with the final assessments to be conducted during the last Government DT. Additionally, the Government will conduct a preliminary HSI Design Review for HSI certification in conjunction with the Pre-CDR Status Review utilizing NAVSEA Standard 03-01 (Attachment 36) as guidance. The HSI Certification will be conducted by the Government during the last Government DT. The Contractor shall adjudicate and resolve findings via the HSIPT process.

CDRL A015, Human Engineering Design Approach Document (HEDAD) – Operator  
CDRL A016, Human Engineering Design Approach Document (HEDAD) – Maintainer

### **3.3.6 Technical Performance Measures (TPM) (CLIN 0001 and 0002)**

The Contractor shall utilize the TPMs identified in the CAC2S SEP (Attachment 3) to develop a TPM program and TPM Plan in accordance with CDRL A017. The Contractor shall report progress in achieving TPM metrics as part of the Monthly Status Report.

CDRL A017, Technical Performance Measures (TPM) Plan

### **3.3.7 Reliability, Availability and Maintainability (RAM) Program (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall utilize the CAC2S RAM Plan (Attachment 22) to establish a RAM program. The Contractor shall maintain a comprehensive RAM program to ensure the CAC2S meets the RAM standards set forth in the performance specification. The design shall be monitored throughout the life of the contract to identify and assess any changes, which would impact reliability and/or maintainability. The Contractor shall develop reliability analyses and predictions as required to ensure compliance with the performance specification. The program shall encompass all aspects of reliability with respect to design selection of components, predictions, and testing. The Contractor shall maintain and make available to the Government all RAM data on any vendor or subcontractor supplied item and shall inform the Government of any part or component, which will degrade system RAM requirements. The Contractor shall develop and deliver a RAM Program Plan (CDRL A020), Reliability Block Diagram (CDRL A033), Fault Tree Analysis (CDRL A034), and a Maintenance Support Plan (CDRL A035).

CDRL A020, RAM Program Plan  
CDRL A033, Reliability Block Diagram  
CDRL A034, Fault Tree Analysis  
CDRL A035, Maintenance Support Plan

#### **3.3.7.1 Reliability Predictions (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall provide reliability predictions in accordance with the CAC2S RAM Plan (Attachment 22). The predictions shall be provided to the lowest subassembly level and updated each time the configuration baseline changes. The Contractor shall prepare and deliver a Reliability Prediction Report in accordance with CDRL A036.

CDRL A036, Reliability Prediction Report

#### **3.3.7.2 Failure Reporting, Analysis, and Corrective Action System (FRACAS) (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall develop a closed loop failure reporting system, procedures for analysis of failures to determine the root cause, and documentation for recording corrective actions taken. This Failure Reporting, Analysis, and Corrective Action System (FRACAS) shall include uniform failure reporting, failure analysis reports and corrective actions for all hardware failures from system level down to the subassembly level throughout the testing period and deployment of the Limited Deployment Units (LDUs). The FRACAS Report shall be delivered in accordance with CDRL A037. The Contractor shall develop a RAM database to encompass failure reporting and shall transfer the database to the Government when directed. This database shall be compatible with the Government RELEX model RAM database. All failures shall be categorized as in-field or in-factory failures and include the system operating hours. The Contractor shall deliver a Failure Summary and Analysis Report in accordance with CDRL A038. The Contractor shall assess the failure data for the identification of trends (3 or more failures occurring over the life of the contract of the same root cause) and identify those trends in the FRACAS report. Each FRACAS report shall, at a minimum, identify the root cause, and detail the remedial action taken including parts replaced. The Contractor shall support Government Anomaly Review Boards (ARB) throughout the life of this contract.

CDRL A037, FRACAS Report  
CDRL A038, Failure Summary and Analysis Report

### **3.3.7.3 Failure Mode, Effects and Criticality Analysis (FMECA) (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall implement a process to perform Failure Mode, Effects and Criticality Analyses (FMECA) to identify system failure modes. The failure effects to the system shall be identified in addition to the criticality level of each failure (inoperable or degraded). In the event of a degraded effect, the Contractor shall identify to the Government the operational/inoperable functional capabilities. The Contractor shall prepare a FMECA Report in accordance with CDRL A039.

CDRL A039, FMECA Report

### **3.3.8 Quality Management System (CLINs 0001, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall have in place a quality program in accordance with best business practices, equal or superior to that defined in ISO 9000:2000. The Contractor's quality management system shall include vendor performance to ensure all products delivered under this contract meet the terms and conditions of the contract. The Contractor shall make available all quality management documentation for Government review.

### **3.3.9 Corrosion Prevention and Control (CLINs 0001, 0002, 0101, 0102, and 0105)**

The Contractor shall have in place a Corrosion Prevention and Control Program. The Contractor shall deliver a Corrosion Prevention and Control Compliance Report in accordance with CDRL A018.

CDRL A018, Corrosion Prevention and Control Compliance Report

### **3.3.10 Environmental, Safety and Occupational Health (ESOH) (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

Using the CAC2S System Safety Program Plan (Attachment 23) and MIL-STD-882D as guides, the Contractor shall develop and implement a program to effectively apply ESOH principles during CAC2S design, integration, test and production. The Contractor shall identify and evaluate safety and health hazards, define risk levels, and manage the probability and severity of all hazards associated with development, use, and disposal of the system in accordance with MIL-STD-882D. Residual risks will be evaluated by the Government in accordance with MIL-STD-882D and accepted as appropriate prior to exposing people, equipment, or the environment to known system related

Environment, Safety, and Occupational Health (ESOH) risks. The Contractor must identify all explosive safety risks.

The Contractor shall participate as an active member of CAC2S ESOH Working Group (WG) as defined in the CAC2S System Safety Program Plan. The ESOH WG shall be aligned with the conduct of IPRs to the greatest extent possible to enable the ESOH WG to out brief activities and results during IPRs.

CDRL B004, Briefing Material

#### **3.3.10.1 Safety Assessment (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a Safety Assessment to identify all safety features of the hardware, software, and system design and to identify procedural, hardware and software related hazards that may be present in the CAC2S including, but not limited to, specific procedural controls and precautions that should be followed. In addition, the Contractor shall make recommendations applicable to hazards at the interface of the CAC2S with other systems. The Contractor shall deliver a Safety Assessment Report (SAR) in accordance with CDRL A040.

CDRL A040, Safety Assessment Report (SAR)

#### **3.3.10.2 System Hazard Analysis (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a System Hazard Analysis (SHA) to identify hazards and assess the risk of the total system design, including but not limited to, software, batteries, and subsystem interfaces. The SHA shall verify system compliance with safety requirements contained in system specifications; identify previously unidentified hazards associated with the subsystem interfaces and system functional faults; and recommend actions necessary to eliminate identified hazards and/or control their associated risks to acceptable levels. The SHA shall include any selected hazards, hazardous areas, or other specific items to be examined or excluded. The Contractor shall deliver a System Safety Hazard Analysis (SSHA) Report in accordance with CDRL A041.

CDRL A041, System Safety Hazard Analysis (SSHA) Report

#### **3.3.10.3 Operating and Support Hazard Analysis (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document an Operating and Support Hazard Analysis (O&SHA) to evaluate activities for hazards or risks introduced into the system by operational and support procedures and to evaluate adequacy of operational and support procedures used to eliminate, control or abate identified hazards or risks. The O&SHA shall document system safety assessment of procedures involved in system production, deployment, installation, assembly, test, operation, maintenance, servicing, transportation, storage, modification, demilitarization, and disposal. The O&SHA shall include the minimum hazard probability and severity reporting thresholds and the specific procedures to be evaluated. The Contractor shall deliver an Operating and Support Hazard Analysis (O&SHA) Report in accordance with CDRL A042.

CDRL A042, Operating and Support Hazard Analysis (O&SHA) Report

#### **3.3.10.4 Health Hazard Assessment (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a Health Hazard Assessment (HHA) to identify health hazards, evaluate proposed hazardous materials, and propose protective measures to reduce the associated risk to a level acceptable by the Government. The HHA shall include the minimum hazard probability and severity reporting thresholds and any

selected hazards, hazardous areas, hazardous materials, or other specific items to be examined or excluded. The Contractor shall deliver a Health Hazard Assessment Report in accordance with CDRL A043.

CDRL A043, Health Hazard Assessment Report (HHAR)

### **3.3.10.5 Preliminary Hazard Analysis (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a Preliminary Hazard Analysis (PHA) to identify safety critical areas, to provide an initial assessment of hazards, and to identify requisite hazard controls and follow-on actions. Based upon the best available data, including mishap data (if accessible) from similar systems and other lessons learned, hazards associated with the proposed design or function shall be evaluated for hazard severity, hazard probability, and operational constraint. Safety provisions and alternatives needed to eliminate hazards or reduce their associated risk to a level acceptable by the Government shall be included. As a minimum, the PHA shall consider hazardous components (e.g., fuels, propellants, lasers, explosives, toxic substances, hazardous construction materials, pressure systems, and other energy sources) for identification and evaluation and include any selected hazards, hazardous areas, or other specific items to be examined or excluded. The Contractor shall deliver a Preliminary Hazard Analysis Report in accordance with CDRL A044.

CDRL A044, Preliminary Hazard Analysis Report

### **3.3.10.6 Subsystem Hazard Analysis (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a Subsystem Hazard Analysis to identify all components and equipment that could result in a hazard or whose design does not satisfy contractual safety requirements. The Subsystem Hazard Analysis shall verify subsystem compliance with safety requirements contained in subsystem specifications and other applicable documents; identify previously unidentified hazards associated with the design of subsystems including component failure modes, critical human error inputs, and hazards resulting from functional relationships between components and equipment comprising each subsystem; and recommend actions necessary to eliminate identified hazards or control their associated risk to acceptable levels. This Subsystem Hazard Analysis shall include Government Furnished Property (GFP) provided to the Contractor, non-developmental items, and software. Areas to consider are performance, performance degradation, functional failures, timing errors, design errors or defects, or inadvertent functioning. The human shall be considered a component within a subsystem, receiving both inputs and initiating outputs, during the conduct of this analysis. The Subsystem Hazard Analysis shall include the specific subsystems to be analyzed and any selected hazard, hazardous areas, or other specific items to be examined or excluded. The Government will provide existing technical data for and GFP provided to the Contractor to enable the Contractor to accomplish the defined tasks. The Contractor shall deliver a Subsystem Hazard Analysis Report in accordance with CDRL A045.

CDRL A045, Subsystem Hazard Analysis Report

### **3.3.10.7 Hazardous Materials Management Program and Pollution Prevention (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall implement a Hazardous Materials Management Program (HMMP) and Pollution Prevention (P2) Program in accordance with NAS 411. The Contractor shall avoid, if at all possible, the use of toxic chemicals, hazardous materials, and ozone depleting substances (ODS) in the design, operational support and disposal of the CAC2S where possible. The HMMP shall establish a process to manage all requirements for asbestos, radioactive materials, cadmium, hexavalent chromium, and extremely toxic or hazardous materials in design, production, operation, and support. The use of Class I or Class II Ozone Depleting Chemicals (ODCs) is prohibited in the design or operational support of the system without specific written approval of the contracting officer. More information on chemicals and hazardous materials to be avoided can be obtained from the Environmental Protection

Agency (EPA). The Contractor shall make available Material Safety Data Sheets (MSDS) to the Government for review. The Contractor shall deliver a Hazardous Materials Management Program (HMMP) Report in accordance with CDRL A046.

CDRL A046, Hazardous Materials Management Program (HMMP) Report

### **3.3.10.8 Lithium Battery Safety Assessment (CLINs 0001, 0002, 0101, 0102 and 0105)**

If the Contractor utilizes lithium batteries in their system, the Contractor shall document the lithium battery safety assessment in the Safety Assessment Report (SAR) (CDRL A040). The SAR shall include the lithium battery risk assessment, recommendations, procedures and other corrective actions to reduce hazards to an acceptable level. This assessment shall demonstrate the stability of design and validity of the lithium battery selection in accordance with NAVSEAINST 9310.1B and TM S9310-AQ-SAF-010.

CDRL A040, Safety Assessment Report (SAR)

### **3.3.11 Configuration Management Process (CLINs 0001, 0101, 0102, 0103, 0104 and 0106)**

The Contractor shall maintain a Configuration Management (CM) process for the control of all hardware and software configuration documentation, media and parts representing or comprising the CAC2S. The principles contained in ANSI EIA-649-B and MIL-HDBK-61A may be used for guidance. The Contractor's CM Process shall be implemented in accordance with the Contractor's Configuration Program Plan submitted as part of their proposal. The Contractor's CM Process shall reflect integration with the processes described in the CAC2S Configuration Management Plan (Attachment 24) and shall consist of configuration identification, configuration control, configuration status accounting, and configuration audits. Consideration for interfacing with other acquisition requirements such as design review, assurance, and other program related disciplines shall be addressed. The Contractor shall designate a CM representative to serve as a primary point of contact to the Government for all CM matters. The Contractor shall be responsible for any subcontractor's CM efforts. The Contractor shall notify the Government of any changes at the Contractor's facility, which affect the Contractor's established CM process.

#### **3.3.11.1. Configuration Status Accounting (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain a Configuration Status Accounting (CSA) database, which represents the configuration of the CAC2S. All baselines and changes shall be documented in the Contractor's CSA database. The Contractor's CSA database shall permit acceptance of commercial product information; however, if requirements to report data outside of the Contractor's CSA database or format exist, the information may be delivered as separate correspondence to prevent disruption to their existing system. The Contractor's CSA database shall reconcile any differences between the supplier information and Contractor practices to provide the Government with clear accountability of product information. Additionally, the CSA database shall provide a reliable source of configuration information to support CAC2S activities, including program management, systems engineering, logistics support, and modification/maintenance actions. The Contractor's CSA database shall be capable of providing CSA data in a digital format compatible with the USMC's CSA automated information system, Configuration Management Information System (CMIS). The Contractor's CSA database shall be a part of the Data Management System (DMS) as defined in paragraph 3.2.2 above. The Contractor shall deliver the Configuration Status Accounting Information in accordance with CDRL A047.

CDRL A047, Configuration Status Accounting Information

#### **3.3.11.2 Baseline Management (CLINs 0001, 0101, 0102, 0103, 0104 and 0106).**

The Contractor shall be responsible for maintaining the currency and accuracy of the established baseline to ensure form, fit, function and interface of CAC2S Increment I. The Contractor shall establish definitive processes that identify how the baseline will be managed/maintained. These processes shall be defined in the Contractor's Configuration Program Plan and made available for Government review.

#### **3.3.11.2.1 Product Baseline (CLINs 0001, 0101, 0102, 0103, 0104 and 0106)**

The CAC2S Initial Product Baseline will be established at CDR. After CDR, only those changes approved through the Engineering Change Proposal (ECP) process shall be made to the product baseline.

#### **3.3.11.2.2 Allocated Baseline (CLINs 0001, 0101, 0102, 0103 and 0106)**

The allocated baseline shall be supplemented by specifications, drawings, and related data as necessary to specify: (1) the essential CI functional characteristics, as allocated from higher-level CI; (2) external and internal interface requirements for each CI; (3) physical characteristics necessary to ensure compatibility with associated systems and CIs; and (4) constraints on the design of a CI, including Government Furnished Equipment (GFE) employed, envelope dimensions, component standardization and ILS requirements. The allocated baseline will be established upon successful completion of the overall system Pre-CDR Status Review with all associated documentation. Government approval shall be required prior to making changes to the allocated baseline.

#### **3.3.11.2.3 Functional Baseline (CLINs 0001, 0101, 0102, 0103 and 0106)**

The Contractor shall utilize performance specification criteria when developing the functional baseline. The Contractor's functional baseline shall describe the functional interoperability and interface characteristics and the verification required to demonstrate the achievement of those specified characteristics. The functional baseline shall be established after the Functional Allocation/Architecture Validation Review.

#### **3.3.11.3 Configuration Control (CLINs 0001, 0101, 0102, 0103, 0104 and 0106)**

The Contractor shall implement configuration control methods and procedures, which maintain the integrity and traceability of an established baseline. Changes to established baselines shall only be made after Government approval of Engineering Change Proposals (ECPs) and Requests for Deviation (RFD) through the processes described in the CAC2S Program CMP.

##### **3.3.11.3.1 Engineering Release System (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall maintain an engineering release system and shall use the system to issue configuration documentation to functional activities (e.g. manufacturing, logistics, quality control, and engineering) and to authorize the use of configuration documentation associated with an approved configuration. The Contractor shall maintain current and historical engineering release information for all configuration documentation for the CAC2S. The Contractor shall submit an Engineering Release Record (ERR), in accordance with CDRL A048, to release new or revised configuration documentation to the Government for approval. The Contractor shall ensure all Government approved ERR information/documentation is reflected in the Configuration Status Accounting (CSA) database.

CDRL A048, Engineering Release Record (ERR)

##### **3.3.11.3.2 Engineering Change Proposals (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

Engineering Change Proposals (ECP) shall be submitted by the Contractor for proposed baseline changes. MIL-HDBK-61A provides guidance concerning the classification of ECPs. The CAC2S Program's CMP provides details on the ECP Process. All requests should be prepared in accordance with CDRL A049.

CDRL A049, Engineering Change Proposal (ECP)

### **3.3.11.3.3 Requests for Deviation (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall process Requests for Deviation (RFD) from current approved configuration documentation in accordance with the CAC2S CM Plan and CDRL A058. MIL-HDBK-61A provides guidance concerning the preparation of RFDs. Authorized deviations are a temporary departure from the requirements and do not constitute a change in an approved baseline. All requests should be prepared in accordance with CDRL A050.

CDRL A050, Request for Deviation (RFD)

### **3.3.11.3.4 Notices of Revision (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall generate and submit Notices of Revision (NOR) in accordance with the CAC2S CM Plan and CDRL A051.

CDRL A051, Notice of Revision

### **3.3.11.3.5 Notification of Changes to Commercial Equipment/Software (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall submit notification to the Government when changes occur to commercial equipment and/or software, which is being procured or fabricated by the Contractor off-the-shelf, and the Government does not control the developer's design. In accordance with the CAC2S CM Plan, the Contractor shall submit a change notice to the Government implementing any Class 2 ECPs and the Government will approve/disapprove the class designation of the ECP. All change notices shall be prepared in accordance with CDRL A052.

CDRL A052, Technical Report, Study/Services (Change Notice)

### **3.3.12 Parts Management/ Diminishing Manufacturing Sources and Material Shortages (DMSMS) Program (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain a Parts Management/DMSMS Program in accordance with the Contractor's proposed DMSMS Management Plan. The Contractor shall utilize the CAC2S DMSMS Plan (Attachment 25) and MIL-STD-3018 as guidance. The Contractor shall provide DMSMS Reports in accordance with CDRL A53. The procedures, planning and all other documentation media and data that define the Parts Control Program and the parts selected for use shall be made available to the Government for their review and use.

CDRL A053, Source Data for Forecasting Diminishing Manufacturing Sources and Material Shortages (DMSMS)  
CDRL A054, Parts Obsolescence

### **3.3.13 Test Program (CLINs 0001, 0002, 0101, 0102, 0103 0104, 0105 and 0106)**

The Contractor shall establish and maintain a Test Program utilizing the CAC2S Test Strategy (Attachment 12) as guidance to ensure the CAC2S is designed to provide the assurance of system operation and maintainability.

#### **3.3.13.1 Test Plan (CLINs 0001, 0002, 0101, 0102, 0103 0104, 0105 and 0106)**

The Contractor shall develop and deliver a Test Program Plan (TP), in accordance with CDRL A019, that encompasses all sub-system and system level testing to verify SSS implementation, including Software Configuration Item (SCI) integration testing and Software Unit (SU) testing in accordance with software testing practices outlined in IEEE/EIA 12207. The TP shall be the top-level working document that ties all Contractor and subcontracting test activities together and supports the Government test activities. The TPP shall define, as a minimum, test events, schedule, test methodologies, automated test tools, simulation tools and utilization of GFP identified in Section J Attachment 6, to include laboratories and facilities. The TP shall be updated prior to each Contractor Development Test to reflect the detailed plan and provide as a minimum the specific test event, schedule, test site, personnel requirements, test assets required, data management approach, methodologies, automated test tools, simulation equipment, and utilization of Government assets, SSS requirements being tested, and analysis approach.

CDRL A019, Test Program Plan (TPP)

#### **3.3.13.2 Test Procedures (CLINs 0001, 0002, 0101, 0102, 0103 0104, 0105 and 0106)**

The Contractor shall develop and deliver detailed test procedures for each Contractor test identified in the IMS and TP. The Test procedures, prepared in accordance with CDRL A055, shall define, as a minimum, schedule, test site, personnel requirements, test assets required, automated test tools, simulation tools, and need for Government assets, SSS requirements being tested including Software Configuration Item (SCI) integration and Software Unit (SU) test procedures in accordance with software testing practices outlined in IEEE/EIA 12207, and analysis approach. Each test procedure will provide a pass/fail status for each requirement tested.

CDRL A055, Test Procedures

#### **3.3.13.3 Contractor Test Readiness Reviews (CLINs 0001 and 0002)**

The Contractor shall conduct a Contractor Test Readiness Review (CTRR) prior to the start of each Contractor Developmental Test Event. The Contractor shall provide, as part of the agenda, the entrance and exit criteria of the Contractor TRRs. The purpose of the Contractor TRR is for the Contractor to conduct a formal review of their readiness to enter into Contractor developmental testing. The Government reserves the right to attend any and all Contractor TRRs.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material

#### **3.3.13.4 Contractor Developmental Test (CLINs 0001 and 0002)**

The Contractor shall conduct Contractor Developmental Testing in accordance with the Contractor's Test Plan at MCTSSA to exercise live interfaces. The purpose of the Contractor Developmental Test is to ensure that the Contractor product is ready to proceed into Government testing. The Contractor shall conduct root cause and analyses of identified issues, collect reliability, availability, and maintainability data, conduct failure analyses, and maintain a data tracking system throughout all test efforts. The Contractor shall deliver a Test Report to support Government Developmental Test as required under CDRL A059.

CDRL A056, Root Cause Analysis Report  
CDRL A057, Reliability Test Reports  
CDRL A058, Identified Test Incident Reports (TIRs)  
CDRL A059, Test Report

### **3.3.13.5 Government Test Readiness Reviews (CLINs 0001 and 0002)**

The Contractor shall support the Government's Test Readiness Review (GTRR), including the preparation of any required briefing materials, in accordance with the IMS prior to each Government Developmental Test Event. The purpose of the Government TRRs is for the Government to conduct a formal review of the Contractor's system's readiness to enter into Governmental developmental testing. Additionally, the Contractor shall support the Government in preparing for the Operational Test Readiness Review (OTRR).

CDRL B004, Briefing Material

### **3.3.13.6 Contractor Support to Government Testing (CLINs 0001 and 0002)**

The Contractor shall support all Government test efforts (including DTs, OA, Supportability Demonstration and IOT&E Validation Event) by providing on-site and in-house support. The Contractor shall support each Government test by providing on-site maintenance, training, logistics, and technical support and spares for the period of the test. Test support requirements will be tailored to the test being conducted. The Contractor shall conduct root cause and analysis of issues assigned for analysis by the Test Review Board or Configuration Control Board, collect reliability, availability, and maintainability data, conduct failure analyses, and maintain a data tracking system throughout all test efforts. The Contractor shall support the Government Data Analysis Working Group (DAWG) by providing root cause and analysis briefings. Additionally, the Contractor shall correct Test Incident Reports (TIR), identified during the test events, to ensure successful completion of future Government testing. All Priority 1 and 2 TIRs shall be corrected, implemented, and validated by the Government prior to OTRR.

CDRL A021, DX/DR Data Definitions/Recordings  
CDRL A056, Root Cause Analysis Report  
CDRL A057, Reliability Test Reports  
CDRL A058, Identified Test Incident Reports (TIRs)  
CDRL A077, Software Release  
CDRL B004, Briefing Material

#### **3.3.13.6.1 Data Recording, Extraction, Reduction (DX/DR) (CLINs 0001 and 0002)**

The Contractor shall provide Data Recording, Extraction, Reduction (DX/DR) capabilities to record and extract the CAC2S internal system track data (i.e. data needed to reconstruct the fused, local and remote, track picture) and key internal system input/output information/data in a standard format (JITC-JIEO Tactical Data Link (TDL) Data Extraction and Reduction Guide (DERG)) or in any machine readable format along with the associated field definitions documentation in accordance with CDRL A021. The DX/DR extraction points shall be identified in CDRL A022. The DX/DR extraction points and reporting download shall be accessible and controllable by the Government test team. The data provided from the DX/DR will be used to verify capabilities of the CAC2S internal system and shall be utilized to develop the Government assessment of the CAC2S. The DX/DR recordings of the Government DTs/OA and IOT&E Validation Event will be delivered in accordance with the Government Data Management and Analysis Plan (DMAP) provided to the Contractor prior to each test event. If during DTs, OA, or the IOT&E Validation Event it is determined by the Government that additional DX/DR extraction points are required to fully analyze the CAC2S, the Contractor shall update CDRL A022 to include the additional extraction points.

CDRL A021, DX/DR Data Definitions/Recordings

### **3.3.13.7 Engineering Development Model (EDM) and Limited Deployment Unit Factory (LDU) Acceptance Tests (CLINs 0001, 0002, 0101, 0102, 0104 and 0105)**

The Contractor shall develop and implement Factory Acceptance Test (FAT) procedures to demonstrate the performance and suitability of the delivered EDMs and Limited Deployment Units (LDUs) prior to Government acceptance. The FAT for EDMs shall utilize the latest software engineering release for Government DT. The FAT for LDUs shall utilize the Government IV & V accepted software baseline. Minor failures may be corrected during the testing, with Government approval. Issues discovered during FAT shall be corrected by the Contractor prior to Government acceptance of the unit. The Contractor shall prepare FAT test report documenting the results of CAC2S FAT tests. The Contractor shall also discuss in the test report the resolution(s)/fix (es) and include a schedule for resolving all outstanding test issues.

CDRL A060, Factory Acceptance Test (FAT) Procedures  
CDRL A061, Test/Inspection Report (FAT)  
CDRL A062, Failure Analysis and Corrective Action Report  
CDRL A077, Software Release

### **3.3.13.8 Interoperability Testing (CLIN 0001)**

The Contractor shall support Government interoperability testing in accordance with the CAC2S Test Strategy (Attachment 12) to ensure that the CAC2S is compatible with the systems specified in the CPD (Attachments 10 and 11) and SSS (Attachment 1). CAC2S Increment I will be required to undergo two (2) Joint Interoperability Tests (JIT). One (1) shall be conducted at MCTSSA using Engineering Release Software in conjunction with Government DT/OA and one (1) shall be conducted at MCTSSA using Government accepted baseline software prior to the Government seeking Full Deployment decision. These two JIT tests shall be in accordance with the IMS and CAC2S Test Strategy.

### **3.3.14 Electromagnetic Interference (CLINs 0001 and 0002)**

The Contractor shall perform Electromagnetic Interference (EMI) testing on CAC2S in accordance with MIL-STD-464C in conjunction with the Government DTs. Prior to commencement of EMI testing and in accordance with the Government-approved Contractor's Test Plan, the Contractor shall develop EMI test procedures that are in accordance with MIL-STD-461F. The Contractor shall prepare an Electromagnetic Interference (EMI) test report documenting the results of CAC2S EMI tests. The Contractor shall also discuss in the test report the resolution(s)/EMI fix (es) with a schedule for resolving all outstanding test issues.

CDRL A063, Electromagnetic Interference Test Procedures (EMITP)  
CDRL A064, Electromagnetic Interference Test Report (EMITR)

### **3.3.15 Electrostatic Discharge Control (CLINs 0001, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish, implement and document an Electrostatic Discharge (ESD) Control program following the guidelines provided in JESD625-A. MIL-STD-1686C may be used for guidance. ESD protective measures shall be used in manufacturing, packaging, storing, and transportation of ESD sensitive components. The Contractor shall ensure that ESD identification markings on all ESD sensitive subassemblies are visible during equipment installation, maintenance or repair.

**3.3.16 Test for Electromagnetic Propagation and Evaluation for Secure Transmission (CLINs 0001 and 0002)**

The Contractor shall implement a Test for Electromagnetic Propagation and Evaluation for Secure Transmission (TEMPEST) Control Program and develop a TEMPEST Control Plan, which shall reflect that the CAC2S meets the TEMPEST requirements of the Performance Specification. The Contractor shall conduct TEMPEST testing on the CAC2S in accordance with the IMS and CAC2S Test Strategy.

CDRL A065, Tempest Control Plan  
CDRL A066, Tempest Test Plan  
CDRL A067, Tempest Test Report  
CDRL A068, Tempest Test Procedure

**3.3.17 Electromagnetic Radiation Hazards (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The CAC2S design shall protect personnel, fuels, and ordnance from hazardous effects of electromagnetic radiation in accordance with NAVSEA OP 3565 Volumes 1 and 2. Safe-distances for Hazards to Electromagnetic Radiation to Fuel- /Personnel- /Ordnance (HERF/HERP/HERO) shall be determined and documented in the training materials, literature, operation guides (MIL-HDBK-237D) and maintenance manuals. As part of the Contractor's Test Plans, the Contractor shall perform the following tests and certifications: Hazards of Electromagnetic Radiation to Personnel (HERP) in accordance with DoDI 6055.11 criteria; Hazards of Electromagnetic Radiation to Fuels (HERF) in accordance with MIL-STD-464C; Hazards of Electromagnetic Radiation to Ordnance (HERO). Ordnance shall not experience inadvertent ignition or degraded ordnance performance after exposure to radiated electromagnetic energy from the CAC2S system.

CDRL A069, Test/Inspection Report (HERP, HERF, HERO)  
CDRL A070, Test Procedure (HERP, HERF, HERO)

**3.3.18 Producibility (CLINs 0001 and 0002)**

The Contractor shall apply effective producibility principles during the CAC2S EMD design process to ensure that the production units can be manufactured using the anticipated production facilities, equipment, materials, manpower, and processes. The producibility planning effort shall also maximize the ease of production control, quality control, tooling and inspection. The Contractor shall report on the progress of this effort during the Assembly Review and make any data created available to the Government upon request. The Contractor shall prepare and deliver a Producibility Analysis Report in accordance with CDRL A023.

CDRL A023, Producibility Analysis Report

**3.3.19 System Security (CLINs 0001, 0101, 0102, 0103, 0104 and 0106)**

This contract contains a DD 254, Contract Security Classification Specification (Attachment 26). The use and distribution of classified material is anticipated and shall be protected. All classified information (documents, electronic transmissions, hardware, etc.) pertaining to CAC2S and sub-systems shall be provided appropriate levels of protection as required by DOD and Marine Corps regulations and instructions. The handling, storage, and destruction of all classified information shall be done in accordance with DODI 5200.01 DOD Information Security Program Regulation. The Contractor shall analyze their system to determine if any additional security measures are required to ensure OPSEC or other security conditions are preserved. Further analysis should be conducted to determine the need for any special security considerations in order to ensure that OPSEC is preserved. To reduce the

possibility of compromise of classified information, vendors shall adhere to the CAC2S and CEC Security Classification Guides (Attachments 27 and 28). The Contractor shall implement a comprehensive security program encompassing personnel, facilities, system integrity, and data information assurance. Risk analysis, operating approvals, and other requirements shall be employed to ensure compliance in-garrison and facilitate future determination at any deployed location.

### **3.3.20 Anti-Tamper (CLINs 0001 and 0002)**

The Contractor shall establish and execute an Anti-Tamper program (if required) for protection of Critical Technology in the case of unplanned loss occurring during, but not limited to, transportation, training, testing, and maintenance/supply operations, in addition to wartime losses. Critical Technologies and thresholds above which they must be protected are defined in the Militarily Critical Technologies List and DoDI S5230.28. Anti-Tamper requirements, if any, will be identified in a Critical Technology Analysis Report, in accordance with CDRL A012, and briefed at the Functional Allocation/Architecture Validation Review.

CDRL A012, Critical Technology Analysis Report

### **3.3.21 Information Assurance (CLINs 0001, 0002, 0103, 0105 and 0106)**

#### **3.3.21.1 Information Assurance Program (CLINs 0001, 0103 and 0106)**

The Contractor shall develop and maintain an Information Assurance (IA) program in accordance with DoD Directive 8500.01E, Information Assurance, DoD Instruction 8500.2, IA Implementation, DoD 8570.01-M, IA Workforce Improvement Program, and DoD Instruction 8580.1, Information Assurance (IA) in the Defense Acquisition System. The Contractor's solution shall comply with the IA requirements as defined in the CAC2S Information Assurance Controls Identification Document (IACID) dated 10 August 2009 (Attachment 29). The Contractor shall comply with the DoD IA certification and accreditation process as stated in DoD Instruction 8510.01, DoD Information Assurance Certification and Accreditation Process (DIACAP) and National Institute of Standards and Technology (NIST) Special Publication (SP) 800-53, Recommended Security Controls for Federal Information Systems and Organizations, when DoD transitions to the NIST process. The Contractor shall support independent IA evaluations of their product at their facility.

#### **3.3.21.2 Information Assurance Requirements (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor's delivered software solution shall be IA compliant with no unmitigated Category I or II vulnerabilities. The Contractor shall provide a technical report (CDRL A071) identifying the applicable Security Technical Implementation Guide (STIG) implementation with a matrix (Security Requirements Traceability Matrix) that depicts each STIG, the applicability of the STIG, and the design implementation. The Security Requirements Traceability Matrix shall reflect all DOD 8500.2 requirements, documented IA controls and applicable STIGs and Security Readiness Review (SRR) scripts. Furthermore:

Commercial-Off-The-Shelf (COTS) IA devices and IA enabled devices will be procured as described in DoD Instruction 8500.2 and National Security Telecommunications and Information Systems Security Policy (NSTISSP) 11. COTS products must be evaluated and validated in accordance with the [ISO/IEC 15408](#), Common Criteria for Information Technology Security Evaluation, or the NIST Federal Information Processing Standard (FIPS) 140-2, as appropriate.

Mobile Code implemented to satisfy the capabilities required for CAC2S must comply with DoD Mobile Code Policy in accordance with DOD Instruction 8552.01, Use of Mobile Code Technologies in DoD Information Systems.

The Contractor's solution shall be SHA-256 compliant in accordance with NIST SP 800-78-3, Cryptographic Algorithms and Key Sizes for Personal Identity Verification (PIV), Homeland Security Presidential Directive 12 (HSPD-12), Policies for a Common Identification Standard for Federal Employees and Contractors, FIPS Pub 201-1, PIV Standard, OMB M-11-11 of 3 Feb 2011, Continued Implementation of HSPD-12, and DoD-CIO Memo of 14 October 2010, DoD's Migration to Use of Stronger Cryptographic Algorithms.

The Contractor's solution shall comply with the DoD's Public Key Infrastructure (PKI), as defined DoD Instruction 8520.2, Public Key Infrastructure (PKI) and Public Key (PK) Enabling.

Vendor shall comply with the DOD Application Security and Development STIG V3R2.

The Contractor's solution shall implement BIOS protections in accordance with NIST SP 800-147.

The Contractor shall develop, maintain and deliver an IA Plan of Action & Milestones (POA&M), in accordance with CDRL A072, reflecting the system IA posture and compliance.

CDRL A071, Security Technical Implementation Guides (STIGs) Report

CDRL A072, Information Assurance (IA) POAM

### **3.3.21.3 Information Assurance Testing (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall implement an IA Testing Program as outlined in DoD Instruction 8510.01, DoD Information Assurance Certification and Accreditation Process (DIACAP), executing the Test Plan and Test Procedures provided by the Government. The IA Test Report shall be delivered in accordance with CDRL A073 for each engineering and software release as identified in the Contractor baselined IMS.

CDRL A073, Information Assurance (IA) Test Report (IATR)

### **3.3.22 Item Unique Identification (IUID) (CLINs 0001, 0002, 0101, 0102, 0104 and 0105)**

The Contractor shall implement specific IUID marking, as defined in the CAC2S IUID Plan (Attachment 30), MIL-STD-130N and DFARS clause 252.211-7003. The Contractor shall deliver an Item Unique Identification (IUID) Bar Code Identification Report, in accordance with CDRL A074. The Contractor shall load all IUID data into the Wide Area Workflow (WAWF) and the DoD IUID Registry.

CDRL A074, Item Unique Identification (IUID) Bar Code Identification Report

### **3.3.23 Energy Conservation Program (CLIN 0001 and 0002)**

The Contractor shall establish an Energy Conservation Program in accordance with the Assistant Secretary of the Navy, Research Development and Acquisition (RDA) Memo dated June 20, 2011, entitled "Energy Evaluation Factors in the Acquisition Process". The Contractor shall deliver an Energy Conservation Program Report in accordance with CDRL A075.

CDRL A075, Energy Conservation Program Report

## **3.4 Logistics (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

### **3.4.1 Integrated Logistic Support Planning (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall plan and conduct an Integrated Logistics Support (ILS) program, which shall govern the management of the ILS effort under this contract. The ILS effort shall be conducted as an integral part of the

development and integration process to define the range and depth of the required support, and address all applicable and related elements of logistics. The Contractor shall develop an Integrated Support Plan (ISP) that defines their ILS approach for each ILS element contained in this contract and takes into account the CAC2S Life Cycle Sustainment Plan (LCSP) (Attachment 31). The ISP shall be submitted in accordance with CDRL D001. The ISP shall reflect any changes emanating from program changes, reviews and other actions affecting the ILS aspects of the CAC2S.

The Contractor shall prepare a Supportability Analysis, in accordance with CDRL A076, based on their integrated support plan along with the twelve elements of logistics. The analysis will be conducted at the organizational level and provide trade study reports identifying quantitative projections of improvements, recommending performance metrics, associated costs to implement and maintain CAC2S, and projected life cycle cost savings. The Supportability Analysis will be prepared in accordance with GEIA-STD-0007, using MIL-HDBK-502 as a guide, and shall ensure that the supportability requirements identified are incorporated as a system performance requirement by utilizing an effective systems engineering process.

CDRL A076, Supportability Analysis  
CDRL D001, Integrated Support Plan (ISP)

### **3.4.2 Supply Support (CLINs 0001, 0002, 0101, 0102, 0104 and 0105)**

#### **3.4.2.1 Conferences (CLINs 0001 and 0002)**

##### **3.4.2.1.1 Provisioning Guidance Conference (CLINs 0001 and 0002)**

The Contractor shall host the Provisioning Guidance Conference (PGC) to coincide with the Requirements Validation Review. The Contractor shall provide the Provisioning Plan, Long Lead Time Items (LLTI) Lists, and Tools and Test Equipment Lists (TTEL) to support the Provisioning Guidance Conference, in accordance with CDRLs C001, C004, and C005.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material  
CDRL C001, Provisioning Plan  
CDRL C004, Long Lead Time Items (LLTI) Lists  
CDRL C005, Tools and Test Equipment Lists (TTEL)

##### **3.4.2.1.2 Provisioning Conference (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall host the CAC2S Provisioning Conference at the Contractor's facility no later than 100 calendar days following a Government conducted Functional Configuration Audit (FCA). The Contractor shall provide Provisioning Parts Lists (PPL), Common and Bulk Items Lists (CBILs) and Engineering Data for Provisioning (EDFP) to support the Provisioning Conference in accordance with CDRLs C002, C006, and C007.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material  
CDRL C002, Provisioning Parts Lists (PPL)  
CDRL C006, Common and Bulk Items Lists (CBILs)  
CDRL C007, Engineering Data for Provisioning (EDFP)

### **3.4.2.2 Provisioning Technical Documentation (CLINs 0101, 0102 and 0105)**

#### **3.4.2.2.1 Provisioning Parts List (CLINs 0001 and 0002)**

The PPL shall contain the end item, component or assembly and all support items which can be disassembled, reassembled, or replaced, and which, when combined, constitute the end item, component or assembly. The PPL shall include items such as parts, materials, connecting cabling, piping, and fittings required for the operation and maintenance of the end item/equipment, component, or assembly. This includes all repairable COTS items unless excluded by the provisioning requirements. It does not include a breakdown of GFP. The PPL shall contain repair kits and repair parts sets required to maintain the end item, component, or assembly equipment unless excluded by the provisioning requirements or meeting the requirement for Common and Bulk Items List (CBIL) inclusion. The PPL will be delivered in accordance with CDRL C002.

CDRL C002, Provisioning Parts Lists (PPL)

#### **3.4.2.2.2 Provisioning and Other Pre-procurement Screening Data (CLINs 0001 and 0002)**

The Contractor shall identify provisioning and other pre-procurement screening data to be submitted for Government review. Provisioning and other pre-procurement screening data are used to identify existing National Stock Numbers (NSNs) for an item, validate currency of an NSN, and aid in maximum use of known assets. Screening data shall be prepared in accordance with GEIA-STD-0007 and delivered in accordance with CDRL C003.

CDRL C003, Provisioning and Other Pre-Procurement Screening (POPS)

#### **3.4.2.2.3 Common and Bulk Items List (CLINs 0001 and 0002)**

The Contractor shall develop and deliver the Common and Bulk Items List (CBIL) in accordance with CDRL C002. The CBIL contains those items that are difficult or impractical to list on a top down/disassembly sequence PPL, but provisioning may be required to support the operation of the end item/equipment. These items are subject to wear or failure, or otherwise required for maintenance, including planned maintenance of the end item/equipment. The Contractor shall submit sufficient information to enable the Government to relate the material/specification number to the pertinent item.

CDRL C002, Provisioning Parts Lists (PPL)

### **3.4.3 Level of Repair Analysis (CLINs 0001 and 0002)**

The Contractor shall conduct a Level of Repair Analysis (LORA) (economic & non-economic) for the LDU system developed and produced under this contract. The LORA will identify, at a minimum, the most efficient and economic approach to system maintenance and the level at which each maintenance task should be accomplished. The Contractor shall deliver a Level of Repair Analysis in accordance with CDRL D002.

CDRL D002, Level of Repair Analysis

### **3.4.4 Technical Publications (CLINs 0001, 0002, 0101 and 0105)**

The Contractor shall develop and deliver Technical Manuals (TMs) (CDRL E001) and an Interactive Electronic Technical Manual (IETM) (CDRL E002) in accordance with the Technical Manual Contract Requirement (TMCR) Number 110004-001, (Attachment 32). The Contractor shall develop and submit a Technical Manual Validation Plan in accordance with the TMCR (Attachment 32) and assist with Government verification of these Technical Manuals. Additionally, the Contractor shall provide COTS manuals and associated supplemental information (CDRL E001) and a draft paper TM (CDRL E002) to support Government DT events. At a minimum the draft paper TM shall include initial software user information, firmware support information, and software installation procedures with each engineering software release.

CDRL E001, Commercial Off-The-Shelf Manual and Associated Supplemental Data  
CDRL E002, Interactive Electronic Technical Manual (IETM)  
CDRL E003, Technical Manual Validation Plan  
CDRL E004, Technical Manual Validation Certificate  
CDRL E005, Technical Manual Verification Incorporation Certificate

### **3.4.5 Training Products and Services (CLINs 0001, 0002, 0101, and 0105)**

The Contractor shall provide training support which includes training program management, training materials design and development, and training conduct, as described in the following paragraphs. The Contractor shall use the following as guidance: MIL-HDBK-29612/2A, Instructional Systems Development/Systems Approach to Training and Education and NAVMC 1553.1, Systems Approach to Training Users Guide. At a minimum, training shall include capabilities, functions and operation of the system; preventive and corrective maintenance procedures; external diagnostics and other tests; performance of system checks, and verification procedures. Operations training shall enable the trainee student to: operate the system, subsystems, and equipment controls; execute diagnostic tests and interpret results; remove and install major components; determine if the system/subsystem is malfunctioning or not; isolate and locate malfunctions to the Line Replaceable Unit (LRU); replace defective LRUs; troubleshoot and repair system/subsystem functions; and perform routine preventive maintenance functions. Maintenance training shall provide students with the knowledge and understanding of the capabilities, limitations, interfaces, operations and preventive/corrective maintenance tasks and skills required for Crew/Operator and Sustainment levels of maintenance. The training shall emphasize hands-on instruction using the CAC2S for operator/maintainer training and to assess student performance.

#### **3.4.5.1 Training Program Management (CLINs 0001, 0002, 0101, 0102 and 0105)**

##### **3.4.5.1.1 Training Personnel (CLIN 0001, 0101, and 0102)**

The Contractor shall appoint a Training Manager as the single point of contact for training and courseware development matters. The Training Manager shall have a background in the development and presentation of military training programs. The Training Manager shall be responsible for the development of all courseware materials, coordination, and conduct of all training courses under this contract. Instructional Systems Designers and Instructor/Trainers shall have sufficient proficiency and skill in the design and development of military instruction including technical language and terms associated with the operation and maintenance of the CAC2S system. Sufficient proficiency and skill is defined as successful completion of military curriculum developer courses, completion of a military Formal School Instructor Course, or equivalent certification from an industry training organization (ex., American Society for Training & Development (ASTD))

##### **3.4.5.1.2 Training Guidance Conference (CLINs 0001 and 0002)**

The Contractor shall host a Training Guidance Conference (TGC) at the Contractor's facility to coincide with the Requirements Validation Review. The TGC will serve as the kickoff meeting for the training development effort for this contract. Participants shall include Government, Contractor, and subcontractor training personnel.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material  
CDRL F001, Training Program Plan

#### **3.4.5.1.3 Training Program Plan (CLINs 0001 and 0002)**

The Contractor shall prepare a Training Program Plan (TrPP) in accordance with CDRL F001.

CDRL F001, Training Program Plan

#### **3.4.5.2 Training Materials Development (CLIN 0001)**

##### **3.4.5.2.1 Learning Analysis Report (LAR) (CLINs 0001 and 0002)**

Using the Phase 1 Master Jobs Task List (Attachment 33) as a starting point, the Contractor shall employ a systematic approach to analyze individual, team, and collective job tasks in order to provide the job task data necessary to support the design and development of training curriculum. The Contractor shall analyze the individual, team, and collective job performance requirements to operate and maintain the CAC2S at the crew/operator and sustainment levels of maintenance activity. The Contractor shall develop and deliver a Critical Training Tasks List (CTTL) in accordance with CDRL F002 that identifies the job tasks, sub-tasks and performance steps necessary to operate maintain and support the CAC2S. The Contractor shall use the CTTL to produce a Learning Analysis Report (LAR) which will identify the required knowledge, skills and attitudes (KSAs) necessary to achieve successful task completion. The LAR, delivered under CDRL F003, shall include task selection criteria (difficulty, importance, and frequency) and the conditions and standards from which successful performance is measured. The LAR will contain the critical tasks with associated operator and maintainer terminal and enabling learning objectives, establish performance criteria related to tasks/objectives, and sequence objectives for training.

CDRL F002, Critical Training Tasks List  
CDRL F003, Learning Analysis Report (LAR)

##### **3.4.5.2.2 Instructional Media Requirements Analysis (CLINs 0001 and 0002)**

The Contractor shall conduct an Instructional Media Requirements Analysis (IMRA). In preparing the IMRA, the Contractor shall leverage developed simulation capabilities, and determine the instructional methods, learning events, training tools/aids, and media planned for instructional delivery. The Contractor shall describe their methods and media selection methodology and provide all method and media analysis data and propose primary and alternate methods and media requirements to support instructional delivery of critical training tasks. The Government will review the proposed methods and media approach, and if acceptable to the Government, will provide approval prior to training development. The Instructional Media Requirements Analysis shall be delivered in accordance with CDRL F004.

CDRL F004, Instructional Media Requirements Analysis

##### **3.4.5.2.3 Training Test Package (CLINs 0001 and 0002)**

The Contractor shall develop a Training Test Package for each operator and maintainer course of instruction following NAVMC 1553.1, Systems Approach to Training Users Guide, and MCO 1553.2B, Management of Marine Corps Formal Schools and Training Detachments. The test package shall include written and performance tests for the examination of an individual's KSAs, and achievement of terminal and enabling learning objectives based upon the LAR and Lesson Plans (CDRLs F003 and F006). Written test items shall consist of multiple choice, matching, and fill-in-the-blank questions. The test questions shall be written to evaluate the student's comprehension of knowledge-based learning objectives. The Test Packages shall include a minimum of three (3) test items for each learning objective. The Contractor developed performance tests shall evaluate the student's ability to perform specific operator/maintainer tasks. The performance tests shall be presented in checklist format. The Training Test Package shall be delivered in accordance with CDRL F005.

CDRL F005, Training Test Package

#### **3.4.5.2.4 Lesson Plans (CLINs 0001 and 0002)**

The Contractor shall develop Lesson Plans following NAVMC 1553.1 Systems Approach to Training Users Guide and MCO 1553.2B. Lesson plans shall be developed to support operator and maintainer courses of instruction per the LAR (CDRL F003). Lesson plans shall be sequenced and contain information relevant to each period of instruction, including learning objectives and instructions for the delivery of training, equipment required, application of training visual aids, written test questions, and task performance checklists. For each Lesson Plan, the Contractor shall include a lesson Concept Card which summarizes lesson objectives, methods/media, student-instructor ratios, and time and resources required. The Contractor shall deliver the Lesson Plans in accordance with CDRL F006.

CDRL F006, Lesson Plans

#### **3.4.5.2.5 Instructional Visual Aids (CLINs 0001 and 0002)**

The Contractor shall prepare an Instructional Visual Aids package to support each lesson following NAVMC 1553.1 and MCO 1553.2B. Delivery of the Instructional Visual Aids packages shall be in accordance with CDRL F007.

CDRL F007, Instructional Visual Aids

#### **3.4.5.2.6 Trainee Guide (CLINs 0001 and 0002)**

The Contractor shall develop the Trainee Guide to support each lesson following NAVMC 1553.1 and MCO 1553.2B. The Contractor shall deliver the Trainee Guides in accordance with CDRL F008. The Trainee Guides shall contain information that enhances student mastery of learning objectives, and shall provide information and summaries relevant to each period of instruction.

CDRL F008, Trainee Guide

#### **3.4.5.2.7 Curriculum Outline of Instruction (CLINs 0001, 0002, 0101, 0102 and 0105)**

For each key training event, outlined in paragraph 3.4.5.3 below, including subparagraphs, the Contractor shall develop a Curriculum Outline of Instruction (COI). The COI shall identify the training schedule of events and include a breakdown of individual topics indicating the purpose, learning objectives, time allotted for each session, academic hours by type of instruction, instructional materials required, facility and instructor requirements, media and training support equipment, reference materials, type of instruction (practical exercise, demonstration, lecture),

and tools and Test, Measurement and Diagnostic Equipment (TMDE) required for each period of instruction. The Government-approved CCTL, LAR, and Lesson Plans (CDRLs F002, F003, and F006) shall be used in the development of the curriculum information. The Contractor shall deliver all COIs in accordance with CDRL F009.

CDRL F009, Curriculum Outline of Instruction

#### **3.4.5.2.8 Job Aids (CLINs 0001, 0002, 0101, 0102 and 0105)**

Based on the results of the Instructional Media Requirements Analysis (CDRL F004), the Contractor shall develop job aids to address safety concerns and the completion of critical and complex tasks for which job aids will enhance human performance of mental and physical human-system interfaces. Examples of relevant job aids include, but are not limited to, those which provide quick reference or support completion of set-up, operations, critical maintenance, and displacement tasks and where access to Interactive Electronic Technical Manuals is limited. Job aid types include, but are not limited to: hard cards, pocket checklists, procedural guides, worksheets, kneeboards, and additional supplemental student materials. Job aids shall be legibly printed on subdued colored medium weight and weatherized (example: treaded paper or laminated) card stock paper able to withstand the detrimental effects of the outdoor environment (direct sunlight, water, humidity, etc.). The Contractor shall deliver the job aids in accordance with CDRL F010.

CDRL F010, Job Aids

#### **3.4.5.2.9 Training Materials Change Matrix (CLINs 0001, 0002, 0101, 0102 and 0105)**

For training conducted by the Contractor, the Contractor shall issue and collect instructional rating forms after each period of instruction (lesson) and course critiques at the conclusion of each course of instruction. Based upon course critiques from Contractor and Government training and Government comments received, the Contractor shall develop a Training Materials Change Matrix to propose changes and update the content of training materials following DT/OA, IOT&E, I&KPT, NET, and Formal Learning Center training events. After IOT&E the Contractor shall not implement any changes to the training materials without prior Government approval. The Contractor shall deliver the Training Materials Change Matrix in accordance with CDRL F011.

CDRL F011, Training Materials Change Matrix

#### **3.4.5.3 Training Conduct (CLINs 0001, 0101, and 0102)**

The Contractor shall conduct CAC2S training courses consisting of various instructional methods (i.e., lectures, demonstrations, and practical applications). Each course shall emphasize practical application hands-on training and shall make maximum usage of the Technical Manuals (TMs), Interactive Electronic Technical Manuals (IETMs), and job aids. Training shall be conducted on weekdays (Monday through Friday), unless otherwise approved in advance by the Government. The length of each training day shall not exceed eight (8) hours of instruction, not including breaks. Training shall not be conducted on recognized Federal holidays.

##### **3.4.5.3.1 Developmental Testing (DT) and Operational Assessment (OA) Training (CLIN 0001)**

To support the Government DTs and OA, the Contractor shall conduct training courses at the Contractor facilities. Training should conclude no later than fourteen (14) calendar days prior to commencement of any of the DTs or OA. The DT and OA courses are intended for Marines or other personnel, as determined by the Government, who will be participating in the Government tests. The Learning Analysis Data shall be used to determine the quantity and length of these courses. In addition, the course(s) shall include an overview of the CAC2S and its missions, including: System architecture, physical description, functional description, acronyms and terminology, and safety.

The Contractor shall provide the classroom space, training equipment support, computing resources, required common tools, and Test, Measurement and Diagnostic Equipment (TMDE). The Contractor shall provide all labor and materials necessary to operate and maintain any CAC2S used to support training courses conducted at the Contractor facility.

#### **3.4.5.3.2 Initial Operational Test and Evaluation Training (CLIN 0001)**

The Contractor shall conduct one (1) Initial Operational Test and Evaluation (IOT&E) training event at MCTSSA prior to IOT&E. The Learning Analysis Data shall be used to determine the length of IOT&E Training. The IOT&E course is intended for Marines or other personnel, as determined by the Government, who will be operating and maintaining the system during IOT&E. The course shall be scheduled to coincide with CAC2S Limited Deployment Units (LDUs) availability and the IOT&E Validation event prior to IOT&E. If required, the Government will provide storage at MCTSSA for classified material during this training event. The Contractor will provide training equipment support, computing resources, training materials, job aids, required common tools, and TMDE.

#### **3.4.5.3.3 Instructor and Key Personnel Training and New Equipment Training Support (CLINs 0001 and 0101)**

During Government conducted I&KPT and NET, the Contractor shall provide technical and Subject Matter Expert (SME) support, as required.

#### **3.4.6 Transportability Program (CLINs 0001 and 0002)**

The Contractor shall implement a transportability program in accordance with MIL-STD-1366E. The Contractor shall conduct transportability engineering efforts to identify and measure the limiting constraints, characteristics, and environments of transportation systems and to integrate this data into design criteria to use operational and planned transportation capabilities effectively. The Contractor shall develop and deliver in accordance with CDRL D003, a Transportability Report that provides the Contractor's assessment that the CAC2S is ready for Government transportability testing. This report shall be one of the entrance criteria to support the Government transportability TRR. The Contractor shall ship the EDM to the Government designated facility for Government transportability testing. The Contractor shall support the Government transportability test, as required. In addition, if required, the Contractor shall provide Root Cause Analyses (CDRL A056) for issues identified during transportability testing.

CDRL A056, Root Cause Analysis Report  
CDRL D003, Transportability Report

(This is the last page of the SOW)

## Section D - Packaging and Marking

### SECTION D

#### PACKAGING AND MARKING

##### **D-1. Preparation for Delivery**

All suppliers shall be responsible for the preservation and packaging of all items to be delivered under the terms of this contract, in accordance with ASTM D3951-98 and MIL-STD-2073-1E(1). Packages from supplier shall be packed in accordance with approved packaging data. Items scheduled for shipment to Continental United States units for immediate use or limited storage will be accepted utilizing the best commercial practices of ASTM D3951-98. Marking for shipment and storage shall be in accordance with MIL-STD-129P. Item Unique Identification (IUID) and Radio Frequency Identification (RFID) shall be applied as required. Guidance supporting RFID application can be found at <http://www.acq.osd.mil/log/rfid/index.htm>. Both applications of IUID and RFID are DoD mandatory requirements. Supplier shall implement item Unique Identification marking as defined in MIL-STD-130M and DoD Guide to Uniquely Identifying Tangible Items. The two-dimensional IUID marking shall be incorporated into existing data plates, shall be machine-readable with common optical scanning devices and be accompanied by the corresponding human readable markings when practical.

##### **D-2. Packaging and Shipment**

Items scheduled for domestic shipment for immediate use shall be preserved and packaged in accordance with the best commercial practices of ASTM D3951-98. Items scheduled for overseas shipment for immediate use shall be in accordance with the best commercial practices of ASTM D3951-98, Export Requirements. Spare or repairable components, not declared to be Electrostatic Sensitive Devices (ESD) shall be in accordance with the best commercial practices of ASTM D3951-98. Items declared to be ESD shall be in accordance with the Level "A" requirements of MIL-STD-2073-1E(1), Appendix J, Table J-1a., Specialized Preservation Code "GX" and shall be packed into a reusable fast-pack container. Hazardous materials (HAZMAT) shall be in accordance with the requirements of Federal Regulation 49CFR and the FED-STD-313D(1). The CAC2S PDS/SDS contains Controlled Cryptographic Items (CCI) that requires special packaging, handling and shipment in accordance with the Electronic Keying Material System Policy and Procedures Manual, EKMS-1A or 21A.

##### **D-3. Classification and Data Development**

The contractor shall classify the selected items as common, selective, or special in accordance with MIL-STD-2073-1E(1)(1), Appendix A, paragraph A.5.1, and shall develop data as required by MIL-STD-2073-1E(1), Appendix E, paragraph E.4.

##### **D-4. Validation**

The contractor shall validate preservation processing and packaging for selective and special group items in accordance with MIL-STD-2073-1E(1), Appendix F, and ASTM D4169-01e1, Assurance Level II, Acceptance Criteria 1, Distribution Cycle 18. Exceptions to validation requirements shall be as delineated in MIL-STD-2073-1E(1), paragraph 5.6. The contractor shall report fully all steps taken during the validation process in accordance with ASTM D4169-01e1, Section 16.

##### **D-5. Development of Marking Requirements**

Marking shall be accomplished in accordance with the latest version(s) of MIL-STD 129, Marking for Shipment and Storage, and MIL-STD-1686, Electrostatic Discharge Control Program for Protection of Electrical and Electronic Parts, Assemblies and Equipment (Excluding Electrically Initiated Explosive Devices). Controlled Cryptographic Items (CCI) shall be marked in accordance with EKMS-1A/21A, Electronic Keying Material System Policy and Procedures Manual.

**D-6. Classified Data**

Classified reports, data and documentation, if applicable, shall be prepared for shipment in accordance with the National Industrial Security Program Operating Manual (NISPOM) DoD 5220.22M dated 28 February 2006, and when applicable, NISPOM Supplement 1 Dated February 1995 and Attachment (26) herein, DD 254 – Contract Security Classification Specification.

**D-7. Shipping Labels**

Shipments will be made to locations defined in the destinations within Section F under this contract.

CLAUSES INCORPORATED BY REFERENCE

252.211-7003      Item Identification and Valuation

JUN 2011

Section E - Inspection and Acceptance

**SECTION E**  
**INSPECTION AND ACCEPTANCE**

Technical Data Requirements

Technical data Requirements will be inspected and accepted by the Government as specified for each Exhibit in accordance with the applicable DD Form 1423 attached hereto. Technical Data will be inspected and accepted as indicated in Block (7) of each Exhibit as follows:

1. Data items submitted will be inspected under a Letter of Transmittal (LT) shall be the responsibility of the initial addressee under Block 14 of the DD Form 1423 as to review for adequacy and contract compliance. Where Code A is entered in Block 8 of the DD Form 1423 and deficiencies or inadequacies are noted, the initial addressee shall advise the Contractor in writing in accordance with paragraph E.3 (3).

2. Inspection and acceptance of the Data Items requiring shipment under DD Form 250 shall be made in accordance with Block 7 of the DD Form 1423. Source will be by the cognizant DCMA Representative. Destination shall be by first listed Block 14 addressee. Addressees other than the initial addressee shall be considered informational. Codes are further explained below:

CODE	INSPECTION	ACCEPTANCE
SS	Source	Source
DD	Destination	Destination
SD	Source	Destination
DS	Destination	Source
LT	Letter-Transmittal Only	
NO	No inspection or acceptance required	
XX	Inspection or acceptance requirements Specified elsewhere in the contract	

3. Unless otherwise specifically stated in the applicable DD Form 1423, or associated Data Item Description (DID), the Government must provide written comment, rejection or acceptance to the Contractor within thirty (30) days after receipt of each data submission. The Contractor shall notify the Government in writing (PCO and ACO) if the Government is at risk of failing to meet the applicable review time requirements.

**INSPECTION AND ACCEPTANCE TERMS**

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Origin	Government	Destination	Government
000101	N/A	N/A	N/A	Government
0002	Origin	Government	Destination	Government
0101	Origin	Government	Destination	Government
0102	Origin	Government	Destination	Government

0103	Origin	Government	Destination	Government
0104	Origin	Government	Destination	Government
0105	Origin	Government	Destination	Government
0106	Origin	Government	Destination	Government

CLAUSES INCORPORATED BY REFERENCE

52.246-2	Inspection Of Supplies--Fixed Price	AUG 1996
52.246-16	Responsibility For Supplies	APR 1984
252.246-7000	Material Inspection And Receiving Report	MAR 2008

Section F - Deliveries or Performance

SHIPPING ADDRESSES

**SHIPPING INSTRUCTIONS**

**CLIN 0001:**

**One (1) EDM will be delivered to:**

Commanding Officer  
 Marine Corps Tactical Systems Activity (MCTSSA) (M68909)  
 Building 31345  
 Camp Pendleton, CA 92055  
 ATTN: NANCY RATHGEBER, PESG  
 Phone: (760) 725-2149  
 E-mail: [nancy\\_r\\_rathgeber@usmc.mil](mailto:nancy_r_rathgeber@usmc.mil)

**Three (3) EDMs will be delivered to:**

Naval Surface Warfare Center, Crane (N00164)  
 Attn: STAN HODGES  
 300 Hwy 361, Bldg 41 Receiving Supply Operations  
 Crane, IN 47522  
 Phone: 812-854-8794  
 E-mail: [stanley.hodges@navy.mil](mailto:stanley.hodges@navy.mil)

**All software builds will be delivered to NSWC Dahlgren to:**

Naval Surface Warfare Center, Dahlgren (N00178)  
 Attn: Hank St. Laurent, W15, Suite 128, 1450T  
 4086 Higley Road  
 Dahlgren, VA 22448-5100  
 Phone: 540-653-0130  
 E-mail: [hank.stlaurent@navy.mil](mailto:hank.stlaurent@navy.mil)

**DELIVERY INFORMATION**

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	28-AUG-2015	1	NAVAL SURFACE WARFARE CENTER, CRANE DIV MR. STAN HODGES (JXSP) 300 HWY 361, BLDG 41, RECEIVING SUPPLY OP CRANE IN 47522-5001 812-854-8794 FOB: Destination	N00164
000101	N/A	N/A	N/A	N/A

0002	28-AUG-2015	1	NAVAL SURFACE WARFARE CENTER, CRANE DIV MR. STAN HODGES (JXSP) 300 HWY 361, BLDG 41, RECEIVING SUPPLY OP CRANE IN 47522-5001 812-854-8794 FOB: Destination	N00164
0101	15-MAY-2015	4	(SAME AS PREVIOUS LOCATION) FOB: Destination	N00164
0102	15-JUN-2016	5	(SAME AS PREVIOUS LOCATION) FOB: Destination	N00164
0103	15-JUN-2016	1	(SAME AS PREVIOUS LOCATION) FOB: Destination	N00164
0104	15-MAR-2016	1	(SAME AS PREVIOUS LOCATION) FOB: Destination	N00164
0105	15-MAY-2015	1	(SAME AS PREVIOUS LOCATION) FOB: Destination	N00164
0106	15-JUN-2017	1	(SAME AS PREVIOUS LOCATION) FOB: Destination	N00164

## CLAUSES INCORPORATED BY REFERENCE

52.242-15	Stop-Work Order	AUG 1989
52.242-17	Government Delay Of Work	APR 1984
52.247-34	F.O.B. Destination	NOV 1991

## Section G - Contract Administration Data

**SECTION G****G.1 POST AWARD CONFERENCE (PAC)**

A Post Award Conference will be held in accordance with Statement of Work paragraph 3.2.1.2.

**G.2 AUTHORIZED CHANGES TO CONTRACT BY PRIMARY CONTRACTING OFFICER ONLY**

(1) Except as specified in paragraph (3) below, no order, statement, or conduct of Government personnel in any other manner communicated with Contractor personnel during the performance of this contract will constitute a change under the "Changes" clause of this contract.

(2) The Contractor will not comply with any order, direction or request of Government personnel unless it is issued in writing and signed by the Contracting Officer, or is pursuant to specific authority otherwise included as a part of this contract.

(3) The Contracting Officer is the only person authorized to approve changes in any of the requirements of this contract and notwithstanding provisions contained elsewhere in this contract, the said authority remains solely the Contracting Officer's. In the event the contractor affects any change at the direction of any person other than the Contracting Officer, the change will be considered to have been made without authority and no adjustment will be made to the contract price to cover any increase in costs incurred as a result thereof which shall be borne by the Contractor.

**G.3 GOVERNMENT POINTS OF CONTACT**

a) Contracting Officer for this requirement is:

Mohamed Elmi Code CT028/AC2SN

Commander,  
Marine Corps Systems Command  
2200 Lester Street  
Quantico, VA 22134  
Phone: (703) 432-3233  
FAX: (703) 432-3552  
E-mail: [mohamed.elmi@usmc.mil](mailto:mohamed.elmi@usmc.mil)

**b) DESIGNATION OF CONTRACTING OFFICER'S REPRESENTATIVE (COR)**

(1) The Contracting Officer has designated the Contracting Officer's Representative (COR) as follows:

COR: Mr. Donald Kelley  
PEO Land Systems/AC2SN  
2200 Lester Street  
Quantico, VA 22134  
Phone: 703-432-4602  
Email: [donald.a.kelley@usmc.mil](mailto:donald.a.kelley@usmc.mil)

(2) The contractor will be provided with a copy of the COR designation letter at contract award. The duties of the COR are to act as the Contracting Officer's Representative for technical direction and discussion as necessary with respect to the specification or Statement of Work and monitoring the progress and quality of contractor performance. The COR is NOT an Administrative Contracting Officer and does not have authority to take any action, either directly or indirectly, that would change the pricing, quantity, quality, place of performance, delivery schedule, or

any other terms and conditions of this contract (or delivery order), or to direct the accomplishment of effort which goes beyond the scope of the Statement of Work in the contract.

(3) When, in the opinion of the Contractor, the COR requests effort outside the existing scope of the contract, the Contractor will promptly notify the Contracting Officer in writing. No action will be taken by the Contractor under such direction until the Contracting Officer has issued a modification to the contract or has otherwise resolved the issue.

#### **G.4 DELEGATION OF AUTHORITY FOR CONTRACT ADMINISTRATION**

The DCMA Administrative Contracting Officer (ACO) resident at Defense Contract Management Agency Phoenix, is hereby designated as the authorized representative of the Contracting Officer for purposes of administering this contract in accordance with FAR 42.3. However, in view of the technical nature of the supplies and services to be furnished hereunder, technical cognizance is retained by the CAC2S Phase 2 Program Office. The Contracting Officer's Representative serves in a supporting role to the Contracting Officer, providing advice and expertise on technical issues. However, only the Contracting Officer has authority to authorize deviations from specification requirements. In the event the Contractor does deviate, without written approval from the Contracting Officer, such deviations shall be at risk of, and any related costs thereto, shall be assumed by the Contractor.

The **Administrative Contracting Office** for this contract is:

Defense Contract Management Agency, Phoenix  
Two Renaissance Square – Suite 400  
40 N. Central Avenue  
Phoenix, Arizona 85004-4424  
Facility Code: S0302A  
(602) 594-7800 (Phone) / (602) 594-7995 (Fax)

#### **DCMA**

General Dynamics C4 Systems, Inc.  
400 John Quincy Adams Road  
Taunton, MA 02780-1069

#### **Administrative Contracting Officer**

Attn: James Galligan, DACO  
[James.Galligan@dcma.mil](mailto:James.Galligan@dcma.mil)  
(508) 880-1101 (Phone) / (508) 880-4279 (Fax)

#### **Local Administrative Contracting Officer**

Mr. Richard Russell  
[Richard.Russell@dcma.mil](mailto:Richard.Russell@dcma.mil)  
(480) 441-5500 (Phone) / (480) 441-6506 (Fax)

#### **G.5 TECHNICAL DIRECTION**

Performance of the work under this contract shall be subject to the technical direction of the COR. The term "technical direction" is defined to include, without limitation, the following:

Technical direction must be within the general scope of work stated in the contract. The COR does NOT have the authority to, and may not, issue any technical direction which: (1) constitutes the assignment of any additional work outside the general scope of the contract; (2) constitutes a change as defined in the contract clause entitled, "Changes;" (3) in any manner causes an increase or decrease in the total estimated contract cost, fixed fee, or time required for the contract performance; or (4) changes any of the express terms, conditions or specifications of the contract.

All technical directions shall be issued in writing by the COR; verbal direction shall be confirmed by the COR in writing within five (5) working days after their issuance.

The Contractor shall proceed promptly with the performance of technical directions duly issued by the COR in the manner prescribed by this article and within his/her authority under the provisions of this article.

If, in the opinion of the Contractor, any instruction or direction issued by the COR is within one of the categories as defined in the terms and conditions of the contract; the Contractor shall not proceed, but shall notify the Contracting Officer immediately and in writing, within five (5) working days after receipt of any such instruction or direction and shall request the Contracting Officer to modify the contract accordingly. Upon receiving such notification from the Contractor, the Contracting Officer shall issue an appropriate contract modification or advise the Contractor, in writing, that in his/her opinion, the technical direction is within the scope of this article and does not constitute a change under the "Changes" clause of the contract. The Contractor shall thereupon proceed immediately with the direction given by the Contracting Officer. A failure of the parties to agree upon the nature of the instruction or direction, or upon the contract action to be taken with respect thereto, shall be subject to the provisions of the contract clause entitled, "Disputes."

#### **G.6 CONTRACTOR'S AUTHORIZED CONTRACT COORDINATOR AND TECHNICAL LIAISON**

(1) The Contractor shall state below the name and telephone numbers of the Contractor's employees responsible for coordination of contract functions/liaison with the Contracting Officer.

**CONTRACT ADMINISTRATOR**

NAME: Loretha Johnson

PHONE (BUS): 480-441-4577

PHONE (MOBILE): 602-769-1635

Email: [Loretha.Johnson@gdc4s.com](mailto:Loretha.Johnson@gdc4s.com)

**ALTERNATE:**

NAME: Paul Moroz

PHONE (BUS): 480-441-2418

PHONE (MOBILE): 480-227-1935

Email: [Paul.Moroz@gdc4s.com](mailto:Paul.Moroz@gdc4s.com)

(2) The Contractor shall notify the Contracting Officer in advance, in writing, of any changes in the above listed personnel.

#### **G.7 PASS-THROUGH WARRANTIES**

The Contractor shall pass through all warranties offered from their subcontractors and vendors to and for the Government's benefit at no additional cost to the Government. The Contractor shall provide a list of all warranted parts and assemblies at time of delivery under this contract. The pass-through warranty list shall contain the manufacturer's name, part or assembly nomenclature, manufacturer (vendor or subcontractor) part number, item cost, and the extent and terms of the warranty. Actual copies of subcontractor/vendor warranties shall be provided to the Government upon request.

#### **G8. PERFORMANCE BASED PAYMENTS**

This contract is subject to the following performance based payment schedule:

CLIN 0001:

Upon successful completion of the first Requirements Verification Review, the contractor is authorized to submit an invoice for **eight percent (8%)** of the target price for CLIN 0001. Successful completion is defined as the Government's concurrence of the PDS/SDS SSS requirements allocation and acceptance of the meeting minutes.

Upon successful completion of the first Integrated Baseline Review, the contractor is authorized to submit an invoice for **three percent (3%)** of the stated target price for CLIN 0001. Successful completion is defined as the Government's concurrence of the IBR results and acceptance of the meeting minutes.

Upon successful completion of the Functional Allocation/Architecture Validation, the contractor is authorized to submit an invoice for **eight percent (8%)** of the stated target price for CLIN 0001. Successful completion is defined as the Government's concurrence of the Functional Allocation and Architecture products and acceptance of the meeting minutes.

Upon successful completion of the Pre-CDR Status Review, the contractor is authorized to submit an invoice for **eight percent (8%)** of the stated target price for CLIN 0001. Successful completion is defined as the Government's concurrence that the maturity of the CDR products are on track to support the Pre-CDR Validation and acceptance of the meeting minutes.

Upon successful completion of the Pre-CDR Validation, the contractor is authorized to submit an invoice for **eight percent (8%)** of the stated target price for CLIN 0001. Successful completion is defined as the Government's concurrence that the CDR products are ready to proceed to CDR and acceptance of the meeting minutes.

Upon successful completion of the Critical Design Review, the contractor is authorized to submit an invoice for **eight percent (8%)** of the stated target price for CLIN 0001. Successful completion is defined as the Government's baseline of the CAC2S design, authorization to procure EDMs, and acceptance of the meeting minutes.

Upon successful delivery of each Engineering Development Model and DT/OA spares, the contractor is authorized to submit an invoice for **one percent (1%)** of the stated target price of CLIN 0001. Successful delivery is defined as Government acceptance (DD250) of EDMs and spares.

Upon successful completion of each Government Test Readiness Review (TRR), the contractor is authorized to submit an invoice for **five percent (5%)** of the stated target price for CLIN 0001. Successful completion is defined as authorization to proceed to DT/OA and acceptance of meeting minutes.

Upon successful completion of the Functional Configuration Audit (FCA), the contractor is authorized to submit an invoice for **seven percent (7%)** of the stated target price for CLIN 0001. Successful completion is defined as concurrence with the Functional Configuration Audit Summary Report and acceptance of meeting minutes.

Upon successful completion of the Operational Test Readiness Review (OTRR), the contractor is authorized to submit an invoice for **thirteen percent (13%)** of the stated target price for CLIN 0001. Successful completion is defined as authorization to proceed to OT.

Upon final delivery of Build-to-Print Technical Data Package, the contractor is authorized to submit an invoice for **thirteen percent (13%)** of the stated target price for CLIN 0001.

CLIN 0002:  
Not Separately Priced.

CLIN 0101:

Upon successful completion of the Assembly Review, the contractor is authorized to submit an invoice for **ten percent (10%)** of the stated target price for CLIN 0101. Successful completion is defined as authorization to produce LDUs and acceptance of meeting minutes.

Upon successful delivery of each Limited Deployment Units and IOT&E spares, the contractor is authorized to submit an invoice for **twenty percent (20%)** of the stated target price for CLIN 0101. Successful delivery is defined as Government acceptance (DD250) of LDUs and spares.

Upon successful completion of the Physical Configuration Audit (PCA), the contractor is authorized to submit an invoice for **ten percent (10%)** of the stated target price for CLIN 0101. Successful completion is defined concurrence with the Physical Configuration Audit Summary Report.

CLIN 0102:

Upon successful delivery of each Limited Deployment Units and two years of spares, the contractor is authorized to submit an invoice for **twenty percent (20%)** of the stated target price for CLIN 0102. Successful delivery is defined as Government acceptance (DD250) of LDUs and spares.

CLIN 0103:

Upon successful delivery of each software release, the contractor is authorized to submit an invoice for **twenty-five percent (25%)** of the stated price for CLIN 0103. Successful delivery is defined as Government acceptance (DD250) of software releases.

CLIN 0104:

Upon successful delivery of each refurbished LDU and two years of spares, the contractor is authorized to submit an invoice for **twenty-five percent (25%)** of the stated price for CLIN 0104. Successful delivery is defined as Government acceptance (DD250) of LDUs and spares.

CLIN 0105:  
Not Separately Priced.

CLIN 0106:

Upon successful delivery of each software release, the contractor is authorized to submit an invoice for **twenty-five percent (25%)** of the stated price for CLIN 0106. Successful delivery is defined as Government acceptance (DD250) of software releases.

UNDER NO EVENT SHALL THE GOVERNMENT PAY INVOICES TOTALING A HIGHER AMOUNT THAN THE INDIVIDUALLY STATED PRICES FOR CLINS 0001, 0101, 0102, 0103, 0104and 0106, OR THE TOTAL FIRM PRICE INCENTIVE PRICE ESTABLISHED FOR THIS CONTRACT.

The table below identifies the PBP event number associated with each CLIN, a description along with the expected accomplishment of each event, the method of Government verification of the event, and the total dollar amount for each event. Once verified, the Contractor is authorized to invoice the indicated dollar amount.

Upon completion and acceptance of all contract deliverables, the Contractor will be authorized to submit a final invoice for the final 10% of the contract value.

**Example:**

The Contractor has completed the Pre-CDR validation and the Government has concurred with the maturity of CDR products and accepted the meeting minutes. The Contractor is now authorized to submit an invoice for payment for this event.

Invoice Amount: \$800,000.00

Authorized Payment Amount: \$720,000.00\*

Amounts	Invoice Amounts	=	Payment Amounts:	Final Invoice
CLIN 0001:	\$800,000.00	=	\$720,000.00	\$80,000.00
	100%	=	90%	10%

\*After acceptance of all contract deliverables, the Contractor may submit a final invoice in the amount of \$80,000.00 for CLIN 0001.

**TABLE**

CLIN	Event Number	Event Type: Severable (S) or Cumulative (C)	Description	Accomplishment Expected	Method of Verification	Event Value	90% of Event Value
CLIN 0001	1	C	First Requirements Verification Review	Completion of the first Requirements Verification Review	Successful completion is defined as the Government's concurrence of the PDS/SDS SSS requirements allocation and acceptance of the meeting minutes	\$3,308,544	<b>\$2,977,690</b>
CLIN 0001	2	C	First Integrated Baseline Review	Completion of the first Integrated Baseline Review	Government's concurrence of the IBR results and acceptance of the meeting minutes	\$1,240,704	<b>\$1,116,634</b>
CLIN 0001	3	C	The Functional Allocation/Architecture Validation	Completion of the Functional Allocation/Architecture Validation	Government's concurrence of the Functional Allocation and Architecture products and acceptance of the meeting minutes	\$3,308,544	<b>\$2,977,690</b>

CLIN 0001	4	C	Pre-CDR Status Review	Completion of the Pre-CDR Status Review	Government's concurrence that the maturity of the CDR products are on track to support the Pre-CDR Validation and acceptance of the meeting minutes	\$3,308,544	<b>\$2,977,690</b>
CLIN 0001	5	C	Pre-CDR Validation	Completion of the Pre-CDR Validation	Government's concurrence that the CDR products are ready to proceed to CDR and acceptance of the meeting minutes	\$3,308,544	<b>\$2,977,690</b>
CLIN 0001	6	C	Critical Design Review	Completion of the Critical Design Review	Government's baseline of the CAC2S design, authorization to procure EDMs, and acceptance of the meeting minutes.	\$3,308,544	<b>\$2,977,690</b>
CLIN 0001	7	C	Engineering Development Model and DT/OA spares	Delivery of each Engineering Development Model and DT/OA spares	Government acceptance (DD250) of EDMs and spares	\$1,654,272	<b>\$1,488,845</b>
CLIN 0001	8	C	Government Test Readiness Review (TRR)	Completion of each Government Test Readiness Review (TRR)	Authorization to proceed to DT/OA and acceptance of meeting minutes	\$8,271,360	<b>\$7,444,224</b>
CLIN 0001	9	C	Functional Configuration Audit (FCA)	Completion of the Functional Configuration Audit (FCA)	concurrence with the Functional Configuration Audit Summary Report and acceptance of meeting minutes	\$2,894,976	<b>\$2,605,479</b>
CLIN 0001	10	C	Operational Test Readiness Review (OTRR)	Completion of the Operational Test Readiness Review (OTRR)	Authorization to proceed to OT	\$5,376,384	<b>\$4,838,746</b>
CLIN 0001	11	C	Build-to-Print Technical Data Package	Delivery of Build- to-Print Technical Data Package	Government Acceptance of Build-to-Print Technical Data Package	\$5,376,384	<b>\$4,838,746</b>

CLIN 0101	12	C	Assembly Review	Completion of the Assembly Review	Authorization to produce LDUs and acceptance of meeting minutes	\$816,998	<b>\$735,298</b>
CLIN 0101	13	C	Limited Deployment Units and IOT&E spares	Delivery of each Limited Deployment Units and IOT&E spares	Government acceptance (DD250) of LDUs and spares	\$6,535,986	<b>\$5,882,388</b>
CLIN 0101	14	C	Physical Configuration Audit (PCA)	Completion of the Physical Configuration Audit (PCA)	Concurrence with the Physical Configuration Audit Summary Report	\$816,998	<b>\$735,298</b>
CLIN 0102	15	C	Limited Deployment Units and two years of spares	Delivery of each Limited Deployment Units and two years of spares	Government acceptance (DD250) of LDUs and spares	\$8,119,091	<b>\$7,307,182</b>
CLIN 0103	16	C	Software release	Delivery of each software release	Government acceptance (DD250) of software releases.	\$1,794,852	<b>\$1,615,367</b>
CLIN 0104	17	C	Refurbished LDU and two years of spares	Delivery of each refurbished LDU and two years of spares	Government acceptance (DD250) of LDUs and spares	\$798,007	<b>\$718,206</b>
CLIN 0106	18	C	Software release	Delivery of each software release	Government acceptance (DD250) of software releases.	\$1,171,648	<b>\$1,054,483</b>

### G.9 CONTRACTOR PERFORMANCE ASSESSMENT REPORTING SYSTEM (CPARS)

The Contractor shall comply with the requirements of DoD CPARS. Annually, the Government's CPARS Assessing Official will input the Contractor's proposed performance assessment rating into the CPARS electronic database and notify the Contractor's Representative that the ratings are available for review. The Contractor Representative is responsible for reviewing and commenting on proposed ratings for CPARS submitted by the Assessing Official and pertaining to the work performed by the Contractor. The Contractor Representative shall review and comment on

proposed ratings/narratives no later than 30 days from the date the Assessing Official forwards the CPAR. Within seven days of receiving the CPAR, the Defense Contractor Representative may request a meeting with the government to discuss the CPAR

**G.10 SUBSTITUTION OF KEY PERSONNEL**

General Provision. The Contractor shall identify the organizational elements responsible for the conduct of the activities delineated in this contract. Responsibilities shall be assigned and clear lines of authority defined for determining and controlling the resources necessary to satisfy each element of this contract.

The Contractor agrees to assign to this contract those people identified as key personnel whose resumes were submitted with its proposal submission and who are necessary to fulfill the requirements of this contract. No substitutions shall be made except in accordance with this clause.

Substitutions. All substitution requests must be submitted, in writing, at least fifteen (15) days in advance of the proposed substitutions to the Contracting Officer.

Requests for Substitutions. All requests for substitutions must provide a detailed explanation of the circumstances necessitating the proposed substitution, and any other information requested by the Contracting Officer. All proposed substitutes must have qualifications that are equal to or higher than the qualifications required of the person to be replaced and appropriate security clearances. The Contracting Officer will evaluate such requests and promptly notify the Contractor of his/her approval or disapproval thereof.

Key personnel definition: Key personnel are understood to be those individuals who were proposed in the Contractor’s technical submission, and specifically listed herein, to the Government who are necessary to fill the requirements of this contract. The following personnel are considered Key Personnel under this contract:

Key Personnel	
Position	Name of Employee
Program Manager	(b) (6)
Technical Director/ Lead Engineer	
Technical Director/ Lead Engineer	
Lead Logistician	
Production Manager	

**ACCOUNTING AND APPROPRIATION DATA**

AA: 1721319M7KC 251 67854 067443 2D C2273D  
 COST CODE: 2ARCR2FD0171  
 AMOUNT: \$15,000,000.00  
 CIN M9545012RCR2FD00001: \$0.00  
 CIN M9545012RCR2FD0000101: \$15,000,000.00

## CLAUSES INCORPORATED BY REFERENCE

252.201-7000	Contracting Officer's Representative	DEC 1991
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	MAR 2008

## CLAUSES INCORPORATED BY FULL TEXT

## 252.232-7006 WIDE AREA WORKFLOW PAYMENT INSTRUCTIONS (JUN 2012)

(a) Definitions. As used in this clause--

Department of Defense Activity Address Code (DoDAAC) is a six position code that uniquely identifies a unit, activity, or organization.

Document type means the type of payment request or receiving report available for creation in Wide Area WorkFlow (WAWF).

Local processing office (LPO) is the office responsible for payment certification when payment certification is done external to the entitlement system.

(b) Electronic invoicing. The WAWF system is the method to electronically process vendor payment requests and receiving reports, as authorized by DFARS 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports.

(c) WAWF access. To access WAWF, the Contractor shall--

(1) Have a designated electronic business point of contact in the Central Contractor Registration at <https://www.acquisition.gov>; and

(2) Be registered to use WAWF at <https://wawf.eb.mil/> following the step-by-step procedures for self-registration available at this Web site.

(d) WAWF training. The Contractor should follow the training instructions of the WAWF Web-Based Training Course and use the Practice Training Site before submitting payment requests through WAWF. Both can be accessed by selecting the "Web Based Training" link on the WAWF home page at <https://wawf.eb.mil/>.

(e) WAWF methods of document submission. Document submissions may be via Web entry, Electronic Data Interchange, or File Transfer Protocol.

(f) WAWF payment instructions. The Contractor must use the following information when submitting payment requests and receiving reports in WAWF for this contract/order:

(1) Document type. The Contractor shall use the following document type(s).

**The contractor is directed to use the following guidance when choosing a format for processing invoices, receiving reports, and cost vouchers. If billing for Fixed-Price Incentive or Firm-Fixed Price items, the**

**contractor may use Receiving Report, Invoice and Receiving Report “Combo” 2-n-1 (Services Only). If billing for Cost Type/Reimbursable Contracts, select “Cost Voucher.”**

DFAS-Columbus Center (HQ0339)  
 WEST ENTITLEMENT OPERATIONS  
 P.O. BOX 182381  
 COLUMBUS, OH 43218-2381

E-Mail: CCO-KC-VPIS@DFAS.MIL (Vendor Pay)  
 PHONE: 1-800-756-4571 #2 then #4 (MOCAS = #1 then #4)  
 WAWF: <https://wawf.eb.mil/>

My Invoice: <https://myinvoice.csd.disa.mil>

Data entry information in WAWF:  
 Payment Office DoDAAC: HQ0339  
 Issue By DoDAAC: M67854  
 Admin Office DoDAAC: S1403A  
 Ship To/Service Acceptor DoDAAC: M67854 Ext CAC2  
 Contract Number: M67854-12-C-0211

(2) Inspection/acceptance location. The Contractor shall select the following inspection/acceptance location(s) in WAWF, as specified by the contracting officer.

**See Section E.2**

(3) Document routing. The Contractor shall use the information in the Routing Data Table below only to fill in applicable fields in WAWF when creating payment requests and receiving reports in the system.

Routing Data Table\*

Field Name in WAWF	Data to be entered in WAWF
Pay Official DoDAAC	M67854
Issue By DoDAAC	M67854
Admin DoDAAC	S1403A
Inspect By DoDAAC	S0302A
Ship To Code	M67854
Ship From Code	<u>See schedule</u>
Mark For Code	<u>See schedule</u>
Service Approver (DoDAAC)	M67854
Service Acceptor (DoDAAC)	M67854 Ext CAC2
Accept at Other DoDAAC	HQ0339
LPO DoDAAC	Not applicable
DCAA Auditor DoDAAC	S0302A
Other DoDAAC(s)	S0302A

(4) Payment request and supporting documentation. The Contractor shall ensure a payment request includes appropriate contract line item and subline item descriptions of the work performed or supplies delivered, unit price/cost per unit, fee (if applicable), and all relevant back-up documentation, as defined in DFARS Appendix F, (e.g. timesheets) in support of each payment request.

(5) WAWF email notifications. The Contractor shall enter the email address identified below in the "Send Additional Email Notifications" field of WAWF once a document is submitted in the system.

Linda Ngo at [linda.ngo@usmc.mil](mailto:linda.ngo@usmc.mil) and Jim Swirgart at [james.swigart@usmc.mil](mailto:james.swigart@usmc.mil)

(g) WAWF point of contact. (1) The Contractor may obtain clarification regarding invoicing in WAWF from the following contracting activity's WAWF point of contact.

Linda Ngo at [linda.ngo@usmc.mil](mailto:linda.ngo@usmc.mil)

(2) For technical WAWF help, contact the WAWF helpdesk at 866-618-5988.

(End of clause)

Section H - Special Contract Requirements

**SECTION H**

**H.1 FACILITIES USED UNDER THIS CONTRACT**

The Contractor shall provide all facilities for performance of this contract, except facilities for tests conducted at Government-owned test venues. All research or research and development work under this contract shall be performed in the United States. "United States" means the fifty states, the Commonwealth of Puerto Rico, and the District of Columbia.

**H.2 GOVERNMENT/CONTRACTOR TEAMING**

The Government and the Contractor agree to utilize an Integrated Product and Process Development (IPPD) approach in managing this program. In an effort to emphasize the delivery of quality services and products, an extraordinary amount of communication is required among integrated Government/contractor team members at all levels of the workforce. However, the Contracting Office is the only representative authorized to take action that constitutes a change in the terms and conditions of the contract. The Government shall not be liable for the costs associated with Government conduct that the Contractor considers to constitute a change to this contract if the appropriate notification required by FAR 52.243-7 is not provided within 5 calendar days of such Government conduct.

**H.3 LIABILITY INSURANCE**

The following types of insurance are required in accordance with the clause entitled, FAR 52.228-5, "Insurance – Work on a Government Installation and shall be maintained in the minimum amounts shown:

- (a) Comprehensive General Liability: \$500,000 per accident for bodily injury.
- (b) Automobile Insurance: \$200,000 per person and \$500,000 per accident for bodily injury and \$500,000 per accident for property damage.
- (c) Standard Workman’s Compensation and Employer’s Liability Insurance (or, where maritime employment is involved, Longshoremen’s and Harbor Worker’s Compensation Insurance) in the minimum amount of \$100,000.

**H.4 SCHEDULE OF GOVERNMENT FURNISHED PROPERTY (GFP)**

- (a) Pursuant to the "Government Property" clause in Section I of this contract, the Government shall furnish to the Contractor, the Government-owned property listed in Section J of this contract (Attachment (6) hereto) for use in the performance of this contract.
- (b) The property shall be delivered in accordance with the schedule set forth in the contract (TBD at Contract Award).
- (c) If the property is not received in accordance with the contract, the Contractor shall notify the Contracting Officer in writing within seven (7) days after scheduled receipt of the property. If Government-furnished property is received by the Contractor in a condition not suitable for the intended use, the Contractor shall, within thirty (30) days of receipt, notify the Contracting Officer, in writing, detailing the facts.

**H.5 OPTION EXERCISE DATES**

The Government has the unilateral right to exercise any option under this Contract. If the Government decides to exercise any or all options, they must do so before the following dates:

<b>Option</b>	<b>Exercise No Later Than</b>
0101 – CAC2S Limited Deployment System	180 calendar days after successful completion of Operational Assessment
0102 – CAC2S Limited Deployment System	180 calendar days after Full Deployment Decision Review
0103 – CAC2S Software Maintenance	180 calendar days after Full Deployment

	Decision Review
0104 – CAC2S Refurbishment and Spares	180 calendar days after Full Deployment Decision Review
0105 – CAC2S Data	180 calendar days after successful completion of Operational Assessment
0106 – CAC2S Software Maintenance	30 calendar days prior to completion of CLIN 0103

## Section I - Contract Clauses

## CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-7	Anti-Kickback Procedures	OCT 2010
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	OCT 2010
52.203-13	Contractor Code of Business Ethics and Conduct	APR 2010
52.203-14	Display of Hotline Poster(s)	DEC 2007
52.204-2	Security Requirements	AUG 1996
52.204-4	Printed or Copied Double-Sided on Postconsumer Fiber Content Paper	MAY 2011
52.204-7	Central Contractor Registration	APR 2008
52.204-9	Personal Identity Verification of Contractor Personnel	JAN 2011
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	DEC 2010
52.209-9	Updates of Publicly Available Information Regarding Responsibility Matters	JAN 2011
52.210-1	Market Research	APR 2011
52.211-5	Material Requirements	AUG 2000
52.211-15	Defense Priority And Allocation Requirements	APR 2008
52.215-2	Audit and Records--Negotiation	OCT 2010
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-21	Requirements for Certified Cost or Pricing Data or Information Other Than Certified Cost or Pricing Data-- Modifications	OCT 2010
52.219-8	Utilization of Small Business Concerns	JAN 2011
52.219-9	Small Business Subcontracting Plan	JAN 2011
52.219-16	Liquidated Damages-Subcontracting Plan	JAN 1999
52.222-3	Convict Labor	JUN 2003
52.222-19	Child Labor -- Cooperation with Authorities and Remedies	JUL 2010
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity for Veterans	SEP 2010
52.222-36	Affirmative Action For Workers With Disabilities	OCT 2010
52.222-37	Employment Reports on Veterans	SEP 2010
52.222-40	Notification of Employee Rights Under the National Labor Relations Act	DEC 2010
52.222-50	Combating Trafficking in Persons	FEB 2009
52.222-54	Employment Eligibility Verification	JAN 2009
52.223-6	Drug-Free Workplace	MAY 2001
52.223-18	Encouraging Contractor Policies To Ban Text Messaging While Driving	AUG 2011
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.227-1	Authorization and Consent	DEC 2007

52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	DEC 2007
52.227-10	Filing Of Patent Applications--Classified Subject Matter	DEC 2007
52.228-5	Insurance - Work On A Government Installation	JAN 1997
52.228-7	Insurance--Liability To Third Persons	MAR 1996
52.229-3	Federal, State And Local Taxes	APR 2003
52.232-1	Payments	APR 1984
52.232-8	Discounts For Prompt Payment	FEB 2002
52.232-11	Extras	APR 1984
52.232-17	Interest	OCT 2010
52.232-22	Limitation Of Funds	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	OCT 2008
52.232-32	Performance-Based Payments	AUG 2010
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	OCT 2003
52.233-1 Alt I	Disputes (Jul 2002) - Alternate I	DEC 1991
52.233-3	Protest After Award	AUG 1996
52.233-4	Applicable Law for Breach of Contract Claim	OCT 2004
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-2	Production Progress Reports	APR 1991
52.242-13	Bankruptcy	JUL 1995
52.243-1	Changes--Fixed Price	AUG 1987
52.243-6	Change Order Accounting	APR 1984
52.244-6	Subcontracts for Commercial Items	DEC 2010
52.245-1 Alt I	Government Property (Aug 2010) Alternate I	AUG 2010
52.245-9	Use And Charges	AUG 2010
52.246-24	Limitation Of Liability--High-Value Items	FEB 1997
52.247-55	F.O.B. Point For Delivery Of Government-Furnished Property	JUN 2003
52.247-68	Report of Shipment (REPSHIP)	FEB 2006
52.249-2	Termination For Convenience Of The Government (Fixed-Price)	MAY 2004
52.249-8	Default (Fixed-Price Supply & Service)	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.201-7000	Contracting Officer's Representative	DEC 1991
252.203-7000	Requirements Relating to Compensation of Former DoD Officials	SEP 2011
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2008
252.203-7002	Requirement to Inform Employees of Whistleblower Rights	JAN 2009
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Central Contractor Registration Alternate A	SEP 2007
252.204-7005	Oral Attestation of Security Responsibilities	NOV 2001
252.204-7008	Export-Controlled Items	APR 2010
252.205-7000	Provision Of Information To Cooperative Agreement Holders	DEC 1991
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	DEC 2006
252.211-7000	Acquisition Streamlining	OCT 2010
252.211-7006	Radio Frequency Identification	SEP 2011
252.211-7007	Reporting of Government-Furnished Equipment in the DoD Item Unique Identification (IUID) Registry	NOV 2008
252.215-7002	Cost Estimating System Requirements	MAY 2011
252.222-7006	Restrictions on the Use of Mandatory Arbitration Agreements	DEC 2010
252.223-7004	Drug Free Work Force	SEP 1988

252.223-7008	Prohibition of Hexavalent Chromium	MAY 2011
252.225-7001	Buy American Act And Balance Of Payments Program	OCT 2011
252.225-7002	Qualifying Country Sources As Subcontractors	APR 2003
252.225-7012	Preference For Certain Domestic Commodities	JUN 2010
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7001	Release Of Past Infringement	AUG 1984
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation	MAR 2011
252.227-7016	Rights in Bid or Proposal Information	JAN 2011
252.227-7019	Validation of Asserted Restrictions--Computer Software	SEP 2011
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 2011
252.231-7000	Supplemental Cost Principles	DEC 1991
252.232-7010	Levies on Contract Payments	DEC 2006
252.242-7005	Contractor Business Systems	MAY 2011
252.242-7006	Accounting System Administration	MAY 2011
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.244-7000	Subcontracts for Commercial Items and Commercial Components (DoD Contracts)	SEP 2011
252.244-7001	Contractor Purchasing System Administration	MAY 2011
252.245-7001	Tagging, Labeling, and Marking of Government-Furnished Property	FEB 2011
252.245-7002	Reporting Loss of Government Property	FEB 2011
252.245-7003	Contractor Property Management System Administration	MAY 2011
252.246-7001	Warranty Of Data	DEC 1991
252.246-7003	Notification of Potential Safety Issues	JAN 2007
252.247-7023	Transportation of Supplies by Sea	MAY 2002
252.249-7002	Notification of Anticipated Contract Termination or Reduction	OCT 2010

#### CLAUSES INCORPORATED BY FULL TEXT

#### 52.216-16 INCENTIVE PRICE REVISION--FIRM TARGET (OCT 1997)

- (a) General. The supplies or services identified in the Schedule as Items **CLIN 0001**, **CLIN 0101** and **CLIN 0102** are subject to price revision in accordance with this clause; provided, that in no event shall the total final price of these items exceed the ceiling price as follows: **CLIN 0001** (b) (4); **CLIN 0101** (b) (4) and **CLIN 0102** (b) (4) 0. Any supplies or services that are to be (1) ordered separately under, or otherwise added to, this contract and (2) subject to price revision in accordance with the terms of this clause shall be identified as such in a modification to this contract.

(b) Definition. "Costs," as used in this clause, means allowable costs in accordance with Part 31 of the Federal Acquisition Regulation (FAR) in effect on the date of this contract.

(c) Data submission. (1) Within **forty-five (45) calendar days** after the end of the month in which the Contractor has delivered the last unit of supplies and completed the services specified by item number in paragraph (a) of this clause, the Contractor shall submit in the format of Table 15-2, FAR 15.408, or in any other form on which the parties agree--

- (i) A detailed statement of all costs incurred up to the end of that month in performing all work under the items;
  - (ii) An estimate of costs of further performance, if any, that may be necessary to complete performance of all work under the items;
  - (iii) A list of all residual inventory and an estimate of its value; and
  - (iv) Any other relevant data that the Contracting Officer may reasonably require.
- (2) If the Contractor fails to submit the data required by subparagraph (1) above within the time specified and it is later determined that the Government has overpaid the Contractor, the Contractor shall repay the excess to the Government immediately. Unless repaid within 30 days after the end of the data submittal period, the amount of the excess shall bear interest, computed from the date the data were due to the date of repayment, at the rate established in accordance with the Interest clause.
- (d) Price revision. Upon the Contracting Officer's receipt of the data required by paragraph (c) above, the Contracting Officer and the Contractor shall promptly establish the total final price of the items specified in (a) above by applying to final negotiated cost an adjustment for profit or loss, as follows:
- (1) On the basis of the information required by paragraph (c) above, together with any other pertinent information, the parties shall negotiate the total final cost incurred or to be incurred for supplies delivered (or services performed) and accepted by the Government and which are subject to price revision under this clause.
  - (2) The total final price shall be established by applying to the total final negotiated cost an adjustment for profit or loss, as follows:
    - (i) If the total final negotiated cost is equal to the total target cost, the adjustment is the total target profit.
    - (ii) If the total final negotiated cost is greater than the total target cost, the adjustment is the total target profit, less **50** percent of the amount by which the total final negotiated cost exceeds the total target cost.
    - (iii) If the final negotiated cost is less than the total target cost, the adjustment is the total target profit plus **50** percent of the amount by which the total final negotiated cost is less than the total target cost.
- (e) Contract modification. The total final price of the items specified in paragraph (a) above shall be evidenced by a modification to this contract, signed by the Contractor and the Contracting Officer. This price shall not be subject to revision, notwithstanding any changes in the cost of performing the contract, except to the extent that--
- (1) The parties may agree in writing, before the determination of total final price, to exclude specific elements of cost from this price and to a procedure for subsequent disposition of those elements; and
  - (2) Adjustments or credits are explicitly permitted or required by this or any other clause in this contract.
- (f) Adjusting billing prices. (1) Pending execution of the contract modification (see paragraph (e) above), the Contractor shall submit invoices or vouchers in accordance with billing prices as provided in this paragraph. The billing prices shall be the target prices shown in this contract.
- (2) If at any time it appears from information provided by the contractor under subparagraph (g)(2) below that the then-current billing prices will be substantially greater than the estimated final prices, the parties shall negotiate a reduction in the billing prices. Similarly, the parties may negotiate an increase in billing prices by any or all of the difference between the target prices and the ceiling price, upon the Contractor's submission of factual data showing that final cost under this contract will be substantially greater than the target cost.

(3) Any billing price adjustment shall be reflected in a contract modification and shall not affect the determination of the total final price under paragraph (d) above. After the contract modification establishing the total final price is executed, the total amount paid or to be paid on all invoices or vouchers shall be adjusted to reflect the total final price, and any resulting additional payments, refunds, or credits shall be made promptly.

(g) Quarterly limitation on payments statement. This paragraph (g) shall apply until final price revision under this contract has been completed.

(1) Within 45 days after the end of each quarter of the Contractor's fiscal year in which a delivery is first made (or services are first performed) and accepted by the Government under this contract, and for each quarter thereafter, the Contractor shall submit to the contract administration office (with a copy to the contracting office and the cognizant contract auditor) a statement, cumulative from the beginning of the contract, showing--

(i) The total contract price of all supplies delivered (or services performed) and accepted by the Government and for which final prices have been established;

(ii) The total costs (estimated to the extent necessary) reasonably incurred for, and properly allocable solely to, the supplies delivered (or services performed) and accepted by the Government and for which final prices have not been established;

(iii) The portion of the total target profit (used in establishing the initial contract price or agreed to for the purpose of this paragraph (g)) that is in direct proportion to the supplies delivered (or services performed) and accepted by the Government and for which final prices have not been established--increased or decreased in accordance with subparagraph (d)(2) above, when the amount stated under subdivision (ii), immediately above, differs from the aggregate target costs of the supplies or services; and

(iv) The total amount of all invoices or vouchers for supplies delivered (or services performed) and accepted by the Government (including amounts applied or to be applied to liquidate progress payments).

(2) Notwithstanding any provision of this contract authorizing greater payments, if on any quarterly statement the amount under subdivision (1)(iv) above exceeds the sum due the Contractor, as computed in accordance with subdivisions (1)(i), (ii), and (iii) above, the Contractor shall immediately refund or credit to the Government the amount of this excess. The Contractor may, when appropriate, reduce this refund or credit by the amount of any applicable tax credits due the Contractor under 26 U.S.C. 1481 and by the amount of previous refunds or credits effected under this clause. If any portion of the excess has been applied to the liquidation of progress payments, then that portion may, instead of being refunded, be added to the unliquidated progress payment account consistent with the Progress Payments clause. The Contractor shall provide complete details to support any claimed reductions in refunds.

(3) If the Contractor fails to submit the quarterly statement within 45 days after the end of each quarter and it is later determined that the Government has overpaid the Contractor, the Contractor shall repay the excess to the Government immediately. Unless repaid within 30 days after the end of the statement submittal period, the amount of the excess shall bear interest, computed from the date the quarterly statement was due to the date of repayment, at the rate established in accordance with the Interest clause.

(h) Subcontracts. No subcontract placed under this contract may provide for payment on a cost-plus-a-percentage-of-cost basis. The Contractor shall--

(1) Insert in each price redetermination or incentive price revision subcontract the substance of paragraph (g), above, and of this paragraph (h), modified to omit mention of the Government and to reflect the position of the Contractor as purchaser and of the subcontractor as vendor, and to omit that part of subparagraph (g)(2) above relating to tax credits; and

(2) Include in each cost-reimbursement subcontract a requirement that each lower-tier price redetermination or incentive price revision subcontract contain the substance of paragraph (g) above and of this paragraph (h), modified as required by subparagraph (1) above.

(i) Disagreements. If the Contractor and the Contracting Officer fail to agree upon the total final price within 60 days (or within such other period as the Contracting Officer may specify) after the date on which the data required by paragraph (c) above are to be submitted, the Contracting Officer shall promptly issue a decision in accordance with the Disputes clause.

(j) Termination. If this contract is terminated before the total final price is established, prices of supplies or services subject to price revision shall be established in accordance with this clause for (1) completed supplies and services accepted by the Government and (2) those supplies and services not terminated under a partial termination. All other elements of the termination shall be resolved in accordance with other applicable clauses of this contract.

(k) Equitable adjustment under other clauses. If an equitable adjustment in the contract price is made under any other clause of this contract before the total final price is established, the adjustment shall be made in the total target cost and may be made in the maximum dollar limit on the total final price, the total target profit, or both. If the adjustment is made after the total final price is established, only the total final price shall be adjusted.

(l) Exclusion from target price and total final price. If any clause of this contract provides that the contract price does not or will not include an amount for a specific purpose, then neither any target price nor the total final price includes or will include any amount for that purpose.

(m) Separate reimbursement. If any clause of this contract expressly provides that the cost of performance of an obligation shall be at Government expense, that expense shall not be included in any target price or in the total final price, but shall be reimbursed separately.

(n) Taxes. As used in the Federal, State, and Local Taxes clause or in any other clause that provides for certain taxes or duties to be included in, or excluded from, the contract price, the term "contract price" includes the total target price or, if it has been established, the total final price. When any of these clauses requires that the contract price be increased or decreased as a result of changes in the obligation of the Contractor to pay or bear the burden of certain taxes or duties, the increase or decrease shall be made in the total target price or, if it has been established, in the total final price, so that it will not affect the Contractor's profit or loss on this contract.

#### 52.217-7 OPTION FOR INCREASED QUANTITY--SEPARATELY PRICED LINE ITEM (MAR 1989)

The Government may require the delivery of the numbered line item, identified in the Schedule as an option item, in the quantity and at the price stated in the Schedule. The Contracting Officer may exercise the option by written notice to the Contractor within **the stated option exercise dates in Section H**. Delivery of added items shall continue at the same rate that like items are called for under the contract, unless the parties otherwise agree.

(End of clause)

#### 52.219-28 POST-AWARD SMALL BUSINESS PROGRAM REREPRESENTATION (APR 2009)

(a) Definitions. As used in this clause--

Long-term contract means a contract of more than five years in duration, including options. However, the term does not include contracts that exceed five years in duration because the period of performance has been extended for a

cumulative period not to exceed six months under the clause at 52.217-8, Option to Extend Services, or other appropriate authority.

Small business concern means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the criteria in 13 CFR part 121 and the size standard in paragraph (c) of this clause. Such a concern is "not dominant in its field of operation" when it does not exercise a controlling or major influence on a national basis in a kind of business activity in which a number of business concerns are primarily engaged. In determining whether dominance exists, consideration shall be given to all appropriate factors, including volume of business, number of employees, financial resources, competitive status or position, ownership or control of materials, processes, patents, license agreements, facilities, sales territory, and nature of business activity.

(b) If the Contractor represented that it was a small business concern prior to award of this contract, the Contractor shall rerepresent its size status according to paragraph (e) of this clause or, if applicable, paragraph (g) of this clause, upon the occurrence of any of the following:

(1) Within 30 days after execution of a novation agreement or within 30 days after modification of the contract to include this clause, if the novation agreement was executed prior to inclusion of this clause in the contract.

(2) Within 30 days after a merger or acquisition that does not require a novation or within 30 days after modification of the contract to include this clause, if the merger or acquisition occurred prior to inclusion of this clause in the contract.

(3) For long-term contracts--

(i) Within 60 to 120 days prior to the end of the fifth year of the contract; and

(ii) Within 60 to 120 days prior to the date specified in the contract for exercising any option thereafter.

(c) The Contractor shall rerepresent its size status in accordance with the size standard in effect at the time of this rerepresentation that corresponds to the North American Industry Classification System (NAICS) code assigned to this contract. The small business size standard corresponding to this NAICS code can be found at <http://www.sba.gov/services/contractingopportunities/sizestandardstopics/>.

(d) The small business size standard for a Contractor providing a product which it does not manufacture itself, for a contract other than a construction or service contract, is 500 employees.

(e) Except as provided in paragraph (g) of this clause, the Contractor shall make the rerepresentation required by paragraph (b) of this clause by validating or updating all its representations in the Online Representations and Certifications Application and its data in the Central Contractor Registration, as necessary, to ensure that they reflect the Contractor's current status. The Contractor shall notify the contracting office in writing within the timeframes specified in paragraph (b) of this clause that the data have been validated or updated, and provide the date of the validation or update.

(f) If the Contractor represented that it was other than a small business concern prior to award of this contract, the Contractor may, but is not required to, take the actions required by paragraphs (e) or (g) of this clause.

(g) If the Contractor does not have representations and certifications in ORCA, or does not have a representation in ORCA for the NAICS code applicable to this contract, the Contractor is required to complete the following rerepresentation and submit it to the contracting office, along with the contract number and the date on which the rerepresentation was completed:

The Contractor represents that it ( ) is, ( ) is not a small business concern under NAICS Code \_\_\_\_\_ - assigned to contract number \_\_\_\_\_.

(Contractor to sign and date and insert authorized signer's name and title).

(End of clause)

#### 52.232-32 PERFORMANCE-BASED PAYMENTS (AUG 2010)

(a) Amount of payments and limitations on payments. Subject to such other limitations and conditions as are specified in this contract and this clause, the amount of payments and limitations on payments shall be specified in the contract's description of the basis for payment.

(b) Contractor request for performance-based payment. The Contractor may submit requests for payment of performance-based payments not more frequently than monthly, in a form and manner acceptable to the Contracting Officer. Unless otherwise authorized by the Contracting Officer, all performance-based payments in any period for which payment is being requested shall be included in a single request, appropriately itemized and totaled. The Contractor's request shall contain the information and certification detailed in paragraphs (l) and (m) of this clause.

(c) Approval and payment of requests.

(1) The Contractor shall not be entitled to payment of a request for performance-based payment prior to successful accomplishment of the event or performance criterion for which payment is requested. The Contracting Officer shall determine whether the event or performance criterion for which payment is requested has been successfully accomplished in accordance with the terms of the contract. The Contracting Officer may, at any time, require the Contractor to substantiate the successful performance of any event or performance criterion which has been or is represented as being payable.

(2) A payment under this performance-based payment clause is a contract financing payment under the Prompt Payment clause of this contract and not subject to the interest penalty provisions of the Prompt Payment Act. The designated payment office will pay approved requests on the 30<sup>th</sup> day after receipt of the request for performance-based payment by the designated payment office. However, the designated payment office is not required to provide payment if the Contracting Officer requires substantiation as provided in paragraph (c)(1) of this clause, or inquires into the status of an event or performance criterion, or into any of the conditions listed in paragraph (e) of this clause, or into the Contractor certification. The payment period will not begin until the Contracting Officer approves the request.

(3) The approval by the Contracting Officer of a request for performance-based payment does not constitute an acceptance by the Government and does not excuse the Contractor from performance of obligations under this contract.

(d) Liquidation of performance-based payments.

(1) Performance-based finance amounts paid prior to payment for delivery of an item shall be liquidated by deducting a percentage or a designated dollar amount from the delivery payment. If the performance-based finance payments are on a delivery item basis, the liquidation amount for each such line item shall be the percent of that delivery item price that was previously paid under performance-based finance payments or the designated dollar amount. If the performance-based finance payments are on a whole contract basis, liquidation shall be by either predesignated liquidation amounts or a liquidation percentage.

(2) If at any time the amount of payments under this contract exceeds any limitation in this contract, the Contractor shall repay to the Government the excess. Unless otherwise determined by the Contracting Officer, such excess shall be credited as a reduction in the unliquidated performance-based payment balance(s), after adjustment of invoice

payments and balances for any retroactive price adjustments.

(e) Reduction or suspension of performance-based payments. The Contracting Officer may reduce or suspend performance-based payments, liquidate performance-based payments by deduction from any payment under the contract, or take a combination of these actions after finding upon substantial evidence any of the following conditions:

(1) The Contractor failed to comply with any material requirement of this contract (which includes paragraphs (h) and (i) of this clause).

(2) Performance of this contract is endangered by the Contractor's --

(i) Failure to make progress; or

(ii) Unsatisfactory financial condition.

(3) The Contractor is delinquent in payment of any subcontractor or supplier under this contract in the ordinary course of business.

(f) Title.

(1) Title to the property described in this paragraph (f) shall vest in the Government. Vestiture shall be immediately upon the date of the first performance-based payment under this contract, for property acquired or produced before that date. Otherwise, vestiture shall occur when the property is or should have been allocable or properly chargeable to this contract

(2) "Property," as used in this clause, includes all of the following described items acquired or produced by the Contractor that are or should be allocable or properly chargeable to this contract under sound and generally accepted accounting principles and practices:

(i) Parts, materials, inventories, and work in process;

(ii) Special tooling and special test equipment to which the Government is to acquire title;

(iii) Nondurable (i.e., noncapital) tools, jigs, dies, fixtures, molds, patterns, taps, gauges, test equipment and other similar manufacturing aids, title to which would not be obtained as special tooling under subparagraph (f)(2)(ii) of this clause; and

(iv) Drawings and technical data, to the extent the Contractor or subcontractors are required to deliver them to the Government by other clauses of this contract.

(3) Although title to property is in the Government under this clause, other applicable clauses of this contract (e.g., the termination or clauses) shall determine the handling and disposition of the property.

(4) The Contractor may sell any scrap resulting from production under this contract, without requesting the Contracting Officer's approval, provided that any significant reduction in the value of the property to which the Government has title under this clause is reported in writing to the Contracting Officer.

(5) In order to acquire for its own use or dispose of property to which title is vested in the Government under this clause, the Contractor shall obtain the Contracting Officer's advance approval of the action and the terms. If approved, the basis for payment (the events or performance criteria) to which the property is related shall be deemed to be not in compliance with the terms of the contract and not payable (if the property is part of or needed for performance), and the Contractor shall refund the related performance-based payments in accordance with paragraph (d) of this clause.

(6) When the Contractor completes all of the obligations under this contract, including liquidation of all performance-based payments, title shall vest in the Contractor for all property (or the proceeds thereof) not --

(i) Delivered to, and accepted by, the Government under this contract; or

(ii) Incorporated in supplies delivered to, and accepted by, the Government under this contract and to which title is vested in the Government under this clause.

(7) The terms of this contract concerning liability for Government-furnished property shall not apply to property to which the Government acquired title solely under this clause.

(g) Risk of loss. Before delivery to and acceptance by the Government, the Contractor shall bear the risk of loss for property, the title to which vests in the Government under this clause, except to the extent the Government expressly assumes the risk. If any property is lost, stolen, damaged or destroyed, the basis of payment (the events or performance criteria) to which the property is related shall be deemed to be not in compliance with the terms of the contract and not payable (if the property is part of or needed for performance), and the Contractor shall refund the related performance-based payments in accordance with paragraph (d) of this clause.

(h) Records and controls. The Contractor shall maintain records and controls adequate for administration of this clause. The Contractor shall have no entitlement to performance-based payments during any time the Contractor's records or controls are determined by the Contracting Officer to be inadequate for administration of this clause.

(i) Reports and Government access. The Contractor shall promptly furnish reports, certificates, financial statements, and other pertinent information requested by the Contracting Officer for the administration of this clause and to determine that an event or other criterion prompting a financing payment has been successfully accomplished. The Contractor shall give the Government reasonable opportunity to examine and verify the Contractor's records and to examine and verify the Contractor's performance of this contract for administration of this clause.

(j) Special terms regarding default. If this contract is terminated under the Default clause,

(1) the Contractor shall, on demand, repay to the Government the amount of unliquidated performance-based payments, and

(2) title shall vest in the Contractor, on full liquidation of all performance-based payments, for all property for which the Government elects not to require delivery under the Default clause of this contract. The Government shall be liable for no payment except as provided by the Default clause.

(k) Reservation of rights.

(1) No payment or vesting of title under this clause shall --

(i) Excuse the Contractor from performance of obligations under this contract; or

(ii) Constitute a waiver of any of the rights or remedies of the parties under the contract.

(2) The Government's rights and remedies under this clause --

(i) Shall not be exclusive, but rather shall be in addition to any other rights and remedies provided by law or this contract; and

(ii) Shall not be affected by delayed, partial, or omitted exercise of any right, remedy, power, or privilege, nor shall such exercise or any single exercise preclude or impair any further exercise under this clause or the exercise of any other right, power, or privilege of the Government.

(l) Content of Contractor's request for performance-based payment. The Contractor's request for performance-based payment shall contain the following:

- (1) The name and address of the Contractor;
- (2) The date of the request for performance-based payment;
- (3) The contract number and/or other identifier of the contract or order under which the request is made;
- (4) Such information and documentation as is required by the contract's description of the basis for payment; and
- (5) A certification by a Contractor official authorized to bind the Contractor, as specified in paragraph (m) of this clause.

(m) Content of Contractor's certification. As required in paragraph (l)(5) of this clause, the Contractor shall make the following certification in each request for performance-based payment:

I certify to the best of my knowledge and belief that --

- (1) This request for performance-based payment is true and correct; this request (and attachments) has been prepared from the books and records of the Contractor, in accordance with the contract and the instructions of the Contracting Officer;
- (2) (Except as reported in writing on \_\_\_\_\_), all payments to subcontractors and suppliers under this contract have been paid, or will be paid, currently, when due in the ordinary course of business;
- (3) There are no encumbrances (except as reported in writing on \_\_\_\_\_) against the property acquired or produced for, and allocated or properly chargeable to, the contract which would affect or impair the Government's title;
- (4) There has been no materially adverse change in the financial condition of the Contractor since the submission by the Contractor to the Government of the most recent written information dated \_\_\_\_\_; and
- (5) After the making of this requested performance-based payment, the amount of all payments for each deliverable item for which performance-based payments have been requested will not exceed any limitation in the contract, and the amount of all payments under the contract will not exceed any limitation in the contract.

(End of Clause)

52.234-1 INDUSTRIAL RESOURCES DEVELOPED UNDER DEFENSE PRODUCTION ACT TITLE III  
(DEC 1994)

(a) Definitions.

"Title III industrial resource" means materials, services, processes, or manufacturing equipment (including the processes, technologies, and ancillary services for the use of such equipment) established or maintained under the authority of Title III, Defense Production Act (50 U.S.C. App. 2091-2093)..

"Title III project contractor" means a contractor that has received assistance for the development or manufacture of an industrial resource under 50 U.S.C. App. 2091-2093, Defense Production Act.

(b) The Contractor shall refer any request from a Title III project contractor for testing and qualification of a Title III industrial resource to the Contracting Officer.

(c) Upon the direction of the Contracting Officer, the Contractor shall test Title III industrial resources for qualification. The Contractor shall provide the test results to the Defense Production Act Office, Title III Program, located at Wright Patterson Air Force Base, Ohio 45433-7739.

(d) When the Contracting Officer modifies the contract to direct testing pursuant to this clause, the Government will provide the Title III industrial resource to be tested and will make an equitable adjustment in the contract for the costs of testing and qualification of the Title III industrial resource.

(e) The Contractor agrees to insert the substance of this clause, including paragraph (e), in every subcontract issued in performance of this contract.

(End of clause)

#### 52.243-7 NOTIFICATION OF CHANGES (APR 1984)

(a) Definitions.

"Contracting Officer," as used in this clause, does not include any representative of the Contracting Officer.

"Specifically authorized representative (SAR)," as used in this clause, means any person the Contracting Officer has so designated by written notice (a copy of which shall be provided to the Contractor) which shall refer to this subparagraph and shall be issued to the designated representative before the SAR exercises such authority.

(b) Notice. The primary purpose of this clause is to obtain prompt reporting of Government conduct that the Contractor considers to constitute a change to this contract. Except for changes identified as such in writing and signed by the Contracting Officer, the Contractor shall notify the Administrative Contracting Officer in writing, within 5 calendar days from the date that the Contractor identifies any Government conduct (including actions, inactions, and written or oral communications) that the Contractor regards as a change to the contract terms and conditions. On the basis of the most accurate information available to the Contractor, the notice shall state--

- (1) The date, nature, and circumstances of the conduct regarded as a change;
- (2) The name, function, and activity of each Government individual and Contractor official or employee involved in or knowledgeable about such conduct;
- (3) The identification of any documents and the substance of any oral communication involved in such conduct;
- (4) In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;
- (5) The particular elements of contract performance for which the Contractor may seek an equitable adjustment under this clause, including--
  - (i) What contract line items have been or may be affected by the alleged change;
  - (ii) What labor or materials or both have been or may be added, deleted, or wasted by the alleged change;
  - (iii) To the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performance have been or may be caused by the alleged change;

(iv) What adjustments to contract price, delivery schedule, and other provisions affected by the alleged change are estimated; and

(6) The Contractor's estimate of the time by which the Government must respond to the Contractor's notice to minimize cost, delay or disruption of performance.

(c) Continued performance. Following submission of the notice required by (b) above, the Contractor shall diligently continue performance of this contract to the maximum extent possible in accordance with its terms and conditions as construed by the Contractor, unless the notice reports a direction of the Contracting Officer or a communication from a SAR of the Contracting Officer, in either of which events the Contractor shall continue performance; provided, however, that if the Contractor regards the direction or communication as a change as described in (b) above, notice shall be given in the manner provided. All directions, communications, interpretations, orders and similar actions of the SAR shall be reduced to writing and copies furnished to the Contractor and to the Contracting Officer. The Contracting Officer shall countermand any action which exceeds the authority of the SAR.

(d) Government response. The Contracting Officer shall promptly, within 5 calendar days after receipt of notice, respond to the notice in writing. In responding, the Contracting Officer shall either--

(1) Confirm that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance;

(2) Countermand any communication regarded as a change;

(3) Deny that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance; or

(4) In the event the Contractor's notice information is inadequate to make a decision under (1), (2), or (3) above, advise the Contractor what additional information is required, and establish the date by which it should be furnished and the date thereafter by which the Government will respond.

(e) Equitable adjustments.

(1) If the Contracting Officer confirms that Government conduct effected a change as alleged by the Contractor, and the conduct causes an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether changed or not changed by such conduct, an equitable adjustment shall be made--

(i) In the contract price or delivery schedule or both; and

(ii) In such other provisions of the contract as may be affected.

(2) The contract shall be modified in writing accordingly. In the case of drawings, designs or specifications which are defective and for which the Government is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the defective drawings, designs or specifications before the Contractor identified, or reasonably should have identified, such defect. When the cost of property made obsolete or excess as a result of a change confirmed by the Contracting Officer under this clause is included in the equitable adjustment, the Contracting Officer shall have the right to prescribe the manner of disposition of the property. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided, respectively, in (b) and (c) above.

Note: The phrases "contract price" and "cost" wherever they appear in the clause, may be appropriately modified to

apply to cost-reimbursement or incentive contracts, or to combinations thereof.

(End of clause)

52.246-18 WARRANTY OF SUPPLIES OF A COMPLEX NATURE (MAY 2001) - ALTERNATE III (APR 1984)

(a) Definitions. As used in this clause--

Acceptance, means the act of an authorized representative of the Government by which the Government assumes for itself, or as an agent of another, ownership of existing and identified supplies, or approves specific services rendered, as partial or complete performance of the contract.

Supplies, means the end items furnished by the Contractor and related services required under this contract. The word does not include "data."

(b) Contractor's obligations. (1) The Contractor warrants that for, **thirty-six (36) months after delivery**, all supplies furnished under this contract will be free from defects in **design, material and workmanship** and will conform with all requirements of this contract; provided, however, that with respect to Government-furnished property, the Contractor's warranty shall extend only to its proper installation, unless the Contractor performs some modification or other work on the property, in which case the Contractor's warranty shall extend to the modification or other work.

(2) Any supplies or parts thereof corrected or furnished in replacement shall be subject to the conditions of this clause to the same extent as supplies initially delivered. This warranty shall be equal in duration to that set forth in paragraph (b)(1) of this clause and shall run from the date of delivery of the corrected or replaced supplies.

(3) The Contractor shall not be obligated to correct or replace supplies if the facilities, tooling, drawings, or other equipment or supplies necessary to accomplish the correction or replacement have been made unavailable to the Contractor by action of the Government. In the event that correction or replacement has been directed, the Contractor shall promptly notify the Contracting Officer, in writing, of the nonavailability.

(4) The Contractor shall also prepare and furnish to the Government data and reports applicable to any correction required (including revision and updating of all affected data called for under this contract) at no increase in the contract price.

(5) When supplies are returned to the Contractor, the Contractor shall bear the transportation costs from the place of delivery specified in the contract (irrespective of the f.o.b. point or the point of acceptance) to the Contractor's plant and return.

(6) All implied warranties of merchantability and "fitness for a particular purpose" are excluded from any obligation contained in this contract.

(c) Remedies available to the Government. (1) In the event of a breach of the Contractor's warranty in paragraph (b)(1) of this clause, the Government may, at no increase in contract price--

(i) Require the Contractor, at the place of delivery specified in the contract (irrespective of the f.o.b. point or the point of acceptance) or at the Contractor's plant, to repair or replace, at the Contractor's election, defective or nonconforming supplies; or

(ii) Require the Contractor to furnish at the Contractor's plant the materials or parts and installation instructions required to successfully accomplish the correction.

(2) If the Contracting Officer does not require correction or replacement of defective or nonconforming supplies or the Contractor is not obligated to correct or replace under paragraph (b)(3) of this clause, the Government shall be entitled to an equitable reduction in the contract price.

(3) The Contracting Officer shall notify the Contractor in writing of any breach of the warranty in paragraph (b) of this clause within **forty-five (45) calendar days after discovery of the defect**. The Contractor shall submit to the Contracting Officer a written recommendation within **thirty (30) calendar days** as to the corrective action required to remedy the breach. After the notice of breach, but not later than **thirty (30) calendar days** after receipt of the Contractor's recommendation for corrective action, the Contracting Officer may, in writing, direct correction or replacement as in paragraph (c)(1) of this clause, and the Contractor shall, notwithstanding any disagreement regarding the existence of a breach of warranty, comply with this direction. If it is later determined that the Contractor did not breach the warranty in paragraph (b)(1) of this clause, the contract price will be equitably adjusted.

(4) If supplies are corrected or replaced, the period for notification of a breach of the Contractor's warranty in paragraph (c)(3) of this clause shall be **ninety (90) calendar days** from the furnishing or return by the Contractor to the Government of the corrected or replaced supplies or parts thereof, or, if correction or replacement is effected by the Contractor at a Government or other activity, for **sixty (60) calendar days** thereafter.

(5) The rights and remedies of the Government provided in this clause are in addition to and do not limit any rights afforded to the Government by any other clause of the contract.

(6) All costs incurred or estimated to be incurred by the Contractor in complying with this clause shall be considered when negotiating the total final price under the Incentive Price Revision clause of this contract. After establishment of the total final price, Contractor compliance with this clause shall be at no increase in the total final price. Any equitable adjustments made under paragraph (c)(2) of this clause shall be governed by the paragraph entitled "Equitable Adjustments Under Other Clauses" in the Incentive Price Revision clause of this contract.

(End of clause)

#### 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://farsite.hill.af.mil/>

<https://www.acquisition.gov/far/>

(End of clause)

#### 252.203-7004 Display of Fraud Hotline Poster(s) (Sep 2011)

(a) Definition. United States, as used in this clause, means the 50 States, the District of Columbia, and outlying areas.

(b) Display of fraud hotline poster(s).

(1) The Contractor shall display prominently in common work areas within business segments performing work in the United States under Department of Defense (DoD) contracts DoD fraud hotline posters prepared by the DoD Office of the Inspector General. DoD fraud hotline posters may be obtained from the DoD Inspector General, Attn: Defense Hotline, 400 Army Navy Drive, Washington, DC 22202-2884.

(2) If the contract is funded, in whole or in part, by Department of Homeland Security (DHS) disaster relief funds, the DHS fraud hotline poster shall be displayed in addition to the DoD fraud hotline poster. If a display of a DHS fraud hotline poster is required, the Contractor may obtain such poster from:

[http://www.dodig.mil/hotline/hotline\\_posters.htm](http://www.dodig.mil/hotline/hotline_posters.htm)

(3) Additionally, if the Contractor maintains a company website as a method of providing information to employees, the Contractor shall display an electronic version of the poster(s) at the website.

(c) Subcontracts. The Contractor shall include the substance of this clause, including this paragraph (c), in all subcontracts that exceed \$5 million except when the subcontract--

- (1) Is for the acquisition of a commercial item; or
- (2) Is performed entirely outside the United States.

(End of clause)

#### 252.227-7013 RIGHTS IN TECHNICAL DATA--NONCOMMERCIAL ITEMS. (SEP 2011)

(a) Definitions. As used in this clause--

(1) Computer data base means a collection of data recorded in a form capable of being processed by a computer. The term does not include computer software.

(2) Computer program means a set of instructions, rules, or routines recorded in a form that is capable of causing a computer to perform a specific operation or series of operations.

(3) Computer software means computer programs, source code, source code listings, object code listings, design details, algorithms, processes, flow charts, formulae and related material that would enable the software to be reproduced, recreated, or recompiled. Computer software does not include computer data bases or computer software documentation.

(4) Computer software documentation means owner's manuals, user's manuals, installation instructions, operating instructions, and other similar items, regardless of storage medium, that explain the capabilities of the computer software or provide instructions for using the software.

(5) Covered Government support contractor means a contractor under a contract, the primary purpose of which is to furnish independent and impartial advice or technical assistance directly to the Government in support of the Government's management and oversight of a program or effort (rather than to directly furnish an end item or service to accomplish a program or effort), provided that the contractor--

(i) Is not affiliated with the prime contractor or a first-tier subcontractor on the program or effort, or with any direct competitor of such prime contractor or any such first-tier subcontractor in furnishing end items or services of the type developed or produced on the program or effort; and

(ii) Receives access to technical data or computer software for performance of a Government contract that contains the clause at 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends.

(6) Detailed manufacturing or process data means technical data that describe the steps, sequences, and conditions of manufacturing, processing or assembly used by the manufacturer to produce an item or component or to perform a process.

(7) Developed means that an item, component, or process exists and is workable. Thus, the item or component must have been constructed or the process practiced. Workability is generally established when the item, component, or process has been analyzed or tested sufficiently to demonstrate to reasonable people skilled in the applicable art that there is a high probability that it will operate as intended. Whether, how much, and what type of analysis or testing is required to establish workability depends on the nature of the item, component, or process, and the state of the art. To be considered "developed," the item, component, or process need not be at the stage where it could be offered for sale or sold on the commercial market, nor must the item, component, or process be actually reduced to practice within the meaning of Title 35 of the United States Code.

(8) Developed exclusively at private expense means development was accomplished entirely with costs charged to indirect cost pools, costs not allocated to a government contract, or any combination thereof.

(i) Private expense determinations should be made at the lowest practicable level.

(ii) Under fixed-price contracts, when total costs are greater than the firm-fixed-price or ceiling price of the contract, the additional development costs necessary to complete development shall not be considered when determining whether development was at government, private, or mixed expense.

(9) Developed exclusively with government funds means development was not accomplished exclusively or partially at private expense.

(10) Developed with mixed funding means development was accomplished partially with costs charged to indirect cost pools and/or costs not allocated to a government contract, and partially with costs charged directly to a government contract.

(11) Form, fit, and function data means technical data that describes the required overall physical, functional, and performance characteristics (along with the qualification requirements, if applicable) of an item, component, or process to the extent necessary to permit identification of physically and functionally interchangeable items.

(12) Government purpose means any activity in which the United States Government is a party, including cooperative agreements with international or multi-national defense organizations, or sales or transfers by the United States Government to foreign governments or international organizations. Government purposes include competitive procurement, but do not include the rights to use, modify, reproduce, release, perform, display, or disclose technical data for commercial purposes or authorize others to do so.

(13) Government purpose rights means the rights to--

(i) Use, modify, reproduce, release, perform, display, or disclose technical data within the Government without restriction; and

(ii) Release or disclose technical data outside the Government and authorize persons to whom release or disclosure has been made to use, modify, reproduce, release, perform, display, or disclose that data for United States government purposes.

(14) Limited rights means the rights to use, modify, reproduce, release, perform, display, or disclose technical data, in whole or in part, within the Government. The Government may not, without the written permission of the party asserting limited rights, release or disclose the technical data outside the Government, use the technical data for manufacture, or authorize the technical data to be used by another party, except that the Government may reproduce, release, or disclose such data or authorize the use or reproduction of the data by persons outside the Government if--

(i) The reproduction, release, disclosure, or use is--

(A) Necessary for emergency repair and overhaul; or

(B) A release or disclosure to--

(1) A covered Government support contractor, for use, modification, reproduction, performance, display, or release or disclosure to authorized person(s) in performance of a Government contract; or

(2) A foreign government, of technical data other than detailed manufacturing or process data, when use of such data by the foreign government is in the interest of the Government and is required for evaluational or informational purposes;

(ii) The recipient of the technical data is subject to a prohibition on the further reproduction, release, disclosure, or use of the technical data; and

(iii) The contractor or subcontractor asserting the restriction is notified of such reproduction, release, disclosure, or use.

(15) Technical data means recorded information, regardless of the form or method of the recording, of a scientific or technical nature (including computer software documentation). The term does not include computer software or data incidental to contract administration, such as financial and/or management information.

(16) Unlimited rights means rights to use, modify, reproduce, perform, display, release, or disclose technical data in whole or in part, in any manner, and for any purpose whatsoever, and to have or authorize others to do so.

(b) Rights in technical data. The Contractor grants or shall obtain for the Government the following royalty free, world-wide, nonexclusive, irrevocable license rights in technical data other than computer software documentation (see the Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation clause of this contract for rights in computer software documentation):

(1) Unlimited rights.

The Government shall have unlimited rights in technical data that are--

(i) Data pertaining to an item, component, or process which has been or will be developed exclusively with Government funds;

(ii) Studies, analyses, test data, or similar data produced for this contract, when the study, analysis, test, or similar work was specified as an element of performance;

(iii) Created exclusively with Government funds in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes;

(iv) Form, fit, and function data;

(v) Necessary for installation, operation, maintenance, or training purposes (other than detailed manufacturing or process data);

(vi) Corrections or changes to technical data furnished to the Contractor by the Government;

(vii) Otherwise publicly available or have been released or disclosed by the Contractor or subcontractor without restrictions on further use, release or disclosure, other than a release or disclosure resulting from the sale, transfer, or other assignment of interest in the technical data to another party or the sale or transfer of some or all of a business entity or its assets to another party;

(viii) Data in which the Government has obtained unlimited rights under another Government contract or as a result of negotiations; or

(ix) Data furnished to the Government, under this or any other Government contract or subcontract thereunder, with-

(A) Government purpose license rights or limited rights and the restrictive condition(s) has/have expired; or

(B) Government purpose rights and the Contractor's exclusive right to use such data for commercial purposes has expired.

(2) Government purpose rights.

(i) The Government shall have government purpose rights for a five-year period, or such other period as may be negotiated, in technical data--

(A) That pertain to items, components, or processes developed with mixed funding except when the Government is entitled to unlimited rights in such data as provided in paragraphs (b)(ii) and (b)(iv) through (b)(ix) of this clause; or

(B) Created with mixed funding in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

(ii) The five-year period, or such other period as may have been negotiated, shall commence upon execution of the contract, subcontract, letter contract (or similar contractual instrument), contract modification, or option exercise that required development of the items, components, or processes or creation of the data described in paragraph (b)(2)(i)(B) of this clause. Upon expiration of the five-year or other negotiated period, the Government shall have unlimited rights in the technical data.

(iii) The Government shall not release or disclose technical data in which it has government purpose rights unless-

(A) Prior to release or disclosure, the intended recipient is subject to the non-disclosure agreement at 227.7103-7 of the Defense Federal Acquisition Regulation Supplement (DFARS); or

(B) The recipient is a Government contractor receiving access to the data for performance of a Government contract that contains the clause at DFARS 252.227-7025, Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends.

(iv) The Contractor has the exclusive right, including the right to license others, to use technical data in which the Government has obtained government purpose rights under this contract for any commercial purpose during the time period specified in the government purpose rights legend prescribed in paragraph (f)(2) of this clause.

(3) Limited rights.

(i) Except as provided in paragraphs (b)(1)(ii) and (b)(1)(iv) through (b)(1)(ix) of this clause, the Government shall have limited rights in technical data--

(A) Pertaining to items, components, or processes developed exclusively at private expense and marked with the limited rights legend prescribed in paragraph (f) of this clause; or

(B) Created exclusively at private expense in the performance of a contract that does not require the development, manufacture, construction, or production of items, components, or processes.

(ii) The Government shall require a recipient of limited rights data for emergency repair or overhaul to destroy the data and all copies in its possession promptly following completion of the emergency repair/overhaul and to notify the Contractor that the data have been destroyed.

(iii) The Contractor, its subcontractors, and suppliers are not required to provide the Government additional rights to use, modify, reproduce, release, perform, display, or disclose technical data furnished to the Government with limited rights. However, if the Government desires to obtain additional rights in technical data in which it has limited rights, the Contractor agrees to promptly enter into negotiations with the Contracting Officer to determine whether there are acceptable terms for transferring such rights. All technical data in which the Contractor has granted the Government additional rights shall be listed or described in a license agreement made part of the contract. The license shall enumerate the additional rights granted the Government in such data.

(iv) The Contractor acknowledges that--

(A) Limited rights data is authorized to be released or disclosed to covered Government support contractors;

(B) The Contractor will be notified of such release or disclosure;

(C) The Contractor (or the party asserting restrictions as identified in the limited rights legend) may require each such covered Government support contractor to enter into a non-disclosure agreement directly with the Contractor (or the party asserting restrictions) regarding the covered Government support contractor's use of such data, or alternatively, that the Contractor (or party asserting restrictions) may waive in writing the requirement for a non-disclosure agreement;

(D) Any such non-disclosure agreement shall address the restrictions on the covered Government support contractor's use of the limited rights data as set forth in the clause at 252.227-7025, and shall not include any additional terms and conditions unless mutually agreed to by the parties to the non-disclosure agreement; and

(E) The Contractor shall provide a copy of any such non-disclosure agreement or waiver to the Contracting Officer, upon request.

(4) Specifically negotiated license rights.

The standard license rights granted to the Government under paragraphs (b)(1) through (b)(3) of this clause, including the period during which the Government shall have government purpose rights in technical data, may be modified by mutual agreement to provide such rights as the parties consider appropriate but shall not provide the Government lesser rights than are enumerated in paragraph (a)(13) of this clause. Any rights so negotiated shall be identified in a license agreement made part of this contract.

(5) Prior government rights.

Technical data that will be delivered, furnished, or otherwise provided to the Government under this contract, in which the Government has previously obtained rights shall be delivered, furnished, or provided with the pre-existing rights, unless--

(i) The parties have agreed otherwise; or

(ii) Any restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose the data have expired or no longer apply.

(6) Release from liability.

The Contractor agrees to release the Government from liability for any release or disclosure of technical data made in accordance with paragraph (a)(13) or (b)(2)(iii) of this clause, in accordance with the terms of a license negotiated under paragraph (b)(4) of this clause, or by others to whom the recipient has released or disclosed the data and to seek relief solely from the party who has improperly used, modified, reproduced, released, performed, displayed, or disclosed Contractor data marked with restrictive legends.

(c) Contractor rights in technical data. All rights not granted to the Government are retained by the Contractor.

(d) Third party copyrighted data. The Contractor shall not, without the written approval of the Contracting Officer, incorporate any copyrighted data in the technical data to be delivered under this contract unless the Contractor is the copyright owner or has obtained for the Government the license rights necessary to perfect a license or licenses in the deliverable data of the appropriate scope set forth in paragraph (b) of this clause, and has affixed a statement of the license or licenses obtained on behalf of the Government and other persons to the data transmittal document.

(e) Identification and delivery of data to be furnished with restrictions on use, release, or disclosure. (1) This paragraph does not apply to restrictions based solely on copyright.

(2) Except as provided in paragraph (e)(3) of this clause, technical data that the Contractor asserts should be furnished to the Government with restrictions on use, release, or disclosure are identified in an attachment to this contract (the Attachment). The Contractor shall not deliver any data with restrictive markings unless the data are listed on the Attachment.

(3) In addition to the assertions made in the Attachment, other assertions may be identified after award when based on new information or inadvertent omissions unless the inadvertent omissions would have materially affected the source selection decision. Such identification and assertion shall be submitted to the Contracting Officer as soon as practicable prior to the scheduled date for delivery of the data, in the following format, and signed by an official authorized to contractually obligate the Contractor: Identification and Assertion of Restrictions on the Government's Use, Release, or Disclosure of Technical Data.

The Contractor asserts for itself, or the persons identified below, that the Government's rights to use, release, or disclose the following technical data should be restricted--

Technical data to be Furnished With Restrictions \1/	Basis for Assertion \2/	Asserted Rights Category \3/	Name of Person Asserting Restrictions \4/
(LIST)	(LIST)	(LIST)	(LIST)

\1/ If the assertion is applicable to items, components or processes developed at private expense, identify both the data and each such items, component, or process.

\2/ Generally, the development of an item, component, or process at private expense, either exclusively or partially, is the only basis for asserting restrictions on the Government's rights to use, release, or disclose technical data pertaining to such items, components, or processes. Indicate whether development was exclusively or partially at private expense. If development was not at private expense, enter the specific reason for asserting that the Government's rights should be restricted.

\3/ Enter asserted rights category (e.g., government purpose license rights from a prior contract, rights in SBIR data generated under another contract, limited or government purpose rights under this or a prior contract, or specifically negotiated licenses).

\4/ Corporation, individual, or other person, as appropriate.

Date \_\_\_\_\_

Printed Name and Title \_\_\_\_\_

Signature \_\_\_\_\_

(End of identification and assertion)

(4) When requested by the Contracting Officer, the Contractor shall provide sufficient information to enable the Contracting Officer to evaluate the Contractor's assertions. The Contracting Officer reserves the right to add the Contractor's assertions to the Attachment and validate any listed assertion, at a later date, in accordance with the procedures of the Validation of Restrictive Markings on Technical Data clause of this contract.

(f) Marking requirements. The Contractor, and its subcontractors or suppliers, may only assert restrictions on the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data to be delivered under this contract by marking the deliverable data subject to restriction. Except as provided in paragraph (f)(5) of this clause, only the following legends are authorized under this contract: the government purpose rights legend at paragraph (f)(2) of this clause; the limited rights legend at paragraph (f)(3) of this clause; or the special license rights legend at paragraph (f)(4) of this clause; and/or a notice of copyright as prescribed under 17 U.S.C. 401 or 402.

(1) General marking instructions. The Contractor, or its subcontractors or suppliers, shall conspicuously and legibly mark the appropriate legend on all technical data that qualify for such markings. The authorized legends shall be placed on the transmittal document or storage container and, for printed material, each page of the printed material containing technical data for which restrictions are asserted. When only portions of a page of printed material are subject to the asserted restrictions, such portions shall be identified by circling, underscoring, with a note, or other appropriate identifier. Technical data transmitted directly from one computer or computer terminal to another shall contain a notice of asserted restrictions. Reproductions of technical data or any portions thereof subject to asserted restrictions shall also reproduce the asserted restrictions.

(2) Government purpose rights markings. Data delivered or otherwise furnished to the Government purpose rights shall be marked as follows:

Government Purpose Rights

Contract No. \_\_\_\_\_

Contractor Name \_\_\_\_\_

Contractor Address \_\_\_\_\_

Expiration Date \_\_\_\_\_

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(2) of the Rights in Technical Data--Noncommercial Items clause contained in the above

identified contract. No restrictions apply after the expiration date shown above. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(3) Limited rights markings. Data delivered or otherwise furnished to the Government with limited rights shall be marked with the following legend:

Limited Rights

Contract No. \_\_\_\_\_

Contractor Name \_\_\_\_\_

Contractor Address \_\_\_\_\_

\_\_\_\_\_

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these technical data are restricted by paragraph (b)(3) of the Rights in Technical Data--Noncommercial Items clause contained in the above identified contract. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings. Any person, other than the Government, who has been provided access to such data must promptly notify the above named Contractor.

(End of legend)

(4) Special license rights markings. (i) Data in which the Government's rights stem from a specifically negotiated license shall be marked with the following legend:

Special License Rights

The Government's rights to use, modify, reproduce, release, perform, display, or disclose these data are restricted by Contract No. \_\_\_\_\_ (Insert contract number) \_\_\_\_\_, License No. \_\_\_\_\_ (Insert license identifier) \_\_\_\_\_. Any reproduction of technical data or portions thereof marked with this legend must also reproduce the markings.

(End of legend)

(ii) For purposes of this clause, special licenses do not include government purpose license rights acquired under a prior contract (see paragraph (b)(5) of this clause).

(5) Pre-existing data markings. If the terms of a prior contract or license permitted the Contractor to restrict the Government's rights to use, modify, reproduce, release, perform, display, or disclose technical data deliverable under this contract, and those restrictions are still applicable, the Contractor may mark such data with the appropriate restrictive legend for which the data qualified under the prior contract or license. The marking procedures in paragraph (f)(1) of this clause shall be followed.

(g) Contractor procedures and records. Throughout performance of this contract, the Contractor and its subcontractors or suppliers that will deliver technical data with other than unlimited rights, shall--

(1) Have, maintain, and follow written procedures sufficient to assure that restrictive markings are used only when authorized by the terms of this clause; and

(2) Maintain records sufficient to justify the validity of any restrictive markings on technical data delivered under this contract.

(h) Removal of unjustified and nonconforming markings. (1) Unjustified technical data markings. The rights and obligations of the parties regarding the validation of restrictive markings on technical data furnished or to be furnished under this contract are contained in the Validation of Restrictive Markings on Technical Data clause of this contract. Notwithstanding any provision of this contract concerning inspection and acceptance, the Government may ignore or, at the Contractor's expense, correct or strike a marking if, in accordance with the procedures in the Validation of Restrictive Markings on Technical Data clause of this contract, a restrictive marking is determined to be unjustified.

(2) Nonconforming technical data markings. A nonconforming marking is a marking placed on technical data delivered or otherwise furnished to the Government under this contract that is not in the format authorized by this contract. Correction of nonconforming markings is not subject to the validation of Restrictive Markings on Technical Data clause of this contract. If the Contracting Officer notifies the Contractor of a nonconforming marking and the Contractor fails to remove or correct such marking within sixty (60) days, the Government may ignore or, at the Contractor's expense, remove or correct any nonconforming marking.

(i) Relation to patents. Nothing contained in this clause shall imply a license to the Government under any patent or be construed as affecting the scope of any license or other right otherwise granted to the Government under any patent.

(j) Limitation on charges for rights in technical data. (1) The Contractor shall not charge to this contract any cost, including, but not limited to, license fees, royalties, or similar charges, for rights in technical data to be delivered under this contract when--

(i) The Government has acquired, by any means, the same or greater rights in the data; or

(ii) The data are available to the public without restrictions.

(2) The limitation in paragraph (j)(1) of this clause--

(i) Includes costs charged by a subcontractor or supplier, at any tier, or costs incurred by the Contractor to acquire rights in subcontractor or supplier technical data, if the subcontractor or supplier has been paid for such rights under any other Government contract or under a license conveying the rights to the Government; and

(ii) Does not include the reasonable costs of reproducing, handling, or mailing the documents or other media in which the technical data will be delivered.

(k) Applicability to subcontractors or suppliers. (1) The Contractor shall ensure that the rights afforded its subcontractors and suppliers under 10 U.S.C. 2320, 10 U.S.C. 2321, and the identification, assertion, and delivery processes of paragraph (e) of this clause are recognized and protected.

(2) Whenever any technical data for noncommercial items, or for commercial items developed in any part at Government expense, is to be obtained from a subcontractor or supplier for delivery to the Government under this contract, the Contractor shall use this same clause in the subcontract or other contractual instrument, and require its subcontractors or suppliers to do so, without alteration, except to identify the parties. This clause will govern the technical data pertaining to noncommercial items or to any portion of a commercial item that was developed in any part at Government expense, and the clause at 252.227-7015 will govern the technical data pertaining to any portion of a commercial item that was developed exclusively at private expense. No other clause shall be used to enlarge or diminish the Government's, the Contractor's, or a higher-tier subcontractor's or supplier's rights in a subcontractor's or supplier's technical data.

(3) Technical data required to be delivered by a subcontractor or supplier shall normally be delivered to the next higher-tier contractor, subcontractor, or supplier. However, when there is a requirement in the prime contract for data which may be submitted with other than unlimited rights by a subcontractor or supplier, then said subcontractor or supplier may fulfill its requirement by submitting such data directly to the Government, rather than through a higher-tier contractor, subcontractor, or supplier.

(4) The Contractor and higher-tier subcontractors or suppliers shall not use their power to award contracts as economic leverage to obtain rights in technical data from their subcontractors or suppliers. (5) In no event shall the Contractor use its obligation to recognize and protect subcontractor or supplier rights in technical data as an excuse for failing to satisfy its contractual obligations to the Government.

(End of clause)

#### 252.234-7002 EARNED VALUE MANAGEMENT SYSTEM (MAY 2011)

(a) Definitions. As used in this clause--

Acceptable earned value management system means an earned value management system that generally complies with system criteria in paragraph (b) of this clause.

Earned value management system means an earned value management system that complies with the earned value management system guidelines in the ANSI/EIA-748.

Significant deficiency means a shortcoming in the system that materially affects the ability of officials of the Department of Defense to rely upon information produced by the system that is needed for management purposes.

(b) System criteria. In the performance of this contract, the Contractor shall use--

(1) An Earned Value Management System (EVMS) that complies with the EVMS guidelines in the American National Standards Institute/Electronic Industries Alliance Standard 748, Earned Value Management Systems (ANSI/EIA-748); and

(2) Management procedures that provide for generation of timely, reliable, and verifiable information for the Contract Performance Report (CPR) and the Integrated Master Schedule (IMS) required by the CPR and IMS data items of this contract.

(c) If this contract has a value of \$50 million or more, the Contractor shall use an EVMS that has been determined to be acceptable by the Cognizant Federal Agency (CFA). If, at the time of award, the Contractor's EVMS has not been determined by the CFA to be in compliance with the EVMS guidelines as stated in paragraph (b)(1) of this clause, the Contractor shall apply its current system to the contract and shall take necessary actions to meet the milestones in the Contractor's EVMS plan.

(d) If this contract has a value of less than \$50 million, the Government will not make a formal determination that the Contractor's EVMS complies with the EVMS guidelines in ANSI/EIA-748 with respect to the contract. The use of the Contractor's EVMS for this contract does not imply a Government determination of the Contractor's compliance with the EVMS guidelines in ANSI/EIA-748 for application to future contracts. The Government will allow the use of a Contractor's EVMS that has been formally reviewed and determined by the CFA to be in compliance with the EVMS guidelines in ANSI/EIA-748.

(e) The Contractor shall submit notification of any proposed substantive changes to the EVMS procedures and the impact of those changes to the CFA. If this contract has a value of \$50 million or more, unless a waiver is granted by

the CFA, any EVMS changes proposed by the Contractor require approval of the CFA prior to implementation. The CFA will advise the Contractor of the acceptability of such changes as soon as practicable (generally within 30 calendar days) after receipt of the Contractor's notice of proposed changes. If the CFA waives the advance approval requirements, the Contractor shall disclose EVMS changes to the CFA at least 14 calendar days prior to the effective date of implementation.

(f) The Government will schedule integrated baseline reviews as early as practicable, and the review process will be conducted not later than 180 calendar days after--

- (1) Contract award;
- (2) The exercise of significant contract options; and
- (3) The incorporation of major modifications.

During such reviews, the Government and the Contractor will jointly assess the Contractor's baseline to be used for performance measurement to ensure complete coverage of the statement of work, logical scheduling of the work activities, adequate resourcing, and identification of inherent risks.

(g) The Contractor shall provide access to all pertinent records and data requested by the Contracting Officer or duly authorized representative as necessary to permit Government surveillance to ensure that the EVMS complies, and continues to comply, with the performance criteria referenced in paragraph (b) of this clause.

(h) When indicated by contract performance, the Contractor shall submit a request for approval to initiate an over-target baseline or over-target schedule to the Contracting Officer. The request shall include a top-level projection of cost and/or schedule growth, a determination of whether or not performance variances will be retained, and a schedule of implementation for the rebaselining. The Government will acknowledge receipt of the request in a timely manner (generally within 30 calendar days).

(i) Significant deficiencies.

(1) The Contracting Officer will provide an initial determination to the contractor, in writing, on any significant deficiencies. The initial determination will describe the deficiency in sufficient detail to allow the Contractor to understand the deficiency.

(2) The Contractor shall respond within 30 days to a written initial determination from the Contracting Officer that identifies significant deficiencies in the Contractor's EVMS. If the Contractor disagrees with the initial determination, the Contractor shall state, in writing, its rationale for disagreeing.

(3) The Contracting Officer will evaluate the Contractor's response and notify the Contractor, in writing, of the Contracting Officer's final determination concerning--

(i) Remaining significant deficiencies;

(ii) The adequacy of any proposed or completed corrective action;

(iii) System noncompliance, when the Contractor's existing EVMS fails to comply with the earned value management system guidelines in the ANSI/EIA-748; and

(iv) System disapproval, if initial EVMS validation is not successfully completed within the timeframe approved by the Contracting Officer, or if the Contracting Officer determines that the Contractor's earned value management system contains one or more significant deficiencies in high-risk guidelines in ANSI/EIA-748 standards (guidelines 1, 3, 6, 7, 8, 9, 10, 12, 16, 21, 23, 26, 27, 28, 30, or 32). When the Contracting Officer determines that the existing earned value management system contains one or more

significant deficiencies in one or more of the remaining 16 guidelines in ANSI/EIA-748 standards, the contracting officer will use discretion to disapprove the system based on input received from functional specialists and the auditor.

(4) If the Contractor receives the Contracting Officer's final determination of significant deficiencies, the Contractor shall, within 45 days of receipt of the final determination, either correct the significant deficiencies or submit an acceptable corrective action plan showing milestones and actions to eliminate the significant deficiencies.

(j) Withholding payments. If the Contracting Officer makes a final determination to disapprove the Contractor's EVMS, and the contract includes the clause at 252.242-7005, Contractor Business Systems, the Contracting Officer will withhold payments in accordance with that clause.

(k) With the exception of paragraphs (i) and (j) of this clause, the Contractor shall require its subcontractors to comply with EVMS requirements as follows:

(1) For subcontracts valued at \$50 million or more, the following subcontractors shall comply with the requirements of this clause:

[Contracting Officer to insert names of subcontractors (or subcontracted effort if subcontractors have not been selected) designated for application of the EVMS requirements of this clause.]

(2) For subcontracts valued at less than \$50 million, the following subcontractors shall comply with the requirements of this clause, excluding the requirements of paragraph (c) of this clause:

[Contracting Officer to insert names of subcontractors (or subcontracted effort if subcontractors have not been selected) designated for application of the EVMS requirements of this clause.]

(End of clause)

## Section J - List of Documents, Exhibits and Other Attachments

SECTION JATTACHMENT AND EXHIBITSCONTRACT DATA REQUIREMENTS LIST (CDRL)

CDRL A001, Systems Engineering Management Plan  
CDRL A002, Open Architecture Assessment  
CDRL A003, Contractor Technical Study/Business Case Analysis (BCA)  
CDRL A004, System Subsystem Design Description (SSDD)  
CDRL A005, Requirements Traceability Matrix  
CDRL A006, System Views and Technical Views  
CDRL A007, Software Requirements Specification (SRS)  
CDRL A008, Interface Requirements Specification (IRS)  
CDRL A009, Software Design Description (SDD)  
CDRL A010, Software Build Plan  
CDRL A011, Software Development Plan (SDP)  
CDRL A012, Critical Technology Analysis Report  
CDRL A013, Engineering Release Record (ERR)  
CDRL A014, Internal Interface Design Description  
CDRL A015, Human Engineering Design Approach Document (HEDAD) – Operator  
CDRL A016, Human Engineering Design Approach Document (HEDAD) – Maintainer  
CDRL A017, Technical Performance Measures (TPM) Plan  
CDRL A018, Corrosion Prevention and Control Compliance Report  
CDRL A019, Test Program Plan (TPP)  
CDRL A020, Reliability Availability, Maintainability Program Plan  
CDRL A021, Data Recording, Extraction, Reduction Data Definitions/Recording  
CDRL A022, Technical Data Package  
CDRL A023, Producibility Analyses Report  
CDRL A024, Configuration Audit Summary Report (Functional)  
CDRL A025, Production Plan  
CDRL A026, Configuration Audit Summary Report (Physical)  
CDRL A027, Software Support Environment Tools (SSET) Listing  
CDRL A028, Automated Test Tool Listing  
CDRL A029, Automated Test Tools  
CDRL A030, Software Version Description (SVD)  
CDRL A031, Software Maintenance Plan  
CDRL A032, Hardware Requirements Specification (HRS)  
CDRL A033, Reliability Block Diagram  
CDRL A034, Fault Tree Analysis  
CDRL A035, Maintenance Support Plan  
CDRL A036, Reliability Prediction Report  
CDRL A037, FRACAS Report  
CDRL A038, Failure Summary and Analysis Report  
CDRL A039, FMECA Report  
CDRL A040, Safety Assessment Report (SAR)  
CDRL A041, System Safety Hazard Analysis (SSHA) Report  
CDRL A042, Operating and Support Hazard Analysis (O&SHA) Report  
CDRL A043, Health Hazard Assessment Report (HHAR)  
CDRL A044, Preliminary Hazard Analysis Report  
CDRL A045, Subsystem Hazard Analysis Report

CDRL A046, Hazardous Materials Management Program (HMMP) Report  
CDRL A047, Configuration Status Accounting Information  
CDRL A048, Engineering Release Record (ERR)  
CDRL A049, Engineering Change Proposal (ECP)  
CDRL A050, Request for Deviation  
CDRL A051, Notice of Revision  
CDRL A052, Technical Report, Study/Services (Change Notice)  
CDRL A053, Source Data for Forecasting Diminishing Manufacturing Sources and Material Shortages (DMSMS)  
CDRL A054, Parts Obsolescence  
CDRL A055, Test Procedures  
CDRL A056, Root Cause Analysis Report  
CDRL A057, Reliability Test Reports  
CDRL A058, Identified Test Incident Reports (TIRs)  
CDRL A059, Test Report  
CDRL A060, Factory Acceptance Test (FAT) Procedures  
CDRL A061, Test/Inspection Report (FAT)  
CDRL A062, Failure Analysis and Corrective Action Report  
CDRL A063, Electromagnetic Interference Test Procedures (EMITP)  
CDRL A064, Electromagnetic Interference Test Report (EMITR)  
CDRL A065, Tempest Control Plan  
CDRL A066, Tempest Test Plan  
CDRL A067, Tempest Test Report  
CDRL A068, Tempest Test Procedure  
CDRL A069, Test/Inspection Report (HERP, HERF, HERO)  
CDRL A070, Test Procedure (HERP, HERF, HERO)  
CDRL A071, Security Technical Implementation Guides (STIGs) Report  
CDRL A072, Information Assurance (IA) POAM  
CDRL A073, Information Assurance Test Report (IATR)  
CDRL A074, Item Unique Identification (IUID) Bar Code Identification Report  
CDRL A075, Energy Conservation Program Report  
CDRL A076, Supportability Analysis  
CDRL A077, Software Release

CDRL B001, Status Report (Contractor's Management and Status Report)  
CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material  
CDRL B005, IMP  
CDRL B006, Program Integrated Master Schedule (IMS)  
CDRL B007, Contract Work Breakdown Structure  
CDRL B008, Contract Performance Report (CPR)  
CDRL B009, Contract Funds Status Report (CFSR)  
CDRL B010, Cost Data Summary Report (CDSR)  
CDRL B011, Functional Cost-Hour Report (FCHR)  
CDRL B012, Software Resources Data Report (SRDR), Initial  
CDRL B013, Software Resources Data Report (SRDR), Final  
CDRL B014, Data Accession List  
CDRL B015, Technical Report, Study/Services (Requests For Information)

CDRL C001, Provisioning Plan  
CDRL C002, Provisioning Parts Lists (PPL)  
CDRL C003, Provisioning and Other Pre-Procurement Screening (POPS)  
CDRL C004, Long Lead Time Items (LLTI) Lists  
CDRL C005, Tools and Test Equipment Lists (TTEL)

CDRL C006, Common and Bulk Items Lists (CBILs)  
 CDRL C007, Engineering Data for Provisioning (EDFP)

CDRL D001, Integrated Support Plan (ISP)  
 CDRL D002, Level of Repair Analysis  
 CDRL D003, Transportability Report

CDRL E001, Commercial Off-The-Shelf Manual and Associated Supplemental Data  
 CDRL E002, Interactive Electronic Technical Manual (IETM)  
 CDRL E003, Technical Manual Validation Plan  
 CDRL E004, Technical Manual Validation Certificate  
 CDRL E005, Technical Manual Verification Incorporation Certificate

CDRL F001, Training Program Plan  
 CDRL F002, Critical Training Tasks List  
 CDRL F003, Learning Analysis Report (LAR)  
 CDRL F004, Instructional Media Requirements Analysis  
 CDRL F005, Training Test Package  
 CDRL F006, Lesson Plans  
 CDRL F007, Instructional Visual Aids  
 CDRL F008, Trainee Guide  
 CDRL F009, Curriculum Outline of Instruction  
 CDRL F010, Job Aids  
 CDRL F011, Training Materials Change Matrix

#### CDRLs



CDRLs A0001 - A070



CDRLs A071 - F011

#### ATTACHMENT LIST

Attachment (1) CAC2S SSS Rev E thru SCN 019 (Distro D)  
 Attachment (2) TACC Crew System Access Requirements Clarification Letter (Distro A)  
 Attachment (3) CAC2S System Engineering Plan (SEP) (Distro D)  
 Attachment (4) CAC2S Risk Management Plan (RMP) (Distro C)  
 Attachment (5) CAC2S CSDR Plan (Distro C)  
 Attachment (6) Government Furnished Property List  
 Attachment (7) Government Architectures (Distro D)  
 Attachment (8) CAC2S CDR Technical Review Action Plan (TRAP) (Distro C)  
 Attachment (9) Requirements Traceability Matrix  
 Attachment (10) CAC2S CPD thru RCN003 (Distro D)  
 Attachment (11) CAC2S CPD Classified Annex (SECRET)  
 Attachment (12) CAC2S Test Strategy (Distro C)  
 Attachment (13) CAC2S Software Acquisition Management Plan (SWAMP) (Distro D)  
 Attachment (14) AC2 Interface Documentation (Distro F)  
 Attachment (15) TAOC Radar System Interface Specification (Distro C)  
 Attachment (16) MINIMPs – J Series (Distro D)  
 Attachment (17) MINIMPs – K Series (Distro D)  
 Attachment (18) MINIMPs – M Series (Distro D)

- Attachment (19) MIL-STD-1397C(SH) Input/Output Interfaces, Standard Digital Data, Navy Systems (Distro A)
- Attachment (20) CAC2S Phase 1 Technical Data Package (Distro F)
- Attachment (21) CAC2S Human Systems Integration Management Plan (HSIMP) (Distro D)
- Attachment (22) CAC2S Reliability, Availability and Maintainability (RAM) Plan (Distro D)
- Attachment (23) CAC2S System Safety Program Plan (SSPP) (Distro C)
- Attachment (24) CAC2S Configuration Management Plan (Distro D)
- Attachment (25) Diminishing Manufacturing Sources and Material Shortages (DMSMS) Plan (Distro C)
- Attachment (26) Contract Security Classification Specification DD 254 (Distro D)
- Attachment (27) CAC2S Security Classification Guide (Distro D)
- Attachment (28) CEC Classification Guide (Distro F)
- Attachment (29) CAC2S Information Assurance Controls Identification Document (IACID) (Distro D)
- Attachment (30) CAC2S IUID Plan (Distro C)
- Attachment (31) CAC2S Life Cycle Sustainment Plan (Distro A)
- Attachment (32) Technical Manual Contract Requirement (TMCR) Number 110004-001 (Distro A)
- Attachment (33) CAC2S Phase 1 Master Jobs Task List (Distro C)
- Attachment (34) CAC2S Notional Phase 2 Schedule (Distro D)
- Attachment (35) System Design Specification (SDS) (Distro D)
- Attachment (36) NAVSEA Standard 03-01 Common Presentation Layer Guide (Distro A)
- Attachment (37) MIL-STD-6018 Integrated Broadcast Service (IBS) Common Message Format (CMF) Standard (CLASSIFIED)
- Attachment (38) MIL-STD-6020B Data Forwarding Between Tactical Data Links (CLASSIFIED)

Contract Security Classification Specification DD 254



DD 254 - Contract Security Classifier

**SECTION J - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS**

The following have been added by full text:

ATTACHMENT (6) GFP LIST

<b>CAC2S Government Furnished Property List</b>				
<b>ATTACHMENT (6)</b>				
Qty	Item	Nomenclature (NSN, NIIN, etc)	Delivery Date	End Date
13	MIDS LVT-11		60 DAC	Various (Applicable EDM/LDU Acceptance)
13	USG-4B		60 DAC	Various (Applicable EDM/LDU Acceptance)
13	ENTR	NSN: 5895-01-573-4226	60 DAC	Various (Applicable EDM/LDU Acceptance)

## CAC2S Government Furnished Property List

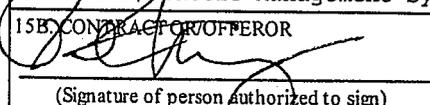
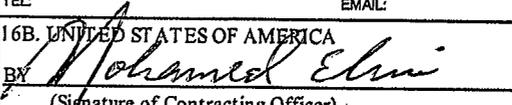
## ATTACHMENT (6)

Qty	Item	Nomenclature (NSN, NIIN, etc)	Delivery Date	End Date
12	M1152A1 IAP HMMWV	NSN: 2320-01-540-2007	120 DAC	Various (Applicable EDM/LDU Acceptance)
1	SDP-S Standalone and Software		60 DAC	End of Contract
1	WASP		60 DAC	End of Contract
1	AN/MRQ-13(V)2 CS (DEHUT) Training Suite	TAMCN A50287G	60 DAC	End of Contract
9	Office Automation		30 DAC	Various (Applicable EDM/LDU Acceptance)
9	Operating Systems		30 DAC	Various (Applicable EDM/LDU Acceptance)
1	IA Test Plan/Procedures		30 Days after CDR	End of Contract
1	Phase 1 SUM/SAMM		30 DAC	End of Contract
1	Phase 1 Development Test Reports w/ SSS Traceability Verification Matrixs		30 DAC	End of Contract
1	Phase TEMPEST Test Report		30 DAC	End of Contract
1	Phase 1 HERP/HERF/HERO Test Reports		30 DAC	End of Contract
1	Phase 1 Technical Drawings in Native Format		30 DAC	End of Contract
1	Operational Mode Summary / Mission Profile		30 DAC	End of Contract
1	Failure Definitions Scoring Criteria		30 Days prior to Contractor DT	End of Contract
1	Phase 1 Functional Configuration Audit Report		30 DAC	End of Contract

<b>CAC2S Government Furnished Property List</b>				
<b>ATTACHMENT (6)</b>				
<b>Qty</b>	<b>Item</b>	<b>Nomenclature (NSN, NIIN, etc)</b>	<b>Delivery Date</b>	<b>End Date</b>

(End of Summary of Changes)

<b>AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT</b>				1 CONTRACT ID CODE L	PAGE OF PAGES 1   49	
2 AMENDMENT/MODIFICATION NO P00001	3 EFFECTIVE DATE 07-Dec-2012	4 REQUISITION/PURCHASE REQ NO SEE SCHEDULE		5 PROJECT NO (If applicable)		
6 ISSUED BY MAR NE CORPS SYSTEMS COMMAND, CTQ ATTN: MOHAMED ELMI 2200 LESTER STREET QUANTICO VA 22134	CODE M67854	7 ADMINISTERED BY (If other than item 6) DCMA PHOENIX TWO RENAISSANCE SQUARE SUITE 400 40 NORTH CENTRAL AVE PHOENIX AZ 85004-4424		CODE S0302A	SCD: A	
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code) GENERAL DYNAMICS C4 SYSTEMS, INC. LORETHA JOHNSON 8201 E MCDOWELL RD SCOTTSDALE AZ 85257-3812				9A. AMENDMENT OF SOLICITATION NO.		
				9B. DATED (SEE ITEM 11)		
				X	10A. MOD. OF CONTRACT/ORDER NO. M67854-12-C-0211	
				X	10B. DATED (SEE ITEM 13) 28-Sep-2012	
CODE 1VPW8	FACILITY CODE 1VPW8					
<b>11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS</b>						
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input type="checkbox"/> 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) <b>See Schedule</b>						
<b>13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.</b>						
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) Mutual Agreement of Both Parties						
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> 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: njones13816 This modification is hereby issued to 1) establish subCLIN 000102 to provide incremental funding for CLIN 0001; 2) make a correction of the CDRL listed from A011 to A010 in Section 3.3.3.1; 3) add FAR clause 52.246-11; and 4) update the WAWF clause. All other terms and conditions remain unchanged.						
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) MOHAMED H. ELMI / CONTRACTING OFFICER TEL: 703-432-3233 EMAIL: mohamed.elmi1@usmc.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 11-Dec-2012		

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT			1. CONTRACT ID CODE L	PAGE OF PAGES 1   49	
2. AMENDMENT/MODIFICATION NO.	3. EFFECTIVE DATE 07-Dec-2012	4. REQUISITION/PURCHASE REQ. NO. SEE SCHEDULE		5. PROJECT NO. (If applicable)	
6. ISSUED BY MARINE CORPS SYSTEMS COMMAND, CTQ ATTN: MOHAMED ELMI 2200 LESTER STREET QUANTICO VA 22134	CODE M67854	7. ADMINISTERED BY (If other than item 6) DOMA PHOENIX TWO RENAISSANCE SQUARE SUITE 400 40 NORTH CENTRAL AVE PHOENIX AZ 85004-4424		CODE S0302A	SCD: A
8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code) GENERAL DYNAMICS C4 SYSTEMS, INC. LORETHA JOHNSON 8201 E MCDOWELL RD SCOTTSDALE AZ 85257-3812			9A. AMENDMENT OF SOLICITATION NO.		
			9B. DATED (SEE ITEM 11)		
			X 10A. MOD. OF CONTRACT/ORDER NO. M67854-12-C-0211		
CODE 1VPW8			FACILITY CODE 1VPW8		
			X 10B. DATED (SEE ITEM 13) 28-Sep-2012		
11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS					
<input type="checkbox"/> The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offer <input type="checkbox"/> is extended, <input type="checkbox"/> is not extended.					
<p>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:</p> <p>(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.</p>					
12. ACCOUNTING AND APPROPRIATION DATA (If required) See Schedule					
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) Mutual Agreement of Both Parties					
E. IMPORTANT: Contractor <input type="checkbox"/> is not, <input checked="" type="checkbox"/> is required to sign this document and return <u>1</u> 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: njones13816 This modification is hereby issued to 1) establish subCLIN 000102 to provide incremental funding for CLIN 0001; 2) make a correction of the CDRL listed from A011 to A010 in Section 3.3.3.1; 3) add FAR clause 52.246-11; and 4) update the WAWF clause. All other terms and conditions remain unchanged.					
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) Paul Moroz Director, Battle Management Systems			16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) MOHAMED H. ELMI TEL: _____ EMAIL: _____		
15B. CONTRACTOR/OFFEROR  (Signature of person authorized to sign)		15C. DATE SIGNED 11 Dec 12	16B. UNITED STATES OF AMERICA BY  (Signature of Contracting Officer)		16C. DATE SIGNED 11 DEC 2012

EXCEPTION TO SF 30  
APPROVED BY OIRM 11-84

30-105-04

STANDARD FORM 30 (Rev. 10-83)  
Prescribed by GSA  
FAR (48 CFR) 53.243

## SECTION SF 30 BLOCK 14 CONTINUATION PAGE

**SUMMARY OF CHANGES**

## SECTION B - SUPPLIES OR SERVICES AND PRICES

SUBCLIN 000102 is added as follows:

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
000102	Funding ACRN AB FFP FOB: Destination MILSTRIP: M9545013RCR3AZ7 PURCHASE REQUEST NUMBER: M9545013RCR3AZ7				\$0.00
				NET AMT	\$0.00
	ACRN AB CIN: M9545013RCR3AZ7000102				\$6,340,110.00

## SECTION C - DESCRIPTIONS AND SPECIFICATIONS

The following have been modified:

SECTION C

Section C - Descriptions and Specifications

**Statement of Work (SOW)  
for  
Common Aviation Command and Control System (CAC2S)**

**1.0 SCOPE**

This Statement of Work (SOW) defines the effort required for the design, engineering development, fabrication, and test of Engineering Development Models (EDMs), Technical Data Package (TDP), Limited Deployment Units (LDUs) and Software/Hardware Maintenance of the Common Aviation Command and Control System (CAC2S). It includes the associated program management, systems engineering, information assurance, testing, logistics support planning, and execution requirements.

**1.1 BACKGROUND**

The CAC2S acquisition approach is structured to ensure the CAC2S Program Management Office (PMO) fields ready and proven technologies at the earliest opportunity to enable effective command and control (C2) of all aviation

assets in support of the Marine Air-Ground Task Force (MAGTF). To achieve this, CAC2S Increment I requirements are being developed, integrated, tested and fielded in two phases.

The CAC2S PMO has initiated Phase 1 to accommodate rapid fielding of operationally relevant capabilities to include mobility, situational awareness, tactical communications, information dissemination and operational flexibility that will establish the baseline CAC2S capabilities for the Marine Air Command and Control System (MACCS) and AC2 capability. This is being accomplished by upgrading fielded MACCS equipment with mature, ready technologies and will establish an initial product baseline to include the Processor Display Subsystem (PDS) and Communication Subsystem (CS). A Government field activity In-Service Engineering Agent (ISEA) will oversee the integration and upgrades of the previously developed AN/TSQ-239 (V) Combat Operations Center (COC) and AN/MRQ-12 (V) 4, currently produced under previously competed contracts and agreements.

Phase 2 has been structured to accommodate the integration of technologies necessary for the CAC2S Sensor/Data Subsystem (SDS) to meet remaining Common Aviation Command and Control System (CAC2S) Increment I Capability Production Document (CPD) requirements. Phase 2 will implement CAC2S Increment I capabilities by leveraging Phase 1 to the maximum extent possible and by creating an integrated SDS with relevant Phase 1 PDS and CS, thereby fully meeting CAC2S Increment I requirements. The Phase 2 effort will produce a complete CAC2S Increment I capability by integrating Technology Readiness Level (TRL) 8, or higher, components and providing the smallest CAC2S transportability footprint possible.

## 2.0 APPLICABLE DOCUMENTS

The following documents form a part of this SOW to the extent specified herein. The most recent revision of the referenced document at the time of contract award shall be used unless otherwise specified in a contract modification. In the event of conflict between the applicable documents and this SOW, the SOW shall take precedence. All second tier and below references cited in mandatory compliance documents shall be considered as guidance only. Nothing in this document, however, supersedes applicable laws and regulations unless a specific exemption has been obtained.

Offerors may obtain the specifications, standards, plans, drawings, data item descriptions, and other pertinent documents cited in this solicitation from the on-line Acquisition Streamlining and Standardization Information System (ASSIST). If not available in ASSIST specific activity and the address from which to obtain the document will be provided in the appropriate section below.

### 2.1 Military Standards and Specifications - Mandatory Compliance

MIL-STD-130N	Identification Marking of U.S. Military Property
MIL-STD-1366E	Interface Standard for Transportability Criteria
MIL-STD-2361C	Digital Publications Development
MIL-STD-461F	Requirements for the Control of Electromagnetic Interference Characteristics of Subsystems and Equipment
MIL-STD-464C	Electromagnetic Environmental Effects Requirements for Systems
MIL-STD-882D	Standard Practice for System Safety
MIL-STD-31000	Technical Data Packages
MIL-STD-6018	Integrated Broadcast Service (IBS) Common Message Format (CMF) Standard
MIL-STD-6020B	Data Forwarding Between Tactical Data Links

### 2.2 Military Standards and Specifications - Guidance Only

MIL-STD-1686C	Electrostatic Discharge Control Program for Protection of Electrical and Electronics Parts, Assemblies and Equipment
MIL-STD-1472F(1)	Human Engineering
MIL-STD-3018(1)	Parts Management
MIL-STD-46855A	Human Engineering Requirements for Military Systems,

## Equipment, and Facilities

**2.3 Federal Standard – Mandatory**

Not Applicable

**2.4 Drawings**

See Applicable Contract Data Requirements List (CDRL) items

**2.5 Handbooks - Guidance Only**

MIL-HDBK-2036	Preparation of Electronic Equipment Specifications
MIL-HDBK-237D	Electromagnetic Environmental Effects and Spectrum Supportability Guidance for the Acquisition Process
MIL-HDBK-29612/2A	Instructional Systems Development/Systems Approach to Training and Education
MIL-HDBK-502	Acquisition Logistics
MIL-HDBK-61A	Configuration Management Guidance
MIL-HDBK-759C(2)	Human Engineering Design Guidelines

**2.6 Other Government Documents**

Unless otherwise stated, the following documents may be obtained from the Document Automation and Production Service, Building 4/D, 700 Robbins Avenue, Philadelphia, PA 19111-5094 or visit <http://dodssp.daps.dla.mil>.

DOD 5200.1-R	Information Security Program Regulation
DOD 8570.01-M	Information Assurance Workforce Improvement Program
DOD CIO Memo	DoD's Migration to Use of Stronger Cryptographic Algorithms, of 14 October 2010
DODI 5200.01	DoD Information Security Program and Protection of Sensitive Compartmented Information
DODI 6055.11	Protecting Personnel from Electromagnetic Fields
DODD 8500.01E	Information Assurance
DODI 8500.2	Information Assurance Implementation
DODI 8510.01	DoD Information Assurance Certification and Accreditation Process (DIACAP)
DODI 8520.2	Public Key Infrastructure (PKI) and Public Key (PK) Enabling
DODI 8552.01	Use of Mobile Code Technologies in DoD Information Systems
DODI 8580.1	Information Assurance in the Defense Acquisition System
DODI S5230.28	Low Observable (LO) and Counter Low Observable (CLO) Programs
HSPD-12	Policies for a Common Identification Standard for Federal Employees and Contractors
MCO 1553.2B	Management of Marine Corps Formal Schools, Professional Military Education (PME) Schools and Training Detachments
NAVMC 1553.1	Systems Approach to Training Users Guide
NAVSEAINST 9310.1B	Naval Lithium Battery Safety Program
NAVSEA OP 3565, Vol. 1	Electromagnetic Radiation Hazards (Hazards to Personnel, Fuel and Other Flammable Material)
NAVSEA OP 3565, Vol. 2	Electromagnetic Radiation Hazards (Hazards to Ordnance)
NIST SP 800-147	BIOS Protection Guidelines (Copies of NIST SP 800-147 are available from National Institute of Standards and Technology 100 Bureau Drive, Stop 8900, Gaithersburg, MD 20899-8900 or visit <a href="http://www.nist.gov">www.nist.gov</a> )

OMB M-11-11	Continued Implementation of Homeland Security Presidential Directive (HSPD) 12– Policy for aCommon Identification Standard for Federal Employees and Contractors
SIAP TECH REPORT	Single Integrated Air Picture (SIAP) Technical Report (Copies of SIAP Technical Report copies are available via <a href="http://www.dtic.mil">www.dtic.mil</a> )
TM S9310-AQ-SAF-010	Technical Manual for Batteries, Navy Lithium Safety Program Responsibilities and Procedures (Copies of TM S9310-AQ-SAF-010 are available from Naval Weapons Support Center, Code 3057, Building 36, Crane, IN 47522-5060)
U-DASC-PCL-00393	DASC Pocket Checklist (Copies of U-DASC-PCL-00393 are available from Marine Corps Tactical Systems Support Activity (MCTSSA), Camp Pendleton, CA 92055-5171)

## 2.7 Non-Government Documents

ANSI/EIA-748	Earned Value Management (EVM) General Provisions
ANSI-GEIA-STD-0009	Reliability Program Standard for Systems Design Development and Manufacturing
ASME Y14.24	Types and Applications of Engineering Drawings
ASME Y14.34M	Associated Lists
ASME Y14.100	Engineering Drawing Practices (Copies of ASME documents are available from <a href="http://www.asme.org">www.asme.org</a> or American Society of Mechanical Engineers Information Central Orders/Inquiries, P.O. Box 2300, Fairfield, NJ 07007-2300.)
GEIA-STD-0007	Logistics Product Data and Handbook
NIST FIPS 140-2	Security Requirements for Cryptographic Modules
NIST FIPS Pub 201-1	Personal Identity Verification of Federal Employees and Contractors PIV Standard
NIST SP 800-53	Recommended Security Controls for Federal Information Systems and Organizations
NIST SP 800-78-3	Cryptographic Algorithms and Key Sizes for Personal Identity Verification
NSTISSP No.11	National Information Assurance Acquisition Policy
<a href="http://www.iso.org">ISO/IEC</a> 15408	International Common Criteria for Information Technology Security Evaluation
JESD625-A	Requirements for Handling Electrostatic Discharge-Sensitive (ESDS) Device (Copies of JESD625-A are available from <a href="http://www.jedec.org">www.jedec.org</a> or Joint Electron Device Engineering Council, 3103 North 10th Street, Suite 240-S, Arlington, VA 22201-2107.)
ANSI EIA-649-B	National Consensus Standard for Configuration Management (Copies of ANSI EIA-649-B are available from <a href="http://www.techamerica.org">www.techamerica.org</a> or TechAmerica, 601 Pennsylvania Avenue, NW, North Building, Suite 600, Washington, DC 2004.)
IEEE/EIA 12207.0	Standard for Information Technology – Software Life Cycle Processes
IEEE/EIA 12207.1	Software Life Cycle Processes-Life Cycle Data

(Copies of IEEE/EIA 12207 are available from [www.ieee.org](http://www.ieee.org) or Institute of Electrical and Electronics Engineers Service Center, 445 Hoes Lane, Piscataway, NJ 08854-1331.)

## 2.8 FORMS

DD Form 1921	Cost Data Summary Report
DD Form 1921-1	Functional Cost-Hour Report

## 3.0 REQUIREMENTS

### 3.1 CAC2S Developmental System (CLIN 0001)

The Contractor shall provide all labor and materials necessary to design, engineer, develop, integrate, fabricate, test and deliver four (4) Information Assurance (IA) compliant Engineering Development Models (EDMs), that meet the requirements of CAC2S System, Subsystem Specification (SSS) (Attachment 1) and deliver a build to print Technical Data Package (TDP). Additionally, the contractor shall deliver spares to support Development Test (DT) and Operational Assessment (OA). All EDMs shall be utilized to collect Reliability, Availability and Maintainability (RAM) data. Additionally, the Contractor shall provide Government Purpose Rights to all data and computer software in accordance with paragraph 3.2.2.2.

The EDMS shall be delivered as follows:

#### **EDM #1 – Tactical Air Operation Center (TAOC) System Test and Integration Lab (STIL) Configuration**

- Electronics/Computing package (includes all software, operating systems, firmware, servers, switches, laptops, cables, peripherals & data radios)
- Transportability package (includes the signal entry panels)
- Operations facilities (tables only if the tables include power and data ports)

#### **EDM #2 – Full TAOC Configuration**

- Electronics/Computing package (includes all software, operating systems, firmware, servers, switches, laptops, cables, peripherals & data radios)
- Transportability package (includes the transport package and transport environmental controls during movement )
- Operations facilities (includes personnel working space (such as tents), tables, chairs , lights and power distribution unit)
- 

#### **EDM #3 – Full TAOC Configuration**

- Electronics/Computing package (includes all software, operating systems, firmware, servers, switches, laptops, cables, peripherals & data radios)
- Transportability package (includes the transport packaging, transport environmental controls during movement)
- Operations facilities (includes personnel working space (such as tents), tables, chairs , lights and power distribution unit)

#### **EDM #4 – Full TAOC Configuration Scalable to Tactical Air Command Center (TACC)**

- TAOC Electronics/Computing package (includes all software, operating systems, firmware, servers, switches, laptops, cables, peripherals & data radios)
- TAOC Transportability package (includes the transport package, transport environmental controls)
- TAOC Operations facilities (includes personnel working space (such as tents), tables, chairs , lights and power distribution unit)Any additional Electronics/Computing package software,

operating systems, firmware, servers, laptops, cables & peripherals required to reconfigure a TAOC EDM to a TACC EDM configuration). This supports the TACC Crew Minimum System Requirements (Attachment 2).

NOTE: The Contractor is responsible for providing the full requirements of the EDMs, except in those cases where the Government has provided GFP.

### **3.1.1 CAC2S Data (CLIN 0002, 0105)**

The Contractor shall provide data items in accordance with the DD1423s, Contract Data Requirements Lists (CDRLs), identified in Section J of this contract.

### **3.1.2 CAC2S Limited Deployment System (Option CLIN 0101)**

If option is exercised, the Contractor shall provide all labor and materials necessary to fabricate, integrate, test, prepare associated documentation and deliver four (4) Limited Deployment Units (LDUs). The Contractor shall provide all logistics, technical and field service support, including but not limited to training, technical manuals, IA compliant operational software and spares for Operational Testing. Three (3) of these LDUs will be in the Full TAOC configuration and one (1) LDU will be in the Full TACC configuration defined in TACC Crew Minimum System Requirements (Attachment 2).

### **3.1.3 CAC2S Limited Deployment System (Option CLIN 0102)**

If option is exercised, the Contractor shall provide all labor and materials necessary to fabricate, integrate, test, prepare associated documentation and deliver five (5) LDUs. Additionally, the Contractor shall provide all logistics, technical and field service support, including but not limited to training, technical manuals, IA compliant operational software, and sufficient spares to support two (2) years of fielding to operational locations. All LDUs delivered under CLIN 0102 will be delivered in the Full TAOC configuration.

### **3.1.4 CAC2S Software Maintenance (Option CLIN 0103 and 0106)**

If option(s) is(are) exercised, the Contractor shall provide all labor and materials necessary to support any fielded CAC2S unique software (to include IA updates and software corrections) delivered under this contract, for a period of twelve (12) months from option exercise date. The support provided under this CLIN includes all LDUs fielded under this contract and all CAC2S Full Deployment Units (FDUs) fielded under future production contracts if the FDUs are fielded within the period of performance for this CLIN.. For the purposes of this CLIN, unique software is defined as software developed specifically for CAC2S that is not currently supported in a DoD inventory.

### **3.1.5 CAC2S Refurbishment and Spares (Option CLIN 0104)**

If option is exercised, the Contractor shall provide all labor and materials necessary to refurbish the LDUs procured under CLIN 0101 for fielding. The Contractor shall provide twenty-four (24) months of spares beginning with CLIN 0104 option exercise date, in preparation for fielding of the LDUs procured under CLIN 0101.

## **3.2 Program and Data Management (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

### **3.2.1 Program Management (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain program management practices throughout the life of this contract. Program management practices shall include but not be limited to, visibility into the Contractors' organization and techniques used in managing the program, including subcontractor and data management. The Contractor shall

plan and monitor the execution of all program tasks and shall maintain regular communications to keep the Government apprised of all program issues and status. Additionally, requirements that are specified within the terms and conditions of this contract shall apply to subcontractor performance. The Contractor shall be accountable for ensuring all subcontractors are compliant with the terms and conditions of this contract. . The Contractor shall submit a Monthly Status Report (MSR) to the Government in accordance with CDRL B001.

CDRL B001, Monthly Status Report (MSR)

#### **3.2.1.1 Assignment of Responsibility and Authority (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall identify the organizational elements responsible for the conduct of the activities required under this contract. Responsibilities shall be assigned and clear lines of authority defined for determining and controlling the resources necessary to deliver the requirements of this contract. The Contractor shall notify the Contracting Officer of any substitution of Key Personnel in accordance with the Key Personnel clause of this contract.

#### **3.2.1.2 Post Award Conference (CLINs 0001 and 0002)**

The Contractor shall host a Post Award Conference (PAC) at the Contractor's facility no later than 14 calendar days after contract award. The purpose of the PAC is to achieve a clear and mutual understanding of all contract requirements and identify and resolve potential problems. As part of the PAC, the Contractor shall introduce key personnel and present program implementation processes to be utilized under this contract.

CDRL B002, Meeting Minutes

#### **3.2.1.3 Monthly Contract Reviews (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall host a Monthly Contract Review (MCR), via telephone conference call, to allow the Government to assess the efforts being performed under this contract in support of the CAC2S program. The MCR will be held the second Tuesday of each month unless agreed to in advance by the Government. The Contractor is required to provide all conference dial in information for the MCR. This MCR shall include, but not be limited to, review of all contract issues, both open and new, related to the execution of the contract and other issues having direct impact on cost, schedule, and performance.

CDRL B002, Meeting Minutes

#### **3.2.1.4 Meetings, Formal Reviews, Conferences, and Audits (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall plan, host, attend, coordinate, support and conduct meetings, formal reviews, conferences, and audits (hereinafter called "reviews") in conjunction with the Government. These reviews shall consist of, as a minimum, In Process Reviews (IPRs), Integrated Baseline Review (IBR), Systems Engineering Technical Reviews, Logistics Reviews (e.g. Provisioning, Training, ILS) and others as defined in this contract. The reviews will be conducted at Contractor and/or Government facilities. Reviews requiring demonstration and/or examination of equipment will be conducted at a Government approved location. All reviews under this contract shall be included in the program IMS. Multiple reviews may be held concurrently with the Government's advance written approval. The Contractor shall prepare agendas in accordance with CDRL B003. The Contractor shall prepare briefing materials and minutes in accordance with CDRLs B002 and B004. The Government reserves the right to cancel any review or require additional reviews be scheduled at critical points during the performance of this contract. Action

item documentation, including assignment of responsibility and due dates, shall be established prior to adjournment of all reviews and included as part of the review minutes.

CDRL B002, Meeting Minutes

CDRL B003, Meeting Agenda

CDRL B004, Briefing Material

### **3.2.1.5 In-Process Review (CLINs 0001, 0002, 0104, 0105 and 0106)**

In Process Reviews (IPR) shall be held quarterly, or as required, at dates and locations agreed to in advance by the Government. The Government reserves the unilateral right to cancel or postpone any IPR for any reason. The initial IPR shall be conducted at the Contractor's facility and held no earlier than 70 calendar days after the PAC and no later than 100 calendar days after contract award. Subsequent IPRs are anticipated to be conducted equally between the Contractor's facility and the Government's location at or near Quantico, Virginia. Areas addressed at the IPR shall include, but are not limited to, Cost Schedule and Performance in accordance with the agenda agreed to in advance by the Government. Additionally, outstanding management issues, risk (cost, performance and schedule) identification and resolutions, IA compliance, actual versus expected performance of each area and Integrated Product Team results shall be addressed. The Contractor shall prepare briefing materials which provide an overview of all agenda items. The Contractor shall provide an agenda, briefing materials, and written minutes for each IPR in accordance with CDRLs B002, B003, and B004.

CDRL B002, Meeting Minutes

CDRL B003, Meeting Agenda

CDRL B004, Briefing Material

### **3.2.1.6 Integrated Product Teams (IPT) (CLINs 0001, 0002, 0104, 0105 and 0106)**

The Contractor shall participate in the Government established IPT process as described in the CAC2S System Engineering Plan (SEP) (Attachment 3). The Contractor shall participate in all nine IPTs identified in the SEP. Each IPT shall be held quarterly. The Contractor shall host no more than two (2) IPT meetings (per IPT) a year at their facility. The remaining 2 IPT meetings (per IPT) shall be held at the Government's location at or near Quantico, Virginia. To the greatest extent possible, individual IPT meetings shall be aligned with the conduct of IPRs, to enable IPTs to out brief activities and results during IPRs. For each IPT meeting, the Contractor shall assist the Government in developing an agenda and producing minutes. The Contractor shall provide briefing material, as required, to support the IPT meetings in accordance with CDRL B004. Additionally, the Contractor shall respond to action items, as required.

CDRL B004, Briefing Material

### **3.2.1.7 Integrated Master Plan (IMP) and Integrated Master Schedule (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall maintain and deliver a contract level IMP and a contract level IMS for all efforts to be performed under this contract. The contract IMP and IMS shall be provided to the Government for review and approval in accordance with the CDRLs B005 and B006. The IMP and IMS submitted with the contractor's proposal will serve as the initial Performance Measurement Baseline (PMB) – any required updates will be made to this initial version. The contract IMS shall meet the below requirements:

Define all tasks required to execute the Government-approved Contract IMP.

Define all internal and external schedule dependencies and resources (hours and material dollars) necessary to execute the Contract IMS.

Define the program's critical path and near-critical paths to the closest major acquisition milestone, each key system-level technical review, and other high risk items as identified by the Government.

Include Contractor Tasks required to accomplish each IMP Event and relevant subcontractor scheduled milestones necessary to the achievement of each Contract IMS event.

Include all CDRL deliveries and events as defined by the IMP.

Provide all necessary data for development of the monthly EVMS reviews.

Be vertically traceable to the IMP, the Contract Work Breakdown Structure, and the Statement of Work contained in this contract.

The Government must approve in advance all changes to the baseline IMP and IMS.

CDRL B005, IMP

CDRL B006, IMS

### **3.2.1.8 Risk Management (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

For the life of this contract, the Contractor shall maintain a risk management program in accordance with the Contractors' Risk Management Plan (RMP), delivered as part of the proposal. The contractor will participate in the Government's risk program as described in the CAC2S Risk Management Plan (Attachment 4), including the CAC2S monthly Risk Review Team (RRT) and quarterly Risk Management Board (RMB). The Contractor shall input their identified risks (cost, schedule and performance) into the Government Risk Exchange database to support the RRT and RMB. The Government will provide the Contractor's risk management team appropriate access to the Government Risk Exchange database.

### **3.2.1.9 Contractor Performance Measurement (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

#### **3.2.1.9.1 Contract Work Breakdown Structure (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall maintain and deliver the Contract Work Breakdown Structure (CWBS) and dictionary in accordance with CDRL B007, using the WBS structure contained in the Cost and Software Data Reporting (CSDR) Plan (Attachment 5). The Contractor shall extend the CWBS to the appropriate level required to provide adequate internal management, surveillance, and performance measurement, regardless of the reporting level stipulated in the contract for Government visibility. The Contractor shall use the CWBS as the primary framework for contract planning, budgeting, and reporting the status of cost, schedule and technical performance to the Government. Changes to the CWBS or associated definitions at any reporting level shall require advance written approval of the Government.

CDRL B007, Contract Work Breakdown Structure

#### **3.2.1.9.2 Performance Measurement System (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall utilize their existing, internal performance management system to plan, schedule, budget, monitor, manage, and report cost, schedule, and technical status/updates applicable to the contract. The Contractor's internal performance management system shall serve as the single, formal, integrated system that meets both the Contractor's internal management requirements and the requirements of the Government for timely, reliable, and auditable performance information. The Contractor's system shall comply with ANSI/EIA-748 and all terms and conditions of this contract, including the Statement of Work.

The Contractor shall maintain and use an Earned Value Management (EVM) system which:

- Relates time-phased budgets to specific actions required to perform this contract.
- Indicates work progress.
- Properly relates cost, schedule and technical accomplishments to the established performance baseline.
- Enables planning and controlling costs and schedules.
- Is fully integrated with the Contractor's IMP and IMS at the event/accomplishment/criteria/work package level.
- Is based on the WBS specified in the CAC2S Contract Cost and Software Data Reporting (CSDR) Plan (Attachment 5).

#### **3.2.1.9.2.1 Application To Subcontractors (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall flow-down EVM requirements to subcontractors as follows:

Those subcontractors with an individual contract value at or greater than \$50M shall have an EVM System that has been formally validated by Defense Contract Management Agency (DCMA) and accepted by the Procuring Contracting Officer (PCO).

Those subcontractors with an individual contract value at or greater than \$20M shall be required to submit CPRs and an Integrated Master Schedule (IMS) to the prime Contractor.

The Contractor shall integrate cost, schedule and technical performance information reported by the subcontractors into the Contractor's EVMS system. The Contractor shall be responsible for reviewing and assuring the validity of all subcontractor reports.

#### **3.2.1.9.2.2 Integrated Baseline Review (IBR) (CLIN 0001 and 0002)**

An IBR shall be held at the Contractor's facility no later than 180 calendar days after contract award. The purpose of this review is for the Contractor to formally present to the Government the PMB, which identifies key milestones and supporting schedules; to show that resources are adequate and available for contractual tasks; to demonstrate that required tasks are adequately planned and can be objectively measured; to detail the Contractor's program implementation processes, including EVMS. Participation in the IBR will include representatives from the Government and the Contractor. The Contractor shall flow-down the IBR requirements to those subcontractors that meet the applicable thresholds for EVM reporting.

CDRL B002, Meeting Minutes

CDRL B003, Meeting Agenda

CDRL B004, Briefing Material

#### **3.2.1.9.3 Over Target Baseline (OTB)/Restructuring Action (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor may conclude that existing approved baselines no longer represent a realistic plan in terms of budget/schedule execution. In the event the Contractor realizes an OTB/restructuring action is necessary, the Contractor shall prepare and submit a request to the Contracting Officer outlining the requested OTB/Restructuring action. The request should also include detailed implementation procedures as well as an implementation timeframe for the requested OTB/Restructuring action. The Contractor shall not implement the OTB/restructuring action prior to receiving written approval from the Contracting Officer.

#### **3.2.1.9.4 Integrated Program Management Reporting (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall report EVM data under this contract in accordance with the requirements stated within the contract and the Contract Performance Report (CPR). All reporting shall correspond to applicable CWBS elements. The CPR shall be submitted in accordance with CDRL B008.

The Contractor shall provide the Government electronic access to the EVMS system information and supporting documentation upon submittal of the CPR to the Government. The Contractor shall include complete data, in a format compatible with WinSight Software as a part of each report. Retroactive changes to records pertaining to work performed that would change previously reported amounts for direct costs, or budgets, except for correction of errors and routine accounting adjustments, shall be prohibited.

The Contractor shall reconcile the cost/schedule data elements in the Contract Funds Status Report (CFSR) submitted under CDRL B009 with the CPR when these documents are submitted in the same month. The Contractor shall provide a reconciliation of the CFSR with CPR as an addendum to the CPR. The CFSR shall be submitted in accordance with CDRL B009.

CDRL B008, Contract Performance Report (CPR)

CDRL B009, Contract Funds Status Report (CFSR)

#### **3.2.1.9.4.1 Contractor Cost Data Reporting (CCDR) and Functional Cost-Hour Report (FCHR) (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall systematically collect and report actual contract costs to provide DoD cost analysts with needed data to estimate future costs of Government programs. The Contractor shall provide CCDRs and FCHRs in accordance with the approved Contract CSDR Plan (Attachment 5) and deliver in accordance with CDRLs B010 and B011. Each CCDR and FCHR will include cost estimates on DD Forms 1921 and 1921-1 respectively, as required by the Contract CSDR Plan, using the CWBS dictionary.

The Contractor shall flow down CCDR requirements to any subcontract valued at over \$50 million or any subcontracts valued between \$7 million and \$50 million that are designated by the Government as being high risk, high value, or of high technical interest.

CDRL B0010, Contractor Cost Data Reporting (CCDR) (DD Form 1921)

CDRL B011, Functional Cost-Hour Report (FCHR) (DD Form 1921-1)

#### **3.2.1.9.4.2 Software Resources Data Reporting (SRDR) (CLINs 0001, 0002, 0104, 0105 and 0106)**

The Contractor shall submit the completed SRDR Initial Developer Report for the entire software product, and after initiation of each software release or build in accordance with CDRL B012. The Contractor shall submit a completed SRDR Final Developer Report of each delivered software release in accordance with CDRL B013. The Contractor shall submit a completed SRDR Final Developer Report for the entire software product delivery of the final software element in accordance with CDRL B013.

CDRL B012, Software Resources Data Reporting (SRDR): Initial Developers Report and Data Dictionary

CDRL B013, Software Resources Data Reporting (SRDR): Final Developers Report and Data Dictionary

#### **3.2.1.10 Government Furnished Property (GFP) (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

GFP consists of the Government Furnished Equipment and Government Furnish Information identified in Attachment 6 of this contract. As part of the Monthly Status Report delivered under CDRL B001, the Contractor shall update the Government on all received, held and returned GFP. In accordance with the GFP clause of this contract, the Contractor shall inspect and inventory all GFP received and identify and report any discrepancies/deficiencies to the Government. Any changes to the status of GFP shall be updated in the Monthly Status Report.

CDRL B0001, Monthly Status Report

### **3.2.2 Data Management (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain a single, centralized, unclassified Data Management System (DMS) for management of all data to include, but not limited to, all necessary technical data (e.g. requirements, specifications, drawings (conceptual design, developmental design, product), engineering notebooks, parts lists, etc), management plans and updates thereto, and historical archives and updates of minutes of meetings and reviews. Tracking of Action Items resulting from various program reviews, IPRs and IPT meetings shall be accomplished and displayed in the DMS. The Contractor, in developing information that will be furnished to the Government, shall make the maximum use of existing data and provide maximum multiple use of technical information. Specific data management functions shall include schedule control for deliverables, maintenance of deliverables, approval of deliverable format, and distribution of data products. The DMS shall also serve as the Data Accession List to be delivered in accordance with CDRL B014. The system shall include facilities for storage of all data developed or utilized for this contract, and shall provide equal access to data by the Government. The DMS shall use Microsoft® Office or compatible products unless agreed to in advance by the Government. The Contractor shall ensure all data is centrally available with Government access for review via an Integrated Data Environment (IDE). The Government reserves the right to review all data associated with and developed for the CAC2S program under this contract.

Classified material will be transmitted via one hard copy and one CD/DVD to MCSC Classified mailing address. Prior to shipping of classified material, the Contractor will coordinate with the Contracting Officer Representative (COR) to identify the associated Government POC. After shipping of classified material, the associated tracking number will be forwarded to the COR

CDRL B014, Data Accession List

#### **3.2.2.1 Integrated Data Environment (IDE) (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain a secure IDE for hosting all data used on or produced in support of this contract, including cost, schedule, and technical data and deliverables. All data deliveries, unless specifically agreed to in advance by the Contracting Officer, shall be delivered via the IDE. The purpose of the IDE is to create a seamless, collaborative data environment for the Contractor and Government team which contains all pertinent data about the project throughout its development and delivery. This data management program, including IDE structure, format, processes, and procedures, shall be documented as part of the contract Data Management Plan provided at contract award and incorporated by reference herein. The Contractor shall provide the Government team access to all data listed in the DAL by actively using the IDE. The DAL shall contain the list of all data generated in support of this contract. Deliveries of data in addition to the IDE shall be as indicated in the CDRL attachment. Data shall be protected in accordance with the appropriate Program Protection Plans and Information Assurance guidelines. The Government reserves the right to witness all Contractor efforts to accomplish the SOW requirements and maintains the right to comment on processes.

##### **3.2.2.1.1 Government Work Area (CLIN 0001, 0101, 0102, 0103, 0104 and 0106)**

The Contractor shall provide a separate room at the Contractor's facility to accommodate four (4) Government (non-DCMA) individuals. The room shall have one (1) telephone line capable of conference calling, must be lockable, and shall have internet access to accommodate 4 individual hookups.

### 3.2.2.2 Data Rights (CLIN 0001)

In accordance with the DFARS clauses 252.227-7013 (Rights in Technical Data—Non Commercial Items) and 252.227-7014 (Rights in Noncommercial Computer Software and Noncommercial Computer Documentation), the Contractor shall provide at a minimum, Government purpose rights for all Contractor developed hardware, all Contractor developed software including documentation and the TDP delivered under this contract. Under CLIN 0001, the Contractor shall provide Government purpose rights for tactical components/interfaces developed prior to this contract that the Contractor claims rights to and were produced utilizing Contractor funded development included in the final CAC2S solution. The Government does not intend to procure Government purpose rights for any commercial software or hardware.

(b) (4)

### 3.2.3 Requests For Information (CLIN 0001 and 0002)

From time to time, the Government may request the Contractor provide a technical analysis on a specific subject item or issue, including estimated costs, if included in the official request. The official request will include in detail the specific technical analysis requested, any requested estimated cost estimates, and requested delivery date of the analysis. Once the Contractor receives the official request from the Government, the Contractor shall develop and deliver a technical report providing in-depth analysis of the subject item. These technical reports shall be delivered as white papers and briefing packages. Each technical report shall provide the technical viability of the subject item and how the subject item impacts the CAC2S, or for potential new/changes to requirements, how the subject item could be integrated into CAC2S. It is anticipated that these technical analyses will be requested no more than 20 times throughout the life of this contract and each analysis effort will not exceed a total of 360 hours to complete. The PCO is the only Government official authorized to request a technical analysis under these CLINs.

CDRL B004, Briefing Material

CDRL B015, Requests For Information

### 3.2.4 Documents Incorporated By Reference (CLIN 0001)

Upon award of this contract, the following documents, that were included in the Contractor's proposal, shall be accepted by the Government and incorporated by reference into the contract: Systems Engineering Management Plan, Open Architecture Assessment, Software Development Plan, Reliability, Availability, Maintainability Program Plan, Integrated Support Plan, ESOH Program Plan, Quality Assurance Program Plan, Configuration Program Plan, Information Assurance Plan, Parts Management/DMSMS Management Plan, Program Management Plan, Data Management Plan, Subcontracting Plan, and Risk Management Plan. Any required updates under this contract, shall be made against these documents.

### 3.3 Systems Engineering (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)

The Contractor shall establish and maintain systems engineering practices in accordance with the Contractors' Systems Engineering Management Plan (SEMP) throughout the life of this contract. The Contractor shall utilize the

CAC2S System Engineering Plan (SEP) (Attachment 3) to establish engineering policies and procedures in the SEMP. The system engineering practices shall provide visibility into the Contractors' organization and techniques used in providing systems engineering throughout the development, integration, testing, and delivery of the CAC2S under this contract. The Contractor shall plan and monitor the execution of all systems engineering tasks and shall maintain regular communications to keep the Government apprised of all systems engineering issues and status. The Contractor's SEMP shall flow down to all subcontractors. The Contractor shall be accountable for subcontractors' compliance with the SEMP and is responsible for ensuring all deliverable products comply with the terms and conditions of this contract. The SEMP shall be maintained and updated, as required, to support program acquisition milestones in accordance with CDRL A001. As stated in paragraph 3.2.4 above, the SEMP, submitted as part of the contractor's proposal, is accepted at contract award and forms the baseline for which any updates shall be made.

CDRL A001, Systems Engineering Management Plan (SEMP)

### **3.3.1 Open Systems Design (CLINs 0001 and 0002)**

The Contractor shall define, document, and follow an open systems approach for using modular design, standards-based interfaces, widely-supported consensus-based standards and commercial best practices. The Contractor shall update, maintain, and deliver an Open Systems Management Plan (OSMP) as a subsection of the Contractor's SEMP (CDRL A001) which shall address the cost/risk analysis of individual open interfaces and shall demonstrate compliance with this plan during all technical design reviews.

CDRL A001, Systems Engineering Management Plan (SEMP)

#### **3.3.1.1 Open Architecture Assessment (CLINs 0001 and 0002)**

The Contractor shall perform an Open Architecture Assessment of the system architecture using the Navy's Open Architecture Assessment Tool, and deliver in accordance with CDRL A002. For Open Architecture Assessment Tool (OAAT) information access the Defense Acquisition University (DAU) Web site located at <https://acc.dau.mil/CommunityBrowser.aspx?id=121180>.

CDRL A002, Open Architecture Assessment

#### **3.3.1.2 Treatment of Proprietary or Vendor-Unique Elements (CLINs 0001 and 0002)**

If, after award of this contract and prior to Government acceptance of the design, the Contractor requests the use of proprietary elements in the design, the Contractor shall prepare and deliver a Contractor Technical Study/Business Case Analysis (BCA) (CDRL A003) demonstrating to the Government that the use of proprietary elements proposed do not preclude or hinder other component or module developers from interfacing with or otherwise developing, replacing, or upgrading open parts of the system. All proprietary or vendor-unique elements that become part of the design require advance written approval of the Government. The Contractor shall deliver the BCA in accordance with CDRL A003. After the Government accepts the contractor's design at CDR, all requests for changes to the CAC2S design shall be submitted in accordance with the CAC2S Configuration Management Plan (CMP) (Attachment 24).

CDRL A003, Contractor Technical Study/Business Case Analysis (BCA)

#### **3.3.1.3 Design Information (CLINs 0001 and 0002)**

The Contractor shall provide a System Subsystem Design Description in support of CDR documenting and modeling the system or component (e.g., software, hardware, middleware) design information using industry standard formats, (e.g., Unified Modeling Language), and use tools that are capable of exporting model information in a standard format (e.g., Extensible Markup Language Metadata Interchange and AP233/International Standards Organization 10303). The Contractor shall maintain the design information, including models used, so that it is current with the as-built system. The Contractor's design shall be compliant with Government approved architectures identified in Attachment 7. The Contractor shall deliver a System Subsystem Design Description in accordance with CDRL A004.

CDRL A004, System Subsystem Design Description (SSDD)

### **3.3.2 Technical Reviews**

#### **3.3.2.1 Requirements Validation Review (CLINs 0001 and 0002)**

The Contractor shall host at their facility, a Requirements Validation Review (RVR) no later than 60 calendar days after contract award. The RVR shall be conducted in accordance with the CAC2S Critical Design Review (CDR) Technical Review Action Plan (TRAP) (Attachment 8).

CDRL B002, Meeting Minutes

CDRL B003, Meeting Agenda

CDRL B004, Briefing Material

During the RVR, the Contractor shall provide evidence that the Contractor fully understands the PDS/SDS subsystem requirements from the CAC2S Subsystem System Specification (SSS) (Attachment 1) and the Requirements Traceability Matrix (Attachment 9). The Contractor shall deliver a PDS/SDS Requirements Traceability Matrix and a System Subsystem Design Description (SSDD) in accordance with the below listed CDRLs. The Requirements Traceability Matrix (RTM) shall show the traceability between requirements listed in the CAC2S System/Subsystem Specification (SSS) (Attachment 1) and the CAC2S Increment I Capabilities Production Document (CPD) (Attachments 10 and 11), with emphasis on Key Performance Parameters (KPPs), Key System Attributes (KSAs), and Critical Technical Parameters (CTPs) through the design, build, test, and verification phases of development. The RTM shall identify how all SSS requirements will be assessed/verified and the associated test information. The RTM shall be used for the development of the Evaluation Framework Matrix in the Test and Evaluation Master Plan (TEMP). The following CDRLs shall be reviewed at the RVR:

CDRL A001, Systems Engineering Management Plan (SEMP) (Update only if required)

CDRL A004, System Subsystem Design Description (SSDD)

CDRL A005, Requirements Traceability Matrix

CDRL A011, Software Development Plan (SDP)

CDRL A039, FMECA Report

CDRL D001, Integrated Support Plan (ISP)

CDRL F002, Critical Training Tasks List

#### **3.3.2.2 Functional Allocation/Architecture Validation Review (CLINs 0001 and 0002)**

The Contractor shall host at their facility, a Functional Allocation/Architecture Validation Review no later than 150 calendar days after contract award. The Functional Allocation/Architecture Validation Review shall be conducted in accordance with the CAC2S Critical Design Review (CDR) TRAP (Attachment 8).

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material

The following CDRLs shall be reviewed at the Functional Allocation/Architecture Validation Review:

CDRL A001, Systems Engineering Management Plan (SEMP) (update only if required)  
CDRL A004, System Subsystem Design Description (SSDD)  
CDRL A005, Requirements Traceability Matrix  
CDRL A006, System Views and Technical Views  
CDRL A007, Software Requirements Specification (SRS)  
CDRL A008, Interface Requirements Specification (IRS)  
CDRL A009, Software Design Description (SDD)  
CDRL A010, Software Build Plan  
CDRL A011, Software Development Plan (SDP)  
CDRL A012, Critical Technology Analysis Report  
CDRL A039, FMECA Report  
CDRL A076, Supportability Analysis  
CDRL D001, Integrated Support Plan (ISP)  
CDRL F001, Training Program Plan  
CDRL F002, Critical Training Tasks List  
CDRL F003, Learning Analysis Report (LAR)  
CDRL F004, Instructional Media Requirements Analysis

### **3.3.2.3 Pre-CDR Status Review (CLINs 0001 and 0002)**

The Pre-CDR Status Review shall be conducted in accordance with the CAC2S CDR TRAP (Attachment 8). The Pre-CDR Status Review shall be held at the Contractor's facility no later than 240 calendar days after contract award. The Contractor shall conduct an engineering analysis that demonstrates how the Contractor's hardware and software designs will meet performance requirements identified within the SSS and System Design Specification (SDS), J Attachment (35). The Contractor shall provide the status of all the CAC2S PDS/SDS artifacts that are required to meet the success criteria of the CAC2S CDR within the CAC2S CDR TRAP. Additionally, the Contractor shall identify all issues, concerns, risks, etc., that may impact the ability to meet the contracted CDR.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material

The Contractor shall deliver an allocated baseline package in accordance with CDRL A013. The allocated baseline shall be supplemented by specifications, drawings, and related data as necessary to specify: (1) the essential Configuration Item (CI) functional characteristics, as allocated from higher-level CI; (2) external and internal interface requirements for each CI; (3) physical characteristics necessary to ensure compatibility with associated systems and CI's; and (4) constraints on the design of a CI, including Government Furnished Equipment (GFE) employed, envelope dimensions, component standardization and ILS requirements. Government approval shall be required prior to making changes to the allocated baseline. If the solution delivered under this contract includes the use of the HMMWV, the contractor shall also provide detailed HMMWV vehicle design information, including

information on integrated (transportability configuration) weight/payload, weight distribution, interface design drawings, and center of gravity calculations. The following CDRLs shall be reviewed at the Pre-CDR Status Review:

CDRL A001, Systems Engineering Management Plan (SEMP) (Update only if required)  
 CDRL A004, System Subsystem Design Description (SSDD)  
 CDRL A005, Requirements Traceability Matrix  
 CDRL A006, System Views and Technical Views  
 CDRL A010, Software Build Plan  
 CDRL A011, Software Development Plan (SDP)  
 CDRL A013, Allocated Baseline Package  
 CDRL A014, Internal Interface Design Description  
 CDRL A015, Human Engineering Design Approach Document (HEDAD) – Operator  
 CDRL A016, Human Engineering Design Approach Document (HEDAD) – Maintainer  
 CDRL A017, Technical Performance Measures (TPM) Plan  
 CDRL A018, Corrosion Prevention and Control Compliance Report  
 CDRL A019, Test Program Plan (TPP)  
 CDRL A020, Reliability Availability, Maintainability Program Plan  
 CDRL A021, DX/DR Data Recording, Extraction, Reduction Data Definitions /  
 Recording  
 CDRL A022, Technical Data Package  
 CDRL A033, Reliability Block Diagram  
 CDRL A034, Fault Tree Analysis  
 CDRL A036, Reliability Prediction Report  
 CDRL A039, FMECA Report  
 CDRL A075, Energy Conservation Program Report  
 CDRL A076, Supportability Analysis  
 CDRL D001, Integrated Support Plan (ISP)  
 CDRL D002, Level of Repair Analysis  
 CDRL E003, Technical Manual Validation Plan  
 CDRL F001, Training Program Plan  
 CDRL F002, Critical Training Tasks List  
 CDRL F003, Learning Analysis Report (LAR)  
 CDRL F004, Instructional Media Requirements Analysis

#### **3.3.2.4 Pre-CDR Validation Review (CLINs 0001 and 0002)**

The Pre-CDR Validation Review shall be conducted in accordance with the Critical Design Review (CDR) TRAP (Attachment 8). The Pre-CDR Validation Review shall be held at the Contractor's facility no later than 300 calendar days after contract award.

CDRL B002, Meeting Minutes  
 CDRL B003, Meeting Agenda  
 CDRL B004, Briefing Material

The following CDRLs shall be reviewed at the Pre-CDR Validation Review:

CDRL A001, Systems Engineering Management Plan (SEMP) (Update only if required)  
 CDRL A002, Open Architecture Assessment  
 CDRL A003, Contractor Technical Study/Business Case Analysis (BCA) (If required)  
 CDRL A004, System Subsystem Design Description (SSDD)  
 CDRL A005, Requirements Traceability Matrix

CDRL A006, System Views and Technical Views  
CDRL A007, Software Requirements Specification (SRS)  
CDRL A008, Interface Requirements Specification (IRS)  
CDRL A009, Software Design Description (SDD)  
CDRL A010, Software Build Plan  
CDRL A011, Software Development Plan (SDP)  
CDRL A013, Allocated Baseline Package  
CDRL A014, Internal Interface Design Description  
CDRL A015, Human Engineering Design Approach Document (HEDAD) – Operator  
CDRL A016, Human Engineering Design Approach Document (HEDAD) – Maintainer  
CDRL A017, Technical Performance Measures (TPM) Plan  
CDRL A018, Corrosion Prevention and Control Compliance Report  
CDRL A019, Test Program Plan (TPP)  
CDRL A020, Reliability Availability, Maintainability Program Plan  
CDRL A021, DX/DR Data Recording, Extraction, Reduction Data  
Definitions/Recording  
CDRL A022, Technical Data Package  
CDRL A023, Producibility Analyses Report  
CDRL A032, Hardware Requirements Specification  
CDRL A033, Reliability Block Diagram  
CDRL A034, Fault Tree Analysis  
CDRL A036, Reliability Prediction Report  
CDRL A039, FMECA Report  
CDRL A040, Safety Assessment Report (SAR)  
CDRL A041, System Safety Hazard Analysis (SSHA) Report  
CDRL A042, Operating and Support Hazard Analysis (O&SHA) Report  
CDRL A043, Health Hazard Assessment Report (HHAR)  
CDRL A045, Subsystem Hazard Analysis Report  
CDRL A046, Hazardous Materials Management Program (HMMP) Report  
CDRL A071, Security Technical Implementation Guides (STIGs) Report  
CDRL A075, Energy Conservation Program Report  
CDRL A076, Supportability Analysis  
CDRL D001, Integrated Support Plan (ISP)  
CDRL D002, Level of Repair Analysis  
CDRL E003, Technical Manual Validation Plan  
CDRL F001, Training Program Plan  
CDRL F002, Critical Training Tasks List  
CDRL F003, Learning Analysis Report (LAR)  
CDRL F004, Instructional Media Requirements Analysis

### **3.3.2.5 Critical Design Review (CLINs 0001 and 0002)**

The CDR shall be conducted in accordance with the CDR TRAP (Attachment 8). The CDR shall be held at the Contractor's facility no later than 360 calendar days after contract award. The Contractor shall present a final design that meets the performance requirements of CAC2S Increment I and presents the methods used to verify and validate the design.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material

The following CDRLs shall be reviewed at the CDR:

CDRL A001, Systems Engineering Management Plan (SEMP) (Update only if required)  
 CDRL A003, Contractor Technical Study/Business Case Analysis (BCA) (If required)  
 CDRL A004, System Subsystem Design Description (SSDD)  
 CDRL A005, Requirements Traceability Matrix  
 CDRL A006, System Views and Technical Views  
 CDRL A007, Software Requirements Specification (SRS)  
 CDRL A008, Interface Requirements Specification (IRS)  
 CDRL A009, Software Design Description (SDD)  
 CDRL A010, Software Build Plan  
 CDRL A011, Software Development Plan (SDP)  
 CDRL A013, Allocated Baseline Package  
 CDRL A014, Internal Interface Design Description  
 CDRL A015, Human Engineering Design Approach Document (HEDAD) – Operator  
 CDRL A016, Human Engineering Design Approach Document (HEDAD) – Maintainer  
 CDRL A017, Technical Performance Measures (TPM) Plan  
 CDRL A018, Corrosion Prevention and Control Compliance Report  
 CDRL A019, Test Program Plan (TPP)  
 CDRL A020, Reliability Availability, Maintainability Program Plan  
 CDRL A021, DX/DR Data Recording, Extraction, Reduction Data  
     Definitions/Recording  
 CDRL A022, Technical Data Package  
 CDRL A023, Producibility Analyses Report  
 CDRL A032, Hardware Requirements Specification  
 CDRL A033, Reliability Block Diagram  
 CDRL A034, Fault Tree Analysis  
 CDRL A036, Reliability Prediction Report  
 CDRL A039, FMECA Report  
 CDRL A040, Safety Assessment Report (SAR)  
 CDRL A041, System Safety Hazard Analysis (SSHA) Report  
 CDRL A042, Operating and Support Hazard Analysis (O&SHA) Report  
 CDRL A043, Health Hazard Assessment Report (HHAR)  
 CDRL A045, Subsystem Hazard Analysis Report  
 CDRL A046, Hazardous Materials Management Program (HMMP) Report  
 CDRL A075, Energy Conservation Program Report  
 CDRL A076, Supportability Analysis  
 CDRL D001, Integrated Support Plan (ISP)  
 CDRL D002, Level of Repair Analysis  
 CDRL E003, Technical Manual Validation Plan  
 CDRL F001, Training Program Plan  
 CDRL F002, Critical Training Tasks List  
 CDRL F003, Learning Analysis Report (LAR)  
 CDRL F004, Instructional Media Requirements Analysis

### **3.3.2.6 Functional Configuration Audit (CLINs 0001 and 0002)**

The Contractor shall participate in the Government-performed Functional Configuration Audit (FCA) after the completion of Developmental Test (DT)/Operational Assessment (OA) with the Government chairing the audit. If requested by the Government, the Contractor shall prepare briefing materials and assist the Government in preparing minutes. The FCA will be accomplished at the Contractor's facility and at a time mutually agreed to. The

FCA is a multi-disciplined product and process assessment to ensure that CAC2S Increment I can proceed into Limited Deployment Unit Production within cost, schedule, risk, and other system constraints. The Contractor shall prepare and submit a Configuration Audit Summary Report (Functional) in accordance with CDRL A024 and an Item Unique Identification (IUID) Bar Code Identification Report in accordance with CDRL A074.

- CDRL A022, Technical Data Package
- CDRL A024, Configuration Audit Summary Report (Functional)
- CDRL A074, Item Unique Identification (IUID) Bar Code Identification Report
- CDRL B004, Briefing Material

### **3.3.2.7 Assembly Review (CLINs 0101, 0102 and 0105)**

The Assembly Review (AR) shall be performed after completion of the FCA to formally evaluate the Contractor's production readiness to produce Limited Deployment Units (LDUs). The AR shall identify existing or projected manufacturing problems and areas of risk. The Contractor shall demonstrate progress in the following areas: (1) attaining the program's production goals, (2) resolving manufacturing problems (or that a plan for their resolution, acceptable to the Government, has been developed), and (3) mitigating all production risks. The Contractor shall show that the system design has included those key production factors (e.g., least cost, minimum time, manufacturing simplicity/flexibility, resource availability) necessary to assure the system can be acquired on schedule. The Assembly Review date shall be Contractor-proposed, Government-approved, and incorporated into the program schedule. The Contractor shall prepare an Assembly Plan in accordance with CDRL A025.

- CDRL A025, Assembly Plan
- CDRL A065, Tempest Control Plan
- CDRL A066, Tempest Test Plan
- CDRL A068, Tempest Test Procedures
- CDRL A070, Test Procedure (HERP, HERF, HERO)
- CDRL B002, Meeting Minutes
- CDRL B003, Meeting Agenda
- CDRL B004, Briefing Material

The following CDRLs shall be reviewed at the AR:

- CDRL A023, Producibility Analysis Report
- CDRL A060, Factory Acceptance Test (FAT) Procedures

### **3.3.2.8 Physical Configuration Audit (CLINs 0101 and 0105)**

The Physical Configuration Audit (PCA) shall be performed after IOT&E to verify CAC2S Increment I and its configuration items (CIs) are accurate, complete, compatible, and that the CIs have achieved the performance and functional characteristics defined in the functional configuration baseline. The Government and the Contractor shall conduct the PCA jointly, at the Contractor's facility and at a mutually agreed to time, with the Government chairing the audit. The PCA shall verify that the drawings delivered under CDRL A022 reflect the "as-built" configuration of all newly developed or modified portions of the system; accurate form, fit, function information is provided on control drawings for non-developmental/ commercial off-the-shelf items; and confirm the drawings accurately represent the "as-built" production configuration. The Contractor shall document the results of the PCA in accordance with CDRL A026.

- CDRL A022, Technical Data Package
- CDRL A026, Configuration Audit Summary Report (Physical)

### **3.3.3 Software (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall define a software development approach appropriate for the computer software effort to be performed under this contract. This approach shall be documented in a Software Development Plan (SDP) in accordance with CDRL A011. The Contractor shall follow this SDP for all computer software to be developed and maintained under this effort. The SDP submitted with the contractor's proposal, is baselined at contract award.

The SDP shall define the Contractor's proposed life cycle model and the processes used as a part of the model. In this context, the term "life cycle model" is defined in IEEE/EIA Std. 12207.0. The SDP shall describe the overall life cycle and shall include primary, supporting, and organizational processes based on the work content of this Statement of Work. In accordance with the framework defined in IEEE/EIA Std. 12207.0, the SDP shall define the processes, the activities to be performed as a part of the processes, the tasks which support the activities, and the techniques and tools to be used in performing the tasks. The SDP shall contain the information defined by IEEE/EIA Std. 12207.1, section 5.2.1 (generic content) and the Plans or Procedures in Table 1 of IEEE/EIA Std. 12207.1. In all cases, the level of detail shall be sufficient to define all software development processes, activities, and tasks to be conducted. Information provided must include, at a minimum, the specific standards, methods, tools, actions, strategies, and responsibilities associated with development and qualification.

CDRL A011, Software Development Plan (SDP)

#### **3.3.3.1 Software Build Plan (CLINs 0001, CLIN 0002, CLIN 0103, 0105 and 0106)**

The Contractor shall develop and deliver a Software Build Plan (SBP), in accordance with **CDRL A010**, which accommodates the delivery of Software Releases, to include engineering, baseline, and maintenance releases, during the life of this contract. The SBP will utilize the CAC2S Test Strategy (Attachment 12) as guidance. The SBP will identify the requirements to be implemented in each engineering, baseline, and maintenance software release. The Contractor shall define the process to create the base images and maintain them to keep current with Information Assurance patches. Each software release will include delivery of the corresponding SVD, installation instructions, user manuals and maintenance manuals.

CDRL A010, Software Build Plan

#### **3.3.3.2 Software Metrics (CLIN 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall develop and maintain software metrics in accordance with the Contractor's SDP and utilizing the CAC2S Software Acquisition Management Plan (Attachment 13) as guidance. Software metrics will be included in the monthly status report CDRL B001.

CDRL B001, Monthly Status Report

#### **3.3.3.3 Implementation of External Interface Requirements Specifications (CLIN 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall implement the external interfaces referenced in the following attachments:

Attachment (14) AC2 Interface Documentation (Distro F)

Attachment (15) TAOC Radar System Interface Specification (Distro C)

Attachment (16) MINIMPs – J Series (Distro D)  
Attachment (17) MINIMPs – K Series (Distro D)  
Attachment (18) MINIMPs – M Series (Distro D)  
Attachment (19) MIL-STD-1397C(SH) Input/Output Interfaces, Standard Digital Data,  
Navy Systems (Distro A)  
Attachment (37) MIL-STD-6018 Integrated Broadcast Service (IBS) Common Message Format (CMF)  
Standard (Classified)  
Attachment (38) MIL-STD-6020B Data Forwarding Between Tactical Data Links (Classified)

The Contractor shall participate in the external interface IPTs/Working Groups (WGs) to track/manage changes to the interfaces. For the TPS-63, the Contractor may either implement the TAOC Radar System Interface Specification (Attachment 15) or the NTDS MIL-STD-1397C (SH) Input/Output Interfaces, Standard Digital Data, Navy Systems (Attachment 19). If the Contractor implements the TAOC Radar System Interface Specification, the Contractor shall be solely responsible for TAOM TPS-63 TIU maintenance and/or replacement. The Contractor shall be a participant in the Interface Control Working Group (ICWG) established between the CAC2S PMO, PEO Land Systems, and Product Group 11 (Marine Corps Systems Command) and others, as required. The ICWG will meet, as necessary, to resolve any interface issues leading up to the CAC2S OA and IOT&E. If there are changes to the interface attachments provided under this contract, due to the ICWG efforts, the Contractor shall implement the updated interface changes as directed by the Government. It is anticipated that the changes will be minor and will require minimal effort to implement per change. Minor is considered as any interface change that would take less than a week to develop and implement. It is assumed that integration and testing shall occur during scheduled Contractor and Government test events. If the Contractor believes the requested changes are other than minor, the Contractor shall, prior to making any changes, promptly notify the Contracting Officer of their belief the change is considered other than minor. The notification shall include the reasons they believe the change is other than minor, the impact of making the change, and any additional proposed costs associated with making the change.

CDRL B004, Briefing Material

### **3.3.3.4 Software Release (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall deliver IA compliant Software Releases, to include engineering, baseline, and maintenance releases, in accordance with the Software Build Plan and IMS. Each software release shall include the delivery of Source Code for non-commercial software in accordance with CDRL A077, executable code in the form of installation “gold disk” in accordance with CDRL A077, corresponding Software Version Description (SVD), installation instructions, and user and maintenance manuals. Engineering releases will be delivered to the Government for installation in support of Government test events. Software releases shall be delivered to the Government for acceptance by the Government IV&V Team. If priority 1 & 2 software issues are identified by the Government that prevent acceptance by the Government IV&V Team, the Contractor shall analyze and correct the issues and re-submit the release for Government acceptance. Additionally, the Contractor shall prepare a list of all open software issues related to this build in accordance with CDRL A030 and CDRL A071.

CDRL A030, Software Version Description (SVD)  
CDRL A071, Security Technical Implementation Guides (STIGs) Report  
CDRL E001, Commercial Off-The-Shelf Manual and Associated Supplemental Data (If  
update is required)  
CDRL E002, Interactive Electronic Technical Manual (IETM) (If update is required)  
CDRL A077, Software Release

### **3.3.3.5 Software Transition (CLINs 0103, 0105 and 0106)**

The Contractor shall deliver a listing of all Software Support Environment Tools (SSET) (CDRL A029) used to develop software/firmware for CAC2S and automated test tools used to test the CAC2S software prior to delivery to the Government. The source and executable code for any tools developed specifically for CAC2S shall be delivered to the Government.

CDRL A027, SSET Listing  
CDRL A028, Automated Test Tool Listing  
CDRL A029, Automated Test Tools

### **3.3.3.6 Software Version Description (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall deliver a Software Version Description (SVD) with each software release in accordance with CDRL A030, to include engineering, baseline, and maintenance releases. The SVD shall identify and describe a software version consisting of one or more SCIs and shall be used to release, track, and control software versions.

CDRL A030, Software Version Description (SVD)

### **3.3.3.7 Software Maintenance Plan (CLINs 0103, 0105 and 0106)**

The Contractor shall develop and deliver a Software Maintenance Plan, in accordance with CDRL A031. The software maintenance plan shall describe the contractor's processes and software corrections as a formal release to the Government. The Contractor shall release software to the Government quarterly. Each quarterly release shall include applicable Information Assurance and vulnerability patches. Additionally, as part of every other quarterly release the Contractor shall include software corrections identified via the Test Incident Report (TIR) process. Additionally, the Software Maintenance Plan shall define the Contractor's testing that will occur to ensure verification of the software corrections and IA implementation prior to Government DD250 software acceptance process.

CDRL A031, Software Maintenance Plan

### **3.3.4 Design Documentation (CLINs 0001 0002, 0103, 0105 and 0106)**

The Contractor shall develop a Hardware Requirements Specification (HRS) using MIL-HDBK-2036 as guidance, and deliver in accordance with CDRL A032.

CDRL A032, Hardware Requirements Specification (HRS)

#### **3.3.4.1 Technical Data Package (CLINs 0001 and 0002)**

The Contractor shall develop and deliver two-dimensional technical drawings of the integrated CAC2S hardware solution as defined in MIL-STD-31000 and in accordance with CDRL A022. Technical drawings, developed by the Contractor, shall comply with ASME Y14.100, ASME Y14.24 and ASME Y14.34M. These drawings shall include: assembly, item, detail, parts lists, wiring diagrams, and wiring schematic drawings for items designed, developed, and integrated to represent the CAC2S. All drawings shall provide necessary design, engineering, manufacturing and quality assurance data necessary to enable the procurement or manufacture of an item or interchangeable item. The Technical Data Package shall also identify all commercial end item nomenclature/commercial part

numbers (slick sheet information) for items used as components of CAC2S, and altered vendor item drawings for all commercial off the shelf (COTS) items that do not conform to recognized government or industry specifications, non-developmental items (NDI), and proprietary components. The Technical Data Package shall specify the applicable performance specification form, fit, function and interface information needed for competitive re-procurement of that item or an interchangeable item. The Technical Data Package shall also include interface design drawings that fully describe interface and attachment hardware for mounting and securing the CAC2S transportability configuration to the M1152A1 IAP HMMWV vehicle. To assist the Contractor in developing the TDP, the Phase 1 Technical Data Package is provided as reference (Attachment 20).

CDRL A022, Technical Data Package

### **3.3.5 Human Systems Integration and Human Systems Engineering Program (CLINs 0001, 0002, 0101, 0103, 0105 and 0106)**

The Contractor shall utilize the CAC2S Human Systems Integration Management Plan (HSIMP) (Attachment 21) to establish a human systems engineering program. The human engineering practices shall provide visibility into the Contractors' organization and techniques used in providing human engineering throughout the development, integration, testing, and delivery of CAC2S. The Contractor shall plan and monitor the execution of all human systems engineering tasks utilizing MIL-STD-1472F(1) and MIL-STD-46855A as guidance and shall maintain regular communications to keep the Government apprised of all human engineering issues and status. The Contractor shall develop and maintain a Human Engineering Program Plan (HEPP)/ Human Systems Integration Program Plan (HSIPP) as a subsection of the Contractor's SEMP. The Contractor shall develop human engineering design approaches for operators and maintainers. The Contractor shall deliver a Human Engineering Design Approach Document (HEDAD) – Operator in accordance with CDRL A015. The Contractor shall deliver a Human Engineering Design Approach Document (HEDAD) – Maintainer in accordance with CDRL A016. The Government will conduct a preliminary Personnel Survivability and Habitability Assessment in conjunction with the Pre-CDR Status Review with the final assessments to be conducted during the last Government DT. Additionally, the Government will conduct a preliminary HSI Design Review for HSI certification in conjunction with the Pre-CDR Status Review utilizing NAVSEA Standard 03-01 (Attachment 36) as guidance. The HSI Certification will be conducted by the Government during the last Government DT. The Contractor shall adjudicate and resolve findings via the HSIIPT process.

CDRL A015, Human Engineering Design Approach Document (HEDAD) – Operator

CDRL A016, Human Engineering Design Approach Document (HEDAD) – Maintainer

### **3.3.6 Technical Performance Measures (TPM) (CLIN 0001 and 0002)**

The Contractor shall utilize the TPMs identified in the CAC2S SEP (Attachment 3) to develop a TPM program and TPM Plan in accordance with CDRL A017. The Contractor shall report progress in achieving TPM metrics as part of the Monthly Status Report.

CDRL A017, Technical Performance Measures (TPM) Plan

### **3.3.7 Reliability, Availability and Maintainability (RAM) Program (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall utilize the CAC2S RAM Plan (Attachment 22) to establish a RAM program. The Contractor shall maintain a comprehensive RAM program to ensure the CAC2S meets the RAM standards set forth in the

performance specification. The design shall be monitored throughout the life of the contract to identify and assess any changes, which would impact reliability and/or maintainability. The Contractor shall develop reliability analyses and predictions as required to ensure compliance with the performance specification. The program shall encompass all aspects of reliability with respect to design selection of components, predictions, and testing. The Contractor shall maintain and make available to the Government all RAM data on any vendor or subcontractor supplied item and shall inform the Government of any part or component, which will degrade system RAM requirements. The Contractor shall develop and deliver a RAM Program Plan (CDRL A020), Reliability Block Diagram (CDRL A033), Fault Tree Analysis (CDRL A034), and a Maintenance Support Plan (CDRL A035).

CDRL A020, RAM Program Plan  
CDRL A033, Reliability Block Diagram  
CDRL A034, Fault Tree Analysis  
CDRL A035, Maintenance Support Plan

#### **3.3.7.1 Reliability Predictions (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall provide reliability predictions in accordance with the CAC2S RAM Plan (Attachment 22). The predictions shall be provided to the lowest subassembly level and updated each time the configuration baseline changes. The Contractor shall prepare and deliver a Reliability Prediction Report in accordance with CDRL A036.

CDRL A036, Reliability Prediction Report

#### **3.3.7.2 Failure Reporting, Analysis, and Corrective Action System (FRACAS) (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall develop a closed loop failure reporting system, procedures for analysis of failures to determine the root cause, and documentation for recording corrective actions taken. This Failure Reporting, Analysis, and Corrective Action System (FRACAS) shall include uniform failure reporting, failure analysis reports and corrective actions for all hardware failures from system level down to the subassembly level throughout the testing period and deployment of the Limited Deployment Units (LDUs). The FRACAS Report shall be delivered in accordance with CDRL A037. The Contractor shall develop a RAM database to encompass failure reporting and shall transfer the database to the Government when directed. This database shall be compatible with the Government RELEX model RAM database. All failures shall be categorized as in-field or in-factory failures and include the system operating hours. The Contractor shall deliver a Failure Summary and Analysis Report in accordance with CDRL A038. The Contractor shall assess the failure data for the identification of trends (3 or more failures occurring over the life of the contract of the same root cause) and identify those trends in the FRACAS report. Each FRACAS report shall, at a minimum, identify the root cause, and detail the remedial action taken including parts replaced. The Contractor shall support Government Anomaly Review Boards (ARB) throughout the life of this contract.

CDRL A037, FRACAS Report  
CDRL A038, Failure Summary and Analysis Report

#### **3.3.7.3 Failure Mode, Effects and Criticality Analysis (FMECA) (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall implement a process to perform Failure Mode, Effects and Criticality Analyses (FMECA) to identify system failure modes. The failure effects to the system shall be identified in addition to the criticality level

of each failure (inoperable or degraded). In the event of a degraded effect, the Contractor shall identify to the Government the operational/inoperable functional capabilities. The Contractor shall prepare a FMECA Report in accordance with CDRL A039.

CDRL A039, FMECA Report

### **3.3.8 Quality Management System (CLINs 0001, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall have in place a quality program in accordance with best business practices, equal or superior to that defined in ISO 9000:2000. The Contractor's quality management system shall include vendor performance to ensure all products delivered under this contract meet the terms and conditions of the contract. The Contractor shall make available all quality management documentation for Government review.

### **3.3.9 Corrosion Prevention and Control (CLINs 0001, 0002, 0101, 0102, and 0105)**

The Contractor shall have in place a Corrosion Prevention and Control Program. The Contractor shall deliver a Corrosion Prevention and Control Compliance Report in accordance with CDRL A018.

CDRL A018, Corrosion Prevention and Control Compliance Report

### **3.3.10 Environmental, Safety and Occupational Health (ESOH) (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

Using the CAC2S System Safety Program Plan (Attachment 23) and MIL-STD-882D as guides, the Contractor shall develop and implement a program to effectively apply ESOH principles during CAC2S design, integration, test and production. The Contractor shall identify and evaluate safety and health hazards, define risk levels, and manage the probability and severity of all hazards associated with development, use, and disposal of the system in accordance with MIL-STD-882D. Residual risks will be evaluated by the Government in accordance with MIL-STD-882D and accepted as appropriate prior to exposing people, equipment, or the environment to known system related Environment, Safety, and Occupational Health (ESOH) risks. The Contractor must identify all explosive safety risks.

The Contractor shall participate as an active member of CAC2S ESOH Working Group (WG) as defined in the CAC2S System Safety Program Plan. The ESOH WG shall be aligned with the conduct of IPRs to the greatest extent possible to enable the ESOH WG to out brief activities and results during IPRs.

CDRL B004, Briefing Material

#### **3.3.10.1 Safety Assessment (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a Safety Assessment to identify all safety features of the hardware, software, and system design and to identify procedural, hardware and software related hazards that may be present in the CAC2S including, but not limited to, specific procedural controls and precautions that should be followed. In addition, the Contractor shall make recommendations applicable to hazards at the interface of the CAC2S with other systems. The Contractor shall deliver a Safety Assessment Report (SAR) in accordance with CDRL A040.

CDRL A040, Safety Assessment Report (SAR)

**3.3.10.2 System Hazard Analysis (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a System Hazard Analysis (SHA) to identify hazards and assess the risk of the total system design, including but not limited to, software, batteries, and subsystem interfaces. The SHA shall verify system compliance with safety requirements contained in system specifications; identify previously unidentified hazards associated with the subsystem interfaces and system functional faults; and recommend actions necessary to eliminate identified hazards and/or control their associated risks to acceptable levels. The SHA shall include any selected hazards, hazardous areas, or other specific items to be examined or excluded. The Contractor shall deliver a System Safety Hazard Analysis (SSHA) Report in accordance with CDRL A041.

CDRL A041, System Safety Hazard Analysis (SSHA) Report

**3.3.10.3 Operating and Support Hazard Analysis (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document an Operating and Support Hazard Analysis (O&SHA) to evaluate activities for hazards or risks introduced into the system by operational and support procedures and to evaluate adequacy of operational and support procedures used to eliminate, control or abate identified hazards or risks. The O&SHA shall document system safety assessment of procedures involved in system production, deployment, installation, assembly, test, operation, maintenance, servicing, transportation, storage, modification, demilitarization, and disposal. The O&SHA shall include the minimum hazard probability and severity reporting thresholds and the specific procedures to be evaluated. The Contractor shall deliver an Operating and Support Hazard Analysis (O&SHA) Report in accordance with CDRL A042.

CDRL A042, Operating and Support Hazard Analysis (O&SHA) Report

**3.3.10.4 Health Hazard Assessment (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a Health Hazard Assessment (HHA) to identify health hazards, evaluate proposed hazardous materials, and propose protective measures to reduce the associated risk to a level acceptable by the Government. The HHA shall include the minimum hazard probability and severity reporting thresholds and any selected hazards, hazardous areas, hazardous materials, or other specific items to be examined or excluded. The Contractor shall deliver a Health Hazard Assessment Report in accordance with CDRL A043.

CDRL A043, Health Hazard Assessment Report (HHAR)

**3.3.10.5 Preliminary Hazard Analysis (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a Preliminary Hazard Analysis (PHA) to identify safety critical areas, to provide an initial assessment of hazards, and to identify requisite hazard controls and follow-on actions. Based upon the best available data, including mishap data (if accessible) from similar systems and other lessons learned, hazards associated with the proposed design or function shall be evaluated for hazard severity, hazard probability, and operational constraint. Safety provisions and alternatives needed to eliminate hazards or reduce their associated risk to a level acceptable by the Government shall be included. As a minimum, the PHA shall consider hazardous components (e.g., fuels, propellants, lasers, explosives, toxic substances, hazardous construction materials, pressure systems, and other energy sources) for identification and evaluation and include any selected hazards, hazardous areas, or other specific items to be examined or excluded. The Contractor shall deliver a Preliminary Hazard Analysis Report in accordance with CDRL A044.

CDRL A044, Preliminary Hazard Analysis Report

### **3.3.10.6 Subsystem Hazard Analysis (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall perform and document a Subsystem Hazard Analysis to identify all components and equipment that could result in a hazard or whose design does not satisfy contractual safety requirements. The Subsystem Hazard Analysis shall verify subsystem compliance with safety requirements contained in subsystem specifications and other applicable documents; identify previously unidentified hazards associated with the design of subsystems including component failure modes, critical human error inputs, and hazards resulting from functional relationships between components and equipment comprising each subsystem; and recommend actions necessary to eliminate identified hazards or control their associated risk to acceptable levels. This Subsystem Hazard Analysis shall include Government Furnished Property (GFP) provided to the Contractor, non-developmental items, and software. Areas to consider are performance, performance degradation, functional failures, timing errors, design errors or defects, or inadvertent functioning. The human shall be considered a component within a subsystem, receiving both inputs and initiating outputs, during the conduct of this analysis. The Subsystem Hazard Analysis shall include the specific subsystems to be analyzed and any selected hazard, hazardous areas, or other specific items to be examined or excluded. The Government will provide existing technical data for and GFP provided to the Contractor to enable the Contractor to accomplish the defined tasks. The Contractor shall deliver a Subsystem Hazard Analysis Report in accordance with CDRL A045.

CDRL A045, Subsystem Hazard Analysis Report

### **3.3.10.7 Hazardous Materials Management Program and Pollution Prevention (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall implement a Hazardous Materials Management Program (HMMP) and Pollution Prevention (P2) Program in accordance with NAS 411. The Contractor shall avoid, if at all possible, the use of toxic chemicals, hazardous materials, and ozone depleting substances (ODS) in the design, operational support and disposal of the CAC2S where possible. The HMMP shall establish a process to manage all requirements for asbestos, radioactive materials, cadmium, hexavalent chromium, and extremely toxic or hazardous materials in design, production, operation, and support. The use of Class I or Class II Ozone Depleting Chemicals (ODCs) is prohibited in the design or operational support of the system without specific written approval of the contracting officer. More information on chemicals and hazardous materials to be avoided can be obtained from the Environmental Protection Agency (EPA). The Contractor shall make available Material Safety Data Sheets (MSDS) to the Government for review. The Contractor shall deliver a Hazardous Materials Management Program (HMMP) Report in accordance with CDRL A046.

CDRL A046, Hazardous Materials Management Program (HMMP) Report

### **3.3.10.8 Lithium Battery Safety Assessment (CLINs 0001, 0002, 0101, 0102 and 0105)**

If the Contractor utilizes lithium batteries in their system, the Contractor shall document the lithium battery safety assessment in the Safety Assessment Report (SAR) (CDRL A040). The SAR shall include the lithium battery risk assessment, recommendations, procedures and other corrective actions to reduce hazards to an acceptable level. This assessment shall demonstrate the stability of design and validity of the lithium battery selection in accordance with NAVSEAINST 9310.1B and TM S9310-AQ-SAF-010.

CDRL A040, Safety Assessment Report (SAR)

### **3.3.11 Configuration Management Process (CLINs 0001, 0101, 0102, 0103, 0104 and 0106)**

The Contractor shall maintain a Configuration Management (CM) process for the control of all hardware and software configuration documentation, media and parts representing or comprising the CAC2S. The principles contained in ANSI EIA-649-B and MIL-HDBK-61A may be used for guidance. The Contractor's CM Process shall be implemented in accordance with the Contractor's Configuration Program Plan submitted as part of their proposal. The Contractor's CM Process shall reflect integration with the processes described in the CAC2S Configuration Management Plan (Attachment 24) and shall consist of configuration identification, configuration control, configuration status accounting, and configuration audits. Consideration for interfacing with other acquisition requirements such as design review, assurance, and other program related disciplines shall be addressed. The Contractor shall designate a CM representative to serve as a primary point of contact to the Government for all CM matters. The Contractor shall be responsible for any subcontractor's CM efforts. The Contractor shall notify the Government of any changes at the Contractor's facility, which affect the Contractor's established CM process.

#### **3.3.11.1. Configuration Status Accounting (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain a Configuration Status Accounting (CSA) database, which represents the configuration of the CAC2S. All baselines and changes shall be documented in the Contractor's CSA database. The Contractor's CSA database shall permit acceptance of commercial product information; however, if requirements to report data outside of the Contractor's CSA database or format exist, the information may be delivered as separate correspondence to prevent disruption to their existing system. The Contractor's CSA database shall reconcile any differences between the supplier information and Contractor practices to provide the Government with clear accountability of product information. Additionally, the CSA database shall provide a reliable source of configuration information to support CAC2S activities, including program management, systems engineering, logistics support, and modification/maintenance actions. The Contractor's CSA database shall be capable of providing CSA data in a digital format compatible with the USMC's CSA automated information system, Configuration Management Information System (CMIS). The Contractor's CSA database shall be a part of the Data Management System (DMS) as defined in paragraph 3.2.2 above. The Contractor shall deliver the Configuration Status Accounting Information in accordance with CDRL A047.

CDRL A047, Configuration Status Accounting Information

#### **3.3.11.2 Baseline Management (CLINs 0001, 0101, 0102, 0103, 0104 and 0106).**

The Contractor shall be responsible for maintaining the currency and accuracy of the established baseline to ensure form, fit, function and interface of CAC2S Increment I. The Contractor shall establish definitive processes that identify how the baseline will be managed/maintained. These processes shall be defined in the Contractor's Configuration Program Plan and made available for Government review.

##### **3.3.11.2.1 Product Baseline (CLINs 0001, 0101, 0102, 0103, 0104 and 0106)**

The CAC2S Initial Product Baseline will be established at CDR. After CDR, only those changes approved through the Engineering Change Proposal (ECP) process shall be made to the product baseline.

##### **3.3.11.2.2 Allocated Baseline (CLINs 0001, 0101, 0102, 0103 and 0106)**

The allocated baseline shall be supplemented by specifications, drawings, and related data as necessary to specify: (1) the essential CI functional characteristics, as allocated from higher-level CI; (2) external and internal interface requirements for each CI; (3) physical characteristics necessary to ensure compatibility with associated systems and CI's; and (4) constraints on the design of a CI, including Government Furnished Equipment (GFE) employed, envelope dimensions, component standardization and ILS requirements. The allocated baseline will be established upon successful completion of the overall system Pre-CDR Status Review with all associated documentation. Government approval shall be required prior to making changes to the allocated baseline.

### **3.3.11.2.3 Functional Baseline (CLINs 0001, 0101, 0102, 0103 and 0106)**

The Contractor shall utilize performance specification criteria when developing the functional baseline. The Contractor's functional baseline shall describe the functional interoperability and interface characteristics and the verification required to demonstrate the achievement of those specified characteristics. The functional baseline shall be established after the Functional Allocation/Architecture Validation Review.

### **3.3.11.3 Configuration Control (CLINs 0001, 0101, 0102, 0103, 0104 and 0106)**

The Contractor shall implement configuration control methods and procedures, which maintain the integrity and traceability of an established baseline. Changes to established baselines shall only be made after Government approval of Engineering Change Proposals (ECPs) and Requests for Deviation (RFD) through the processes described in the CAC2S Program CMP.

#### **3.3.11.3.1 Engineering Release System (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall maintain an engineering release system and shall use the system to issue configuration documentation to functional activities (e.g. manufacturing, logistics, quality control, and engineering) and to authorize the use of configuration documentation associated with an approved configuration. The Contractor shall maintain current and historical engineering release information for all configuration documentation for the CAC2S. The Contractor shall submit an Engineering Release Record (ERR), in accordance with CDRL A048, to release new or revised configuration documentation to the Government for approval. The Contractor shall ensure all Government approved ERR information/documentation is reflected in the Configuration Status Accounting (CSA) database.

CDRL A048, Engineering Release Record (ERR)

#### **3.3.11.3.2 Engineering Change Proposals (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

Engineering Change Proposals (ECP) shall be submitted by the Contractor for proposed baseline changes. MIL-HDBK-61A provides guidance concerning the classification of ECPs. The CAC2S Program's CMP provides details on the ECP Process. All requests should be prepared in accordance with CDRL A049.

CDRL A049, Engineering Change Proposal (ECP)

#### **3.3.11.3.3 Requests for Deviation (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall process Requests for Deviation (RFD) from current approved configuration documentation in accordance with the CAC2S CM Plan and CDRL A058. MIL-HDBK-61A provides guidance concerning the preparation of RFDs. Authorized deviations are a temporary departure from the requirements and do not constitute a change in an approved baseline. All requests should be prepared in accordance with CDRL A050.

CDRL A050, Request for Deviation (RFD)

#### **3.3.11.3.4 Notices of Revision (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall generate and submit Notices of Revision (NOR) in accordance with the CAC2S CM Plan and CDRL A051.

CDRL A051, Notice of Revision

#### **3.3.11.3.5 Notification of Changes to Commercial Equipment/Software (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall submit notification to the Government when changes occur to commercial equipment and/or software, which is being procured or fabricated by the Contractor off-the-shelf, and the Government does not control the developer's design. In accordance with the CAC2S CM Plan, the Contractor shall submit a change notice to the Government implementing any Class 2 ECPs and the Government will approve/disapprove the class designation of the ECP. All change notices shall be prepared in accordance with CDRL A052.

CDRL A052, Technical Report, Study/Services (Change Notice)

#### **3.3.12 Parts Management/ Diminishing Manufacturing Sources and Material Shortages (DMSMS) Program (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish and maintain a Parts Management/DMSMS Program in accordance with the Contractor's proposed DMSMS Management Plan. The Contractor shall utilize the CAC2S DMSMS Plan (Attachment 25) and MIL-STD-3018 as guidance. The Contractor shall provide DMSMS Reports in accordance with CDRL A53. The procedures, planning and all other documentation media and data that define the Parts Control Program and the parts selected for use shall be made available to the Government for their review and use.

CDRL A053, Source Data for Forecasting Diminishing Manufacturing Sources and Material Shortages (DMSMS)  
CDRL A054, Parts Obsolescence

#### **3.3.13 Test Program (CLINs 0001, 0002, 0101, 0102, 0103 0104, 0105 and 0106)**

The Contractor shall establish and maintain a Test Program utilizing the CAC2S Test Strategy (Attachment 12) as guidance to ensure the CAC2S is designed to provide the assurance of system operation and maintainability.

##### **3.3.13.1 Test Plan (CLINs 0001, 0002, 0101, 0102, 0103 0104, 0105 and 0106)**

The Contractor shall develop and deliver a Test Program Plan (TP), in accordance with CDRL A019, that encompasses all sub-system and system level testing to verify SSS implementation, including Software Configuration Item (SCI) integration testing and Software Unit (SU) testing in accordance with software testing practices outlined in IEEE/EIA 12207. The TP shall be the top-level working document that ties all Contractor and subcontracting test activities together and supports the Government test activities. The TPP shall define, as a

minimum, test events, schedule, test methodologies, automated test tools, simulation tools and utilization of GFP identified in Section J Attachment 6, to include laboratories and facilities. The TP shall be updated prior to each Contractor Development Test to reflect the detailed plan and provide as a minimum the specific test event, schedule, test site, personnel requirements, test assets required, data management approach, methodologies, automated test tools, simulation equipment, and utilization of Government assets, SSS requirements being tested, and analysis approach.

CDRL A019, Test Program Plan (TPP)

### **3.3.13.2 Test Procedures (CLINs 0001, 0002, 0101, 0102, 0103 0104, 0105 and 0106)**

The Contractor shall develop and deliver detailed test procedures for each Contractor test identified in the IMS and TP. The Test procedures, prepared in accordance with CDRL A055, shall define, as a minimum, schedule, test site, personnel requirements, test assets required, automated test tools, simulation tools, and need for Government assets, SSS requirements being tested including Software Configuration Item (SCI) integration and Software Unit (SU) test procedures in accordance with software testing practices outlined in IEEE/EIA 12207, and analysis approach. Each test procedure will provide a pass/fail status for each requirement tested.

CDRL A055, Test Procedures

### **3.3.13.3 Contractor Test Readiness Reviews (CLINs 0001 and 0002)**

The Contractor shall conduct a Contractor Test Readiness Review (CTRR) prior to the start of each Contractor Developmental Test Event. The Contractor shall provide, as part of the agenda, the entrance and exit criteria of the Contractor TRRs. The purpose of the Contractor TRR is for the Contractor to conduct a formal review of their readiness to enter into Contractor developmental testing. The Government reserves the right to attend any and all Contractor TRRs.

CDRL B002, Meeting Minutes

CDRL B003, Meeting Agenda

CDRL B004, Briefing Material

### **3.3.13.4 Contractor Developmental Test (CLINs 0001 and 0002)**

The Contractor shall conduct Contractor Developmental Testing in accordance with the Contractor's Test Plan at MCTSSA to exercise live interfaces. The purpose of the Contractor Developmental Test is to ensure that the Contractor product is ready to proceed into Government testing. The Contractor shall conduct root cause and analyses of identified issues, collect reliability, availability, and maintainability data, conduct failure analyses, and maintain a data tracking system throughout all test efforts. The Contractor shall deliver a Test Report to support Government Developmental Test as required under CDRL A059.

CDRL A056, Root Cause Analysis Report

CDRL A057, Reliability Test Reports

CDRL A058, Identified Test Incident Reports (TIRs)

CDRL A059, Test Report

### **3.3.13.5 Government Test Readiness Reviews (CLINs 0001 and 0002)**

The Contractor shall support the Government's Test Readiness Review (GTRR), including the preparation of any required briefing materials, in accordance with the IMS prior to each Government Developmental Test Event. The purpose of the Government TRRs is for the Government to conduct a formal review of the Contractor's system's readiness to enter into Governmental developmental testing. Additionally, the Contractor shall support the Government in preparing for the Operational Test Readiness Review (OTRR).

CDRL B004, Briefing Material

### **3.3.13.6 Contractor Support to Government Testing (CLINs 0001 and 0002)**

The Contractor shall support all Government test efforts (including DTs, OA, Supportability Demonstration and IOT&E Validation Event) by providing on-site and in-house support. The Contractor shall support each Government test by providing on-site maintenance, training, logistics, and technical support and spares for the period of the test. Test support requirements will be tailored to the test being conducted. The Contractor shall conduct root cause and analysis of issues assigned for analysis by the Test Review Board or Configuration Control Board, collect reliability, availability, and maintainability data, conduct failure analyses, and maintain a data tracking system throughout all test efforts. The Contractor shall support the Government Data Analysis Working Group (DAWG) by providing root cause and analysis briefings. Additionally, the Contractor shall correct Test Incident Reports (TIR), identified during the test events, to ensure successful completion of future Government testing. All Priority 1 and 2 TIRs shall be corrected, implemented, and validated by the Government prior to OTRR.

CDRL A021, DX/DR Data Definitions/Recordings  
CDRL A056, Root Cause Analysis Report  
CDRL A057, Reliability Test Reports  
CDRL A058, Identified Test Incident Reports (TIRs)  
CDRL A077, Software Release  
CDRL B004, Briefing Material

#### **3.3.13.6.1 Data Recording, Extraction, Reduction (DX/DR) (CLINs 0001 and 0002)**

The Contractor shall provide Data Recording, Extraction, Reduction (DX/DR) capabilities to record and extract the CAC2S internal system track data (i.e. data needed to reconstruct the fused, local and remote, track picture) and key internal system input/output information/data in a standard format (JITC-JIEO Tactical Data Link (TDL) Data Extraction and Reduction Guide (DERG)) or in any machine readable format along with the associated field definitions documentation in accordance with CDRL A021. The DX/DR extraction points shall be identified in CDRL A022. The DX/DR extraction points and reporting download shall be accessible and controllable by the Government test team. The data provided from the DX/DR will be used to verify capabilities of the CAC2S internal system and shall be utilized to develop the Government assessment of the CAC2S. The DX/DR recordings of the Government DTs/OA and IOT&E Validation Event will be delivered in accordance with the Government Data Management and Analysis Plan (DMAP) provided to the Contractor prior to each test event. If during DTs, OA, or the IOT&E Validation Event it is determined by the Government that additional DX/DR extraction points are required to fully analyze the CAC2S, the Contractor shall update CDRL A022 to include the additional extraction points.

CDRL A021, DX/DR Data Definitions/Recordings

#### **3.3.13.7 Engineering Development Model (EDM) and Limited Deployment Unit Factory (LDU) Acceptance Tests (CLINs 0001, 0002, 0101, 0102, 0104 and 0105)**

The Contractor shall develop and implement Factory Acceptance Test (FAT) procedures to demonstrate the performance and suitability of the delivered EDMs and Limited Deployment Units (LDUs) prior to Government acceptance. The FAT for EDMs shall utilize the latest software engineering release for Government DT. The FAT for LDUs shall utilize the Government IV & V accepted software baseline. Minor failures may be corrected during the testing, with Government approval. Issues discovered during FAT shall be corrected by the Contractor prior to Government acceptance of the unit. The Contractor shall prepare FAT test report documenting the results of CAC2S FAT tests. The Contractor shall also discuss in the test report the resolution(s)/fix(es) and include a schedule for resolving all outstanding test issues.

CDRL A060, Factory Acceptance Test (FAT) Procedures  
CDRL A061, Test/Inspection Report (FAT)  
CDRL A062, Failure Analysis and Corrective Action Report  
CDRL A077, Software Release

### **3.3.13.8 Interoperability Testing (CLIN 0001)**

The Contractor shall support Government interoperability testing in accordance with the CAC2S Test Strategy (Attachment 12) to ensure that the CAC2S is compatible with the systems specified in the CPD (Attachments 10 and 11) and SSS (Attachment 1). CAC2S Increment I will be required to undergo two (2) Joint Interoperability Tests (JIT). One (1) shall be conducted at MCTSSA using Engineering Release Software in conjunction with Government DT/OA and one (1) shall be conducted at MCTSSA using Government accepted baseline software prior to the Government seeking Full Deployment decision. These two JIT tests shall be in accordance with the IMS and CAC2S Test Strategy.

### **3.3.14 Electromagnetic Interference (CLINs 0001 and 0002)**

The Contractor shall perform Electromagnetic Interference (EMI) testing on CAC2S in accordance with MIL-STD-464C in conjunction with the Government DTs. Prior to commencement of EMI testing and in accordance with the Government-approved Contractor's Test Plan, the Contractor shall develop EMI test procedures that are in accordance with MIL-STD-461F. The Contractor shall prepare an Electromagnetic Interference (EMI) test report documenting the results of CAC2S EMI tests. The Contractor shall also discuss in the test report the resolution(s)/EMI fix(es) with a schedule for resolving all outstanding test issues.

CDRL A063, Electromagnetic Interference Test Procedures (EMITP)  
CDRL A064, Electromagnetic Interference Test Report (EMITR)

### **3.3.15 Electrostatic Discharge Control (CLINs 0001, 0101, 0102, 0103, 0104, 0105 and 0106)**

The Contractor shall establish, implement and document an Electrostatic Discharge (ESD) Control program following the guidelines provided in JESD625-A. MIL-STD-1686C may be used for guidance. ESD protective measures shall be used in manufacturing, packaging, storing, and transportation of ESD sensitive components. The Contractor shall ensure that ESD identification markings on all ESD sensitive subassemblies are visible during equipment installation, maintenance or repair.

### **3.3.16 Test for Electromagnetic Propagation and Evaluation for Secure Transmission (CLINs 0001 and 0002)**

The Contractor shall implement a Test for Electromagnetic Propagation and Evaluation for Secure Transmission (TEMPEST) Control Program and develop a TEMPEST Control Plan, which shall reflect that the CAC2S meets the TEMPEST requirements of the Performance Specification. The Contractor shall conduct TEMPEST testing on the CAC2S in accordance with the IMS and CAC2S Test Strategy.

CDRL A065, Tempest Control Plan  
CDRL A066, Tempest Test Plan  
CDRL A067, Tempest Test Report  
CDRL A068, Tempest Test Procedure

### **3.3.17 Electromagnetic Radiation Hazards (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

The CAC2S design shall protect personnel, fuels, and ordnance from hazardous effects of electromagnetic radiation in accordance with NAVSEA OP 3565 Volumes 1 and 2. Safe-distances for Hazards to Electromagnetic Radiation to Fuel- /Personnel- /Ordnance (HERF/HERP/HERO) shall be determined and documented in the training materials, literature, operation guides (MIL-HDBK-237D) and maintenance manuals. As part of the Contractor's Test Plans, the Contractor shall perform the following tests and certifications: Hazards of Electromagnetic Radiation to Personnel (HERP) in accordance with DoDI 6055.11 criteria; Hazards of Electromagnetic Radiation to Fuels (HERF) in accordance with MIL-STD-464C; Hazards of Electromagnetic Radiation to Ordnance (HERO). Ordnance shall not experience inadvertent ignition or degraded ordnance performance after exposure to radiated electromagnetic energy from the CAC2S system.

CDRL A069, Test/Inspection Report (HERP, HERF, HERO)  
CDRL A070, Test Procedure (HERP, HERF, HERO)

### **3.3.18 Producibility (CLINs 0001 and 0002)**

The Contractor shall apply effective producibility principles during the CAC2S EMD design process to ensure that the production units can be manufactured using the anticipated production facilities, equipment, materials, manpower, and processes. The producibility planning effort shall also maximize the ease of production control, quality control, tooling and inspection. The Contractor shall report on the progress of this effort during the Assembly Review and make any data created available to the Government upon request. The Contractor shall prepare and deliver a Producibility Analysis Report in accordance with CDRL A023.

CDRL A023, Producibility Analysis Report

### **3.3.19 System Security (CLINs 0001, 0101, 0102, 0103, 0104 and 0106)**

This contract contains a DD 254, Contract Security Classification Specification (Attachment 26). The use and distribution of classified material is anticipated and shall be protected. All classified information (documents, electronic transmissions, hardware, etc.) pertaining to CAC2S and sub-systems shall be provided appropriate levels of protection as required by DOD and Marine Corps regulations and instructions. The handling, storage, and destruction of all classified information shall be done in accordance with DODI 5200.01 DOD Information Security Program Regulation. The Contractor shall analyze their system to determine if any additional security measures are required to ensure OPSEC or other security conditions are preserved. Further analysis should be conducted to determine the need for any special security considerations in order to ensure that OPSEC is preserved. To reduce the possibility of compromise of classified information, vendors shall adhere to the CAC2S and CEC Security Classification Guides (Attachments 27 and 28). The Contractor shall implement a comprehensive security program encompassing personnel, facilities, system integrity, and data information assurance. Risk analysis, operating

approvals, and other requirements shall be employed to ensure compliance in-garrison and facilitate future determination at any deployed location.

### **3.3.20 Anti-Tamper (CLINs 0001 and 0002)**

The Contractor shall establish and execute an Anti-Tamper program (if required) for protection of Critical Technology in the case of unplanned loss occurring during, but not limited to, transportation, training, testing, and maintenance/supply operations, in addition to wartime losses. Critical Technologies and thresholds above which they must be protected are defined in the Militarily Critical Technologies List and DoDI S5230.28. Anti-Tamper requirements, if any, will be identified in a Critical Technology Analysis Report, in accordance with CDRL A012, and briefed at the Functional Allocation/Architecture Validation Review.

CDRL A012, Critical Technology Analysis Report

### **3.3.21 Information Assurance (CLINs 0001, 0002, 0103, 0105 and 0106)**

#### **3.3.21.1 Information Assurance Program (CLINs 0001, 0103 and 0106)**

The Contractor shall develop and maintain an Information Assurance (IA) program in accordance with DoD Directive 8500.01E, Information Assurance, DoD Instruction 8500.2, IA Implementation, DoD 8570.01-M, IA Workforce Improvement Program, and DoD Instruction 8580.1, Information Assurance (IA) in the Defense Acquisition System. The Contractor's solution shall comply with the IA requirements as defined in the CAC2S Information Assurance Controls Identification Document (IACID) dated 10 August 2009 (Attachment 29). The Contractor shall comply with the DoD IA certification and accreditation process as stated in DoD Instruction 8510.01, DoD Information Assurance Certification and Accreditation Process (DIACAP) and National Institute of Standards and Technology (NIST) Special Publication (SP) 800-53, Recommended Security Controls for Federal Information Systems and Organizations, when DoD transitions to the NIST process. The Contractor shall support independent IA evaluations of their product at their facility.

#### **3.3.21.2 Information Assurance Requirements (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor's delivered software solution shall be IA compliant with no unmitigated Category I or II vulnerabilities. The Contractor shall provide a technical report (CDRL A071) identifying the applicable Security Technical Implementation Guide (STIG) implementation with a matrix (Security Requirements Traceability Matrix) that depicts each STIG, the applicability of the STIG, and the design implementation. The Security Requirements Traceability Matrix shall reflect all DOD 8500.2 requirements, documented IA controls and applicable STIGs and Security Readiness Review (SRR) scripts. Furthermore:

Commercial-Off-The-Shelf (COTS) IA devices and IA enabled devices will be procured as described in DoD Instruction 8500.2 and National Security Telecommunications and Information Systems Security Policy (NSTISSP) 11. COTS products must be evaluated and validated in accordance with the [ISO/IEC 15408](#), Common Criteria for Information Technology Security Evaluation, or the NIST Federal Information Processing Standard (FIPS) 140-2, as appropriate.

Mobile Code implemented to satisfy the capabilities required for CAC2S must comply with DoD Mobile Code Policy in accordance with DOD Instruction 8552.01, Use of Mobile Code Technologies in DoD Information Systems. The Contractor's solution shall be SHA-256 compliant in accordance with NIST SP 800-78-3, Cryptographic Algorithms and Key Sizes for Personal Identity Verification (PIV), Homeland Security Presidential Directive 12

(HSPD-12), Policies for a Common Identification Standard for Federal Employees and Contractors, FIPS Pub 201-1, PIV Standard, OMB M-11-11 of 3 Feb 2011, Continued Implementation of HSPD-12, and DoD-CIO Memo of 14 October 2010, DoD's Migration to Use of Stronger Cryptographic Algorithms.

The Contractor's solution shall comply with the DoD's Public Key Infrastructure (PKI), as defined DoD Instruction 8520.2, Public Key Infrastructure (PKI) and Public Key (PK) Enabling.

Vendor shall comply with the DOD Application Security and Development STIG V3R2.

The Contractor's solution shall implement BIOS protections in accordance with NIST SP 800-147.

The Contractor shall develop, maintain and deliver an IA Plan of Action & Milestones (POA&M), in accordance with CDRL A072, reflecting the system IA posture and compliance.

CDRL A071, Security Technical Implementation Guides (STIGs) Report

CDRL A072, Information Assurance (IA) POAM

### **3.3.21.3 Information Assurance Testing (CLINs 0001, 0002, 0103, 0105 and 0106)**

The Contractor shall implement an IA Testing Program as outlined in DoD Instruction 8510.01, DoD Information Assurance Certification and Accreditation Process (DIACAP), executing the Test Plan and Test Procedures provided by the Government. The IA Test Report shall be delivered in accordance with CDRL A073 for each engineering and software release as identified in the Contractor baselined IMS.

CDRL A073, Information Assurance (IA) Test Report (IATR)

### **3.3.22 Item Unique Identification (IUID) (CLINs 0001, 0002, 0101, 0102, 0104 and 0105)**

The Contractor shall implement specific IUID marking, as defined in the CAC2S IUID Plan (Attachment 30), MIL-STD-130N and DFARS clause 252.211-7003. The Contractor shall deliver an Item Unique Identification (IUID) Bar Code Identification Report, in accordance with CDRL A074. The Contractor shall load all IUID data into the Wide Area Workflow (WAWF) and the DoD IUID Registry.

CDRL A074, Item Unique Identification (IUID) Bar Code Identification Report

### **3.3.23 Energy Conservation Program (CLIN 0001 and 0002)**

The Contractor shall establish an Energy Conservation Program in accordance with the Assistant Secretary of the Navy, Research Development and Acquisition (RDA) Memo dated June 20, 2011, entitled "Energy Evaluation Factors in the Acquisition Process". The Contractor shall deliver an Energy Conservation Program Report in accordance with CDRL A075.

CDRL A075, Energy Conservation Program Report

## **3.4 Logistics (CLINs 0001, 0002, 0101, 0102, 0103, 0104, 0105 and 0106)**

### **3.4.1 Integrated Logistic Support Planning (CLINs 0001, 0002, 0101, 0102, 0103, 0105 and 0106)**

The Contractor shall plan and conduct an Integrated Logistics Support (ILS) program, which shall govern the management of the ILS effort under this contract. The ILS effort shall be conducted as an integral part of the

development and integration process to define the range and depth of the required support, and address all applicable and related elements of logistics. The Contractor shall develop an Integrated Support Plan (ISP) that defines their ILS approach for each ILS element contained in this contract and takes into account the CAC2S Life Cycle Sustainment Plan (LCSP) (Attachment 31). The ISP shall be submitted in accordance with CDRL D001. The ISP shall reflect any changes emanating from program changes, reviews and other actions affecting the ILS aspects of the CAC2S.

The Contractor shall prepare a Supportability Analysis, in accordance with CDRL A076, based on their integrated support plan along with the twelve elements of logistics. The analysis will be conducted at the organizational level and provide trade study reports identifying quantitative projections of improvements, recommending performance metrics, associated costs to implement and maintain CAC2S, and projected life cycle cost savings. The Supportability Analysis will be prepared in accordance with GEIA-STD-0007, using MIL-HDBK-502 as a guide, and shall ensure that the supportability requirements identified are incorporated as a system performance requirement by utilizing an effective systems engineering process.

CDRL A076, Supportability Analysis  
CDRL D001, Integrated Support Plan (ISP)

### **3.4.2 Supply Support (CLINs 0001, 0002, 0101, 0102, 0104 and 0105)**

#### **3.4.2.1 Conferences (CLINs 0001 and 0002)**

##### **3.4.2.1.1 Provisioning Guidance Conference (CLINs 0001 and 0002)**

The Contractor shall host the Provisioning Guidance Conference (PGC) to coincide with the Requirements Validation Review. The Contractor shall provide the Provisioning Plan, Long Lead Time Items (LLTI) Lists, and Tools and Test Equipment Lists (TTEL) to support the Provisioning Guidance Conference, in accordance with CDRLs C001, C004, and C005.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material  
CDRL C001, Provisioning Plan  
CDRL C004, Long Lead Time Items (LLTI) Lists  
CDRL C005, Tools and Test Equipment Lists (TTEL)

##### **3.4.2.1.2 Provisioning Conference (CLINs 0001, 0002, 0101, 0102 and 0105)**

The Contractor shall host the CAC2S Provisioning Conference at the Contractor's facility no later than 100 calendar days following a Government conducted Functional Configuration Audit (FCA). The Contractor shall provide Provisioning Parts Lists (PPL), Common and Bulk Items Lists (CBILs) and Engineering Data for Provisioning (EDFP) to support the Provisioning Conference in accordance with CDRLs C002, C006, and C007.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material  
CDRL C002, Provisioning Parts Lists (PPL)

CDRL C006, Common and Bulk Items Lists (CBILs)  
CDRL C007, Engineering Data for Provisioning (EDFP)

### **3.4.2.2 Provisioning Technical Documentation (CLINs 0101, 0102 and 0105)**

#### **3.4.2.2.1 Provisioning Parts List (CLINs 0001 and 0002)**

The PPL shall contain the end item, component or assembly and all support items which can be disassembled, reassembled, or replaced, and which, when combined, constitute the end item, component or assembly. The PPL shall include items such as parts, materials, connecting cabling, piping, and fittings required for the operation and maintenance of the end item/equipment, component, or assembly. This includes all repairable COTS items unless excluded by the provisioning requirements. It does not include a breakdown of GFP. The PPL shall contain repair kits and repair parts sets required to maintain the end item, component, or assembly equipment unless excluded by the provisioning requirements or meeting the requirement for Common and Bulk Items List (CBIL) inclusion. The PPL will be delivered in accordance with CDRL C002.

CDRL C002, Provisioning Parts Lists (PPL)

#### **3.4.2.2.2 Provisioning and Other Pre-procurement Screening Data (CLINs 0001 and 0002)**

The Contractor shall identify provisioning and other pre-procurement screening data to be submitted for Government review. Provisioning and other pre-procurement screening data are used to identify existing National Stock Numbers (NSNs) for an item, validate currency of an NSN, and aid in maximum use of known assets. Screening data shall be prepared in accordance with GEIA-STD-0007 and delivered in accordance with CDRL C003.

CDRL C003, Provisioning and Other Pre-Procurement Screening (POPS)

#### **3.4.2.2.3 Common and Bulk Items List (CLINs 0001 and 0002)**

The Contractor shall develop and deliver the Common and Bulk Items List (CBIL) in accordance with CDRL C002. The CBIL contains those items that are difficult or impractical to list on a top down/disassembly sequence PPL, but provisioning may be required to support the operation of the end item/equipment. These items are subject to wear or failure, or otherwise required for maintenance, including planned maintenance of the end item/equipment. The Contractor shall submit sufficient information to enable the Government to relate the material/specification number to the pertinent item.

CDRL C002, Provisioning Parts Lists (PPL)

### **3.4.3 Level of Repair Analysis (CLINs 0001 and 0002)**

The Contractor shall conduct a Level of Repair Analysis (LORA) (economic & non-economic) for the LDU system developed and produced under this contract. The LORA will identify, at a minimum, the most efficient and economic approach to system maintenance and the level at which each maintenance task should be accomplished. The Contractor shall deliver a Level of Repair Analysis in accordance with CDRL D002.

CDRL D002, Level of Repair Analysis

### **3.4.4 Technical Publications (CLINs 0001, 0002, 0101 and 0105)**

The Contractor shall develop and deliver Technical Manuals (TMs) (CDRL E001) and an Interactive Electronic Technical Manual (IETM) (CDRL E002) in accordance with the Technical Manual Contract Requirement (TMCR) Number 110004-001, (Attachment 32). The Contractor shall develop and submit a Technical Manual Validation Plan in accordance with the TMCR (Attachment 32) and assist with Government verification of these Technical Manuals. Additionally, the Contractor shall provide COTS manuals and associated supplemental information (CDRL E001) and a draft paper TM (CDRL E002) to support Government DT events. At a minimum the draft paper TM shall include initial software user information, firmware support information, and software installation procedures with each engineering software release.

CDRL E001, Commercial Off-The-Shelf Manual and Associated Supplemental Data

CDRL E002, Interactive Electronic Technical Manual (IETM)

CDRL E003, Technical Manual Validation Plan

CDRL E004, Technical Manual Validation Certificate

CDRL E005, Technical Manual Verification Incorporation Certificate

### **3.4.5 Training Products and Services (CLINs 0001, 0002, 0101, and 0105)**

The Contractor shall provide training support which includes training program management, training materials design and development, and training conduct, as described in the following paragraphs. The Contractor shall use the following as guidance: MIL-HDBK-29612/2A, Instructional Systems Development/Systems Approach to Training and Education and NAVMC 1553.1, Systems Approach to Training Users Guide. At a minimum, training shall include capabilities, functions and operation of the system; preventive and corrective maintenance procedures; external diagnostics and other tests; performance of system checks, and verification procedures. Operations training shall enable the trainee student to: operate the system, subsystems, and equipment controls; execute diagnostic tests and interpret results; remove and install major components; determine if the system/subsystem is malfunctioning or not; isolate and locate malfunctions to the Line Replaceable Unit (LRU); replace defective LRUs; troubleshoot and repair system/subsystem functions; and perform routine preventive maintenance functions. Maintenance training shall provide students with the knowledge and understanding of the capabilities, limitations, interfaces, operations and preventive/corrective maintenance tasks and skills required for Crew/Operator and Sustainment levels of maintenance. The training shall emphasize hands-on instruction using the CAC2S for operator/maintainer training and to assess student performance.

#### **3.4.5.1 Training Program Management (CLINs 0001, 0002, 0101, 0102 and 0105)**

##### **3.4.5.1.1 Training Personnel (CLIN 0001, 0101, and 0102)**

The Contractor shall appoint a Training Manager as the single point of contact for training and courseware development matters. The Training Manager shall have a background in the development and presentation of military training programs. The Training Manager shall be responsible for the development of all courseware materials, coordination, and conduct of all training courses under this contract. Instructional Systems Designers and Instructor/Trainers shall have sufficient proficiency and skill in the design and development of military instruction including technical language and terms associated with the operation and maintenance of the CAC2S system. Sufficient proficiency and skill is defined as successful completion of military curriculum developer courses, completion of a military Formal School Instructor Course, or equivalent certification from an industry training organization (ex., American Society for Training & Development (ASTD))

#### **3.4.5.1.2 Training Guidance Conference (CLINs 0001 and 0002)**

The Contractor shall host a Training Guidance Conference (TGC) at the Contractor's facility to coincide with the Requirements Validation Review. The TGC will serve as the kickoff meeting for the training development effort for this contract. Participants shall include Government, Contractor, and subcontractor training personnel.

CDRL B002, Meeting Minutes  
CDRL B003, Meeting Agenda  
CDRL B004, Briefing Material  
CDRL F001, Training Program Plan

#### **3.4.5.1.3 Training Program Plan (CLINs 0001 and 0002)**

The Contractor shall prepare a Training Program Plan (TrPP) in accordance with CDRL F001.

CDRL F001, Training Program Plan

#### **3.4.5.2 Training Materials Development (CLIN 0001)**

##### **3.4.5.2.1 Learning Analysis Report (LAR) (CLINs 0001 and 0002)**

Using the Phase 1 Master Jobs Task List (Attachment 33) as a starting point, the Contractor shall employ a systematic approach to analyze individual, team, and collective job tasks in order to provide the job task data necessary to support the design and development of training curriculum. The Contractor shall analyze the individual, team, and collective job performance requirements to operate and maintain the CAC2S at the crew/operator and sustainment levels of maintenance activity. The Contractor shall develop and deliver a Critical Training Tasks List (CTTL) in accordance with CDRL F002 that identifies the job tasks, sub-tasks and performance steps necessary to operate maintain and support the CAC2S. The Contractor shall use the CTTL to produce a Learning Analysis Report (LAR) which will identify the required knowledge, skills and attitudes (KSAs) necessary to achieve successful task completion. The LAR, delivered under CDRL F003, shall include task selection criteria (difficulty, importance, and frequency) and the conditions and standards from which successful performance is measured. The LAR will contain the critical tasks with associated operator and maintainer terminal and enabling learning objectives, establish performance criteria related to tasks/objectives, and sequence objectives for training.

CDRL F002, Critical Training Tasks List  
CDRL F003, Learning Analysis Report (LAR)

##### **3.4.5.2.2 Instructional Media Requirements Analysis (CLINs 0001 and 0002)**

The Contractor shall conduct an Instructional Media Requirements Analysis (IMRA). In preparing the IMRA, the Contractor shall leverage developed simulation capabilities, and determine the instructional methods, learning events, training tools/aids, and media planned for instructional delivery. The Contractor shall describe their methods and media selection methodology and provide all method and media analysis data and propose primary and alternate methods and media requirements to support instructional delivery of critical training tasks. The Government will review the proposed methods and media approach, and if acceptable to the Government, will

provide approval prior to training development. The Instructional Media Requirements Analysis shall be delivered in accordance with CDRL F004.

CDRL F004, Instructional Media Requirements Analysis

#### **3.4.5.2.3 Training Test Package (CLINs 0001 and 0002)**

The Contractor shall develop a Training Test Package for each operator and maintainer course of instruction following NAVMC 1553.1, Systems Approach to Training Users Guide, and MCO 1553.2B, Management of Marine Corps Formal Schools and Training Detachments. The test package shall include written and performance tests for the examination of an individual's KSAs, and achievement of terminal and enabling learning objectives based upon the LAR and Lesson Plans (CDRLs F003 and F006). Written test items shall consist of multiple choice, matching, and fill-in-the-blank questions. The test questions shall be written to evaluate the student's comprehension of knowledge-based learning objectives. The Test Packages shall include a minimum of three (3) test items for each learning objective. The Contractor developed performance tests shall evaluate the student's ability to perform specific operator/maintainer tasks. The performance tests shall be presented in checklist format. The Training Test Package shall be delivered in accordance with CDRL F005.

CDRL F005, Training Test Package

#### **3.4.5.2.4 Lesson Plans (CLINs 0001 and 0002)**

The Contractor shall develop Lesson Plans following NAVMC 1553.1 Systems Approach to Training Users Guide and MCO 1553.2B. Lesson plans shall be developed to support operator and maintainer courses of instruction per the LAR (CDRL F003). Lesson plans shall be sequenced and contain information relevant to each period of instruction, including learning objectives and instructions for the delivery of training, equipment required, application of training visual aids, written test questions, and task performance checklists. For each Lesson Plan, the Contractor shall include a lesson Concept Card which summarizes lesson objectives, methods/media, student-instructor ratios, and time and resources required. The Contractor shall deliver the Lesson Plans in accordance with CDRL F006.

CDRL F006, Lesson Plans

#### **3.4.5.2.5 Instructional Visual Aids (CLINs 0001 and 0002)**

The Contractor shall prepare an Instructional Visual Aids package to support each lesson following NAVMC 1553.1 and MCO 1553.2B. Delivery of the Instructional Visual Aids packages shall be in accordance with CDRL F007.

CDRL F007, Instructional Visual Aids

#### **3.4.5.2.6 Trainee Guide (CLINs 0001 and 0002)**

The Contractor shall develop the Trainee Guide to support each lesson following NAVMC 1553.1 and MCO 1553.2B. The Contractor shall deliver the Trainee Guides in accordance with CDRL F008. The Trainee Guides shall contain information that enhances student mastery of learning objectives, and shall provide information and summaries relevant to each period of instruction.

CDRL F008, Trainee Guide

#### **3.4.5.2.7 Curriculum Outline of Instruction (CLINs 0001, 0002, 0101, 0102 and 0105)**

For each key training event, outlined in paragraph 3.4.5.3 below, including subparagraphs, the Contractor shall develop a Curriculum Outline of Instruction (COI). The COI shall identify the training schedule of events and include a breakdown of individual topics indicating the purpose, learning objectives, time allotted for each session, academic hours by type of instruction, instructional materials required, facility and instructor requirements, media and training support equipment, reference materials, type of instruction (practical exercise, demonstration, lecture), and tools and Test, Measurement and Diagnostic Equipment (TMDE) required for each period of instruction. The Government-approved CCTL, LAR, and Lesson Plans (CDRLs F002, F003, and F006) shall be used in the development of the curriculum information. The Contractor shall deliver all COIs in accordance with CDRL F009.

CDRL F009, Curriculum Outline of Instruction

#### **3.4.5.2.8 Job Aids (CLINs 0001, 0002, 0101, 0102 and 0105)**

Based on the results of the Instructional Media Requirements Analysis (CDRL F004), the Contractor shall develop job aids to address safety concerns and the completion of critical and complex tasks for which job aids will enhance human performance of mental and physical human-system interfaces. Examples of relevant job aids include, but are not limited to, those which provide quick reference or support completion of set-up, operations, critical maintenance, and displacement tasks and where access to Interactive Electronic Technical Manuals is limited. Job aid types include, but are not limited to: hard cards, pocket checklists, procedural guides, worksheets, kneeboards, and additional supplemental student materials. Job aids shall be legibly printed on subdued colored medium weight and weatherized (example: treaded paper or laminated) card stock paper able to withstand the detrimental effects of the outdoor environment (direct sunlight, water, humidity, etc.). The Contractor shall deliver the job aids in accordance with CDRL F010.

CDRL F010, Job Aids

#### **3.4.5.2.9 Training Materials Change Matrix (CLINs 0001, 0002, 0101, 0102 and 0105)**

For training conducted by the Contractor, the Contractor shall issue and collect instructional rating forms after each period of instruction (lesson) and course critiques at the conclusion of each course of instruction. Based upon course critiques from Contractor and Government training and Government comments received, the Contractor shall develop a Training Materials Change Matrix to propose changes and update the content of training materials following DT/OA, IOT&E, I&KPT, NET, and Formal Learning Center training events. After IOT&E the Contractor shall not implement any changes to the training materials without prior Government approval. The Contractor shall deliver the Training Materials Change Matrix in accordance with CDRL F011.

CDRL F011, Training Materials Change Matrix

#### **3.4.5.3 Training Conduct (CLINs 0001, 0101, and 0102)**

The Contractor shall conduct CAC2S training courses consisting of various instructional methods (i.e., lectures, demonstrations, and practical applications). Each course shall emphasize practical application hands-on training and shall make maximum usage of the Technical Manuals (TMs), Interactive Electronic Technical Manuals (IETMs), and job aids. Training shall be conducted on weekdays (Monday through Friday), unless otherwise approved in

advance by the Government. The length of each training day shall not exceed eight (8) hours of instruction, not including breaks. Training shall not be conducted on recognized Federal holidays.

#### **3.4.5.3.1 Developmental Testing (DT) and Operational Assessment (OA) Training (CLIN 0001)**

To support the Government DTs and OA, the Contractor shall conduct training courses at the Contractor facilities. Training should conclude no later than fourteen (14) calendar days prior to commencement of any of the DTs or OA. The DT and OA courses are intended for Marines or other personnel, as determined by the Government, who will be participating in the Government tests. The Learning Analysis Data shall be used to determine the quantity and length of these courses. In addition, the course(s) shall include an overview of the CAC2S and its missions, including: System architecture, physical description, functional description, acronyms and terminology, and safety. The Contractor shall provide the classroom space, training equipment support, computing resources, required common tools, and Test, Measurement and Diagnostic Equipment (TMDE). The Contractor shall provide all labor and materials necessary to operate and maintain any CAC2S used to support training courses conducted at the Contractor facility.

#### **3.4.5.3.2 Initial Operational Test and Evaluation Training (CLIN 0001)**

The Contractor shall conduct one (1) Initial Operational Test and Evaluation (IOT&E) training event at MCTSSA prior to IOT&E. The Learning Analysis Data shall be used to determine the length of IOT&E Training. The IOT&E course is intended for Marines or other personnel, as determined by the Government, who will be operating and maintaining the system during IOT&E. The course shall be scheduled to coincide with CAC2S Limited Deployment Units (LDUs) availability and the IOT&E Validation event prior to IOT&E. If required, the Government will provide storage at MCTSSA for classified material during this training event. The Contractor will provide training equipment support, computing resources, training materials, job aids, required common tools, and TMDE.

#### **3.4.5.3.3 Instructor and Key Personnel Training and New Equipment Training Support (CLINs 0001 and 0101)**

During Government conducted I&KPT and NET, the Contractor shall provide technical and Subject Matter Expert (SME) support, as required.

#### **3.4.6 Transportability Program (CLINs 0001 and 0002)**

The Contractor shall implement a transportability program in accordance with MIL-STD-1366E. The Contractor shall conduct transportability engineering efforts to identify and measure the limiting constraints, characteristics, and environments of transportation systems and to integrate this data into design criteria to use operational and planned transportation capabilities effectively. The Contractor shall develop and deliver in accordance with CDRL D003, a Transportability Report that provides the Contractor's assessment that the CAC2S is ready for Government transportability testing. This report shall be one of the entrance criteria to support the Government transportability TRR. The Contractor shall ship the EDM to the Government designated facility for Government transportability testing. The Contractor shall support the Government transportability test, as required. In addition, if required, the Contractor shall provide Root Cause Analyses (CDRL A056) for issues identified during transportability testing.

CDRL A056, Root Cause Analysis Report

CDRL D003, Transportability Report

(This is the last page of the SOW)

## SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for SUBCLIN 000102:

INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
N/A	N/A	N/A	Government

The following have been added by full text:

52.246-11 HIGHER-LEVEL CONTRACT QUALITY (FEB 1999)

The Contractor shall comply with the higher-level quality standard selected below. (If more than one standard is listed, the offeror shall indicate its selection by checking the appropriate block.)

Title	Number	Date	Tailoring
ISO	9001:	2008	None

(End of clause)

## SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

As a result of this modification, the total funded amount for this document was increased by \$6,340,110.00 from \$15,000,000.00 to \$21,340,110.00.

SUBCLIN 000102:

Funding on SUBCLIN 000102 is initiated as follows:

ACRN: AB

CIN: M9545013RCR3AZ7000102

Acctng Data: 1731319M7KC 251 67854 067443 2D C22730

Increase: \$6,340,110.00

Total: \$6,340,110.00

Cost Code: 3RCR3AZ7173S

The following have been modified:

252.232-7006 WIDE AREA WORKFLOW PAYMENT INSTRUCTIONS (JUN 2012)

(a) Definitions. As used in this clause--

Department of Defense Activity Address Code (DoDAAC) is a six position code that uniquely identifies a unit, activity, or organization.

Document type means the type of payment request or receiving report available for creation in Wide Area WorkFlow (WAWF).

Local processing office (LPO) is the office responsible for payment certification when payment certification is done external to the entitlement system.

(b) Electronic invoicing. The WAWF system is the method to electronically process vendor payment requests and receiving reports, as authorized by DFARS 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports.

(c) WAWF access. To access WAWF, the Contractor shall--

(1) Have a designated electronic business point of contact in the Central Contractor Registration at <https://www.acquisition.gov>; and

(2) Be registered to use WAWF at <https://wawf.eb.mil/> following the step-by-step procedures for self-registration available at this Web site.

(d) WAWF training. The Contractor should follow the training instructions of the WAWF Web-Based Training Course and use the Practice Training Site before submitting payment requests through WAWF. Both can be accessed by selecting the "Web Based Training" link on the WAWF home page at <https://wawf.eb.mil/>.

(e) WAWF methods of document submission. Document submissions may be via Web entry, Electronic Data Interchange, or File Transfer Protocol.

(f) WAWF payment instructions. The Contractor must use the following information when submitting payment requests and receiving reports in WAWF for this contract/order:

(1) Document type. The Contractor shall use the following document type(s).

**The contractor is directed to use the following guidance when choosing a format for processing invoices, receiving reports, and cost vouchers. If billing for Fixed-Price Incentive or Firm-Fixed Price items, the contractor may use Receiving Report, Invoice and Receiving Report "Combo" 2-n-1 (Services Only). If billing for Cost Type/Reimbursable Contracts, select "Cost Voucher."**

DFAS-Columbus Center (HQ0339)  
WEST ENTITLEMENT OPERATIONS  
P.O. BOX 182381  
COLUMBUS, OH 43218-2381

E-Mail: CCO-KC-VPIS@DFAS.MIL (Vendor Pay)

PHONE: 1-800-756-4571 #2 then #4 (MOCAS = #1 then #4)

WAWF: <https://wawf.eb.mil/>

My Invoice: <https://myinvoice.csd.disa.mil> <https://myinvoice.csd.disa.mil>

Data entry information in WAWF:

Payment Office DoDAAC: HQ0339

Issue By DoDAAC: M67854

**Admin Office DoDAAC: S0302A**

Ship To/Service Acceptor DoDAAC: M67854 Ext CAC2

Contract Number: M67854-12-C-0211

(2) Inspection/acceptance location. The Contractor shall select the following inspection/acceptance location(s) in WAWF, as specified by the contracting officer.

**See Section E.2**

(3) Document routing. The Contractor shall use the information in the Routing Data Table below only to fill in applicable fields in WAWF when creating payment requests and receiving reports in the system.

Routing Data Table\*

Field Name in WAWF	Data to be entered in WAWF
Pay Official DoDAAC	M67854
Issue By DoDAAC	M67854
<b>Admin DoDAAC</b>	<b>S0302A</b>
Inspect By DoDAAC	S0302A_
Ship To Code	M67854
Ship From Code	<u>See schedule</u>
Mark For Code	<u>See schedule</u>
Service Approver (DoDAAC)	M67854
Service Acceptor (DoDAAC)	M67854 Ext CAC2
Accept at Other DoDAAC	HQ0339
LPO DoDAAC	Not applicable_
DCAA Auditor DoDAAC	S0302A_
Other DoDAAC(s)	S0302A_

(4) Payment request and supporting documentation. The Contractor shall ensure a payment request includes appropriate contract line item and subline item descriptions of the work performed or supplies delivered, unit price/cost per unit, fee (if applicable), and all relevant back-up documentation, as defined in DFARS Appendix F, (e.g. timesheets) in support of each payment request.

(5) WAWF email notifications. The Contractor shall enter the email address identified below in the "Send Additional Email Notifications" field of WAWF once a document is submitted in the system.

Linda Ngo at [linda.ngo@usmc.mil](mailto:linda.ngo@usmc.mil) and Jim Swigart at [james.swigart@usmc.mil](mailto:james.swigart@usmc.mil)

(g) WAWF point of contact. (1) The Contractor may obtain clarification regarding invoicing in WAWF from the following contracting activity's WAWF point of contact.

Linda Ngo at [linda.ngo@usmc.mil](mailto:linda.ngo@usmc.mil)

(2) For technical WAWF help, contact the WAWF helpdesk at 866-618-5988.

(End of clause)

(End of Summary of Changes)