

SPACE AND NAVAL WARFARE SYSTEMS COMMAND (SPAWAR)

**SHORE GLOBAL
COMMAND, CONTROL, COMMUNICATIONS, COMPUTER,
INTELLIGENCE, SURVEILLANCE AND RECONNAISSANCE (C4ISR)
INSTALLATIONS CONTRACT**

STATEMENT OF WORK

11 JULY 2017

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1.0 SCOPE

1.1 Introduction

The Space and Naval Warfare Systems Command (SPAWAR) mission is to provide the warfighter with knowledge superiority by developing, delivering, and maintaining effective, capable and integrated command, control, communications, computer, intelligence, surveillance and reconnaissance (C4ISR) systems. For the purposes of this Statement of Work (SOW), the term “C4ISR” encompasses enterprise information systems (EIS), information technology (IT) systems, electronic security systems (ESS), and other electronic systems under SPAWAR cognizance.

1.2 Description

This multiple award contract encompasses the C4ISR installation services for all shore based C4ISR and supporting systems, current and future, under the cognizance of SPAWAR. The C4ISR installation services will be performed on shore facilities, towers, piers, platforms, mobile systems, and special purpose vehicles. C4ISR installation services includes both decommissioning and modernization of existing facilities as well as installation design and installation of integrated C4ISR systems at new shore facilities.

While SPAWAR is acquiring installation services under this contract in order to support its mission to deliver information warfare capabilities, installations at shore facilities frequently require some minor construction work for successful installation and operation of the C4ISR systems. The vast majority of the required construction actions will be small scale and incidental to the installation of the C4ISR equipment/systems. Details on construction work activities are provided in Section 3.

The Contractor shall, in response to task orders issued under this contract, provide services that span the entire spectrum of requirements associated with delivery of fully operational and sustainable C4ISR systems to the warfighter. In response to task orders under this contract, the Contractor shall provide program and project management, engineering design, industrial work, troubleshooting, operational verification, end-user training and other installation services and material necessary to accomplish any SPAWAR C4ISR maintenance, modernization, and new system installation.

The scope of this contract does not include the Navy Marine Corps Intranet (NMCI), the Next Generation Enterprise Network (NGEN), or any future such contracts.

1.3 Web Tools

This contract shall maximize the use of web-enabled tools for management. This includes, but is not limited to: status reporting, financial reporting, task orders, and task order modifications. These actions shall be accomplished via posting to the SPAWAR Fleet Readiness Directorate (FRD) Installation Office (FIO) web-enabled databases, hereafter referred to as “IMOTracker.” Installation projects within IMOTracker are assigned a unique identification number, called a Job Identification (JID) number. Task Orders may consist of a single or multiple JIDs. User accounts and detailed posting requirements will be provided by the Government upon award of the basic contract.

1.4 Locations

The Contractor will be required to conduct installations, decommissions, integration, and other technical/ engineering tasks at over 1000 shore facilities worldwide, including potentially hostile regions. The Government's largest concentration areas for this contract are: Norfolk, VA; San Diego, CA; Puget Sound, WA; Pearl Harbor and Wahiawa, HI; Yokosuka and Sasebo, Japan; Naples and Sigonella, Italy; Guam; Bahrain; and Djibouti.

2.0 APPLICABLE DOCUMENTS

2.1 General Application Rules and Principles

2.1.1 Sources of Documents

Web-enabled and SPAWAR document sources are provided in Table 1 in the "Source" column. Any additional references invoked under individual task orders will be provided by the Government.

2.1.2 Potential Conflicts

Where two requirements documents (listed in Table 1) are applicable and provide different, but compatible, requirements, unless otherwise stated in the contract or in the task order, the Contractor shall follow the more restrictive requirement so that the requirements of both documents are met. Where two requirements documents (listed in Table 1) provide different, conflicting guidance, so that it is impossible to meet both requirements, the Contractor shall notify the On-site Lead, the Task Order Contracting Officer's Representative (COR), and the Ordering Officer. The Ordering Officer will determine which guidance shall be followed based upon what is in the best interest of the Government.

2.1.3 Order of Precedence

The requirements of this SOW take precedence over the requirements of the referenced documents. Notwithstanding this order of precedence, nothing in this SOW shall be interpreted to allow any violation of an OSHA requirement or regulation, the National Electrical Code, or other Safety Standards referenced in this SOW.

2.1.4 Potential Errors

If the Contractor is or becomes aware of an error in a referenced document that could result in cost increases or presents a risk to safety, the Contractor shall immediately notify the Ordering Officer, the On-site Government Representative (OSGR), Project Engineer (PE), or another Government representative as identified on the IMOTracker so that the situation can be investigated and any necessary action taken.

2.2 Applicable Documents for Shore Installation Services

The Contractor shall perform all shore installation services in accordance with the requirements contained in the current version of the SPAWAR Shore Installation Process Handbook (SIPH). All installation documentation, including Base Electronic Systems Engineering Plans (BESEPs), Installation Design Plans (IDPs), and Systems Operation and Verification Test (SOVT) documents, delivered under this contract shall meet the technical and formatting requirements for these documents contained in the SIPH.

Installation practices shall conform to the requirements and standards discussed in Appendix AC of the SIPH. For installations occurring at non-Navy facilities, the SIPH shall be used unless otherwise directed at the task order level. The Contractor shall adhere to the documents listed in Table 1 – Applicable Document for Shore Platform Installations. The applicability of many of these documents is often covered in detail in Appendix AC of the SIPH. Whenever one of these standards is applicable to an installation task, and the standard states that something “should” be done, the Contractor shall do what the standard says “should” be done unless specific permission not to do so has been granted by the Ordering Officer or stated in the task order.

Table 1 – Applicable Documents for Shore Platform Installations

<u>Item</u>	<u>Document Number</u> <u>(Note 1)</u>	<u>Title</u>
1	SPAWAR M-4720.1	Shore Installation Process Handbook Version 4.0, 12 November 2014
2	(Standards - 29 CFR), Part 1910	Occupational Safety and Health Standards, updated 26 July 2016
3	(Standards -29 CFR), Part 1926	Safety and Health Regulations for Construction, updated 26 July 2016
4	NFPA 51B	Standard for Fire Prevention During Welding, Cutting, and Other Hot Work, 2014 Edition
5	NFPA 70	National Fire Protection Association (NFPA), National Electrical Code, 2014 Edition
6	C2-2017	Institute of Electrical and Electronics Engineers (IEEE) National Electrical Safety Code, 2017 Edition
7	NPFA 780	National Fire Protection Association, Standard for the Installation of Lightning Protection Systems, 2014 Edition
8	UFC 3-560-01 (with Change 5)	Electrical Safety, O & M, 14 April 2016
9	UFC 3-600-01 (with Change 3)	Unified Facilities Criteria, Fire Protection Engineering for Facilities, 1 March 2013
10	UFC 1-300-09N (with Change 9)	Unified Facilities Criteria, Design Procedures, 1 July 2013
11	2015 International Building Code	2015 International Building Code, 30 May 2014
12	EM 385-1-1	U.S. Army Corps of Engineers Safety and Health Requirements Manual, 30 November 2014
13	OPNAVINST 5100.23G (with change 1)	Navy Safety and Occupational Health Program Manual, 21 July 2011
14	MIL-STD-188-124B through Change Notice 4	Military Standard, Grounding, Bonding, and Shielding for Common Long Haul/Tactical Communication Systems Including Ground Based Communications-Electronics Facilities and Equipments, 4 April 2013
15	TIA-568.1-D	Commercial Building Telecommunications Infrastructure Standard, 9 September 2015
16	TIA-568-C.0, Through Addendum 2	Generic Telecommunications Cabling for Customer Premises, 14 August 2012
17	SPAWAR IRD Standard, Version	Generic Telecommunications Cabling for

	2.0TIA-568.0-D Revision D	Customer Premises, 15 December 2015
18	ANSI/TIA-569-D	Telecommunications Pathways and Spaces, (April 2015) (Dated April 2015, approved 12 March 2015)
19	ANSI/TIA-942-A	Telecommunications Infrastructure Standard for Data Centers, March 2014
20	ANSI/TIA-942-A-1	Telecommunications Infrastructure Standard for Data Centers, Addendum 1 – Cabling Guidelines for Data Center Fabrics, March 2103
21	TIA-758-B	Customer-owned Outside Plant Telecommunications Infrastructure Standard, April 2012
22	TIA-590-A	Standard for Physical Location and Protection of Below-Ground Fiber Optic Cable Plant, January 1997
23	TIA-607 Revision C	Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises, 9 November 2015
24	MIL-STD-1472G	Human Engineering, 11 January 2012
25	ANSI/NECA/BICSI 568-2006	ANSI/NECA/BICSI 568-2006, Standard for Installing Commercial Building Telecommunications Cabling, 2006
26	36 C.F.R. Part 1194	Electronic and Information Technology Accessibility Standards (Section 508), 21 December 2000
27	SPAWAR M-4720.5A	SPAWAR IRD Standard, Version 2.0, 27 March 2104
28	ANSI/ASSE A10.32-2012	Personal Fall Protection Used in Construction and Demolition Operations, 12 September 2012
29	ANSI/ASSE Z359.1-2007	Safety Requirements for Personal Fall Arrest Systems, Subsystems and Components, 25 November 2007
30	SPAWAR M-3084.1	System Operational Verification Test (SOVT) Preparation and Execution Guide (SPEG) for Ship, Shore, and Submarine Installations, Version 1.4, 3 December 2008
31	NEMA Standards Publication VE-2-2013	Cable Tray Installation Guidelines, 8 February 2016
32	NEMA Bulletin No. TCB 2-2012	Guidelines for the Selection and Installation of Underground Nonmetallic Raceways, 1 September 2013
33	NFPA 70E	Standard for Electrical Safety in the Workplace, 2015 Edition
34	ANSI/TIA-526-14-C-2015	Optical Power Loss Measurement of Installed Multimode Fiber Cable Plant; Modification of IEC 61280-4-1 edition 2, Fiber-Optic Communications Subsystem Test Procedures-Part 4-1: Installed Cable Plant-Multimode Attenuation Measurement, 1 April 2015
35	TIA-526-7 Revision A	Measurement of Optical Power Loss of Installed

		Single-Mode Fiber Cable Plant, Adoption of IEC 61280-4-2 edition 2: Fibre-Optic Communications Subsystem Test Procedures – Part 4-2: Installed Cable Plant – Single-Mode Attenuation and Optical Return Loss Measurement, 29 July 2015
36	Intelligence Community Standard Number 705-1	Physical and Technical Standards for Sensitive Compartmented Information Facilities, 17 September 2010
37	IC Tech Spec-for ICD/ICS 705	Technical Specifications for Construction and Management of Sensitive Compartmented Information Facilities, Version 1.2, 23 April 2012
38	TDMM 13 th Edition	BICSI Telecommunications Distribution Methods Manual (TDMM) 13 th Edition, January 2014
39	MIL-HDBK-419A	Grounding, Bonding, and Shielding for Electronic Equipments and Facilities, 29 December 1987, Validation Notice 20 February 2014
40	SPAWAR M-9810.1	Technical Data Package (TDP) Standard V1.0, 3 January 2016
41	Executive Order 13556	Controlled Unclassified Information, 4 November 2010
42	Executive Order 13526	Classified National Security Information, 29 December 2009
43	DoDI 5220.22	DoD Instruction – National Industrial Security Program, 18 March 2011
44	DoD 5220.22-M, Incorporating Change 2	DoD Manual – National Industry Security Program Operating Manual (NISPO), 18 May 2016
45	DoDI 5200.02, Incorporating Change 1	DoD Personnel Security Program (PSP), 9 September 2014
46	DoD 5200.2-R, through Change 3	DoD Regulation – Personnel Security Program, 23 February 1996
47	DoDI 5200.01	DoD Information Security Program and Protection of Sensitive Compartmented Information (SCI), 21 April 2016
48	DoDD 5205.02E	DoD Operations Security (OPSEC) Program, 20 June 2012
49	DoD 5205.02-M	DoD Operations Security (OPSEC) Program Manual, 3 November 2008
50	DoDD 8140.01	Cyberspace Workforce Management, 11 August 2015
51	DoDI 8500.01	Cybersecurity, 14 March 2014
52	DoDI 8510.01, Incorporating Change 1	Risk Management Framework (RMF) for DoD Information Technology (IT), 24 May 2016
53	DoD 8570.01-M, through Change 4	Information Assurance Workforce Improvement Program, 10 November 2015
54	DoD 5200.01-M, Volume 1	DoD Information Security Program: Overview,

		Classification, and Declassification, 24 February 2012
55	DoD 8570.01-M through Change 4	Information Assurance Workforce Improvement Program, 10 November 2015
56	SECNAVINST 5510.30B	Department of the Navy (DON) Personnel Security Program (PSP) Instruction, 6 October 2006
57	SECNAV M-5510.30	Department of the Navy Personnel Security Program, June 2006
58	SECNAV M-5239.2	Department of the Navy Cyberspace Information Technology and Cybersecurity Workforce Management and Qualification Manual, June 2016
59	SECNAVINST 5239.3C	Department of the Navy Cybersecurity Policy, 2 May 2016
60	SECNAVINST 5239.19	Department of the Navy Computer Network Incident Response and Reporting Requirements, 18 March 2008
61	SECNAVINST 5239.20A	Department of the Navy Cyberspace Information Technology and Cybersecurity Workforce Management and Qualification, 10 February 2016
62	DON CIO Memorandum	Acceptable Use of Department of the Navy (DON) Information Technology (IT), 12 February 2016
63	COMFLT CYBERCOM MSG DTG 031442Z OCT 11	Navy Telecommunications Directive 10-11, OPNAV FORM 5239-14 / (REV 9 2011), System Authorization Access Request Navy (SAAR-N), 3 October 2011
64	IA PUB-5239-22/ September 2008	Protected Distribution System (PDS) Publication, September 2008
65	NIST SP 800-171	Protecting Controlled Unclassified Information in Nonfederal Information Systems and Organizations, June 15 (Includes updates as of 14 January 2016)
66	CNSSAM TEMPEST/ 1-13	RED/BLACK Installation Guidance, 17 January 2014
67	ISL 2016-02 May 21, 2016	Industrial Security Letter (ISL) Insider Threat Minimum Standards for Contractors, 21 May 2016
68	SPAWARINST 3432.1	Operations Security (OPSEC) Policy, 2 February 2005
69	ANSI/EIA Standard 748C	Earned Value Management System (EVMS)

Notes:

1. Document versions listed are the versions current when added to the SOW. Unless otherwise specified, the Contractor shall comply with the version of the document that is in effect when the individual task order RFP is issued.

2. Documents addressing security requirements to include, but not limited to handling and safeguarding of classified material, physical security, Operational Security (OPSEC), Communications Security (COMSEC), Transmission Security (TRANSEC), Information Security (INFOSEC), Telecommunications and Electrical Machinery Protected from Emanations Security (TEMPEST), and Cybersecurity provide mandatory requirements.

3.0 REQUIREMENTS

3.1 Program and Project Management

The Contractor's Program Manager shall act as the single point of contact for the FIO, senior Government managers, Contracting Officer, Ordering Officer, and Contracting Officer's Representative (COR) for all matters involving contract performance. The Program Manager shall have overall responsibility for the successful execution of all work to be performed under the contract and will be considered by the Government to be fully accountable for all aspects of performance under the contract. The Program Manager shall have the requisite authority for full control over the resources necessary for contract performance. The Program Manager shall have authority to approve task order proposals in emergent situations. The Program Manager shall keep the Government apprised of any changes to the Contractor's overall Organizational structure to include Point-of-Contact information. The Program Manager shall participate in regular weekly status meetings with the FIO in person or by video teleconference (VTC), and shall participate in and support Program Management Reviews (PMRs). This support may include input to budget estimates and developing installation concepts and plans for large scale or high visibility programs.

3.1.1 Contract Program Management Reviews (PMRs)

The Contractor shall participate in contract-level PMRs semi-annually, as required, which will be divided into a programmatic and a technical section. The Contractor shall brief manufacturing, engineering, logistics, reliability, quality assurance, subcontractor status, staffing, long range projections and other items as identified by the COR at all PMRs. The Government team will coordinate the PMR agenda, schedule, and location with the Contractor. The Program Manager and other Contractor personnel shall be present at PMR as required to address the agenda. The Contractor shall prepare Agendas (CDRL A004B) and Presentation Materials (CDRL A004C) subject to the Ordering Officer's approval and prepare and distribute Meeting Minutes (CDRL A010).

3.1.2 Project Management Plan (PMP)

The Contractor shall develop, maintain, and implement a Government approved Project Management Plan (CDRL A004A) of the efforts required to complete execution of the installation project as required by the task order. The Project Management Plan (PMP) shall describe in detail all aspects of the project that will be monitored and controlled.

3.1.3 Project Integrated Master Schedule

The Contractor shall develop, maintain, and deliver a logically networked Project Integrated Master Schedule (IMS) (CDRL A030) where required by the Task Order. The IMS shall contain the planned events and milestones, including all activities from task

order award to task order completion, activity entrance and exit criteria. The IMS shall also reflect the tasks, dates (baseline, forecast, and actual), critical path, external and internal dependences and relationships necessary to support independent accurate forecasts of task order milestone delivery dates by both the Contractor and the Government.

3.1.4 Daily Status Meetings

The Contractor shall attend daily status meetings in accordance with section 10.3.4 of the SIPH and as specified in the individual Task Order, and present updates in a Daily Status Report (CDRL A021).

3.1.5 Task Order Progress and Status Report

The Contractor shall submit a Task Order Progress and Status Report (CDRL A002) for tasks or subtasks as required by individual task orders. Topics will include but are not limited to: cost, resource loading, schedule, quality, and challenges. Project control data or similar management data at the subtask level shall be required by individual task orders in the Tracking Progress vs Expectations Spreadsheet, (which will be provided as an attachment to the individual Task Order). The meetings will be held with the FIO and staff via VTC or locally at SSC Pacific (SSC PAC) and SSC Atlantic (SSC LANT).

3.1.6 Performance Report

The Contractor shall provide Performance Reports (CDRL A015) by Government JID as required by individual task orders. Where Performance Reports (CDRL A015) are required by the Task Order, the Contractor shall use the same applicable Work Breakdown Structure (WBS) elements that are used in the Cost Estimate WBS Report (CDRL A028) for preparing the Performance Reports. If the Task Order is re-baselined through the approval of change orders, then the Performance Report (CDRL A015) shall use the new approved WBS amounts.

3.1.7 Earned Value Management (EVM)

The Contractor shall implement EVM Integrated Program Management Report (IPMR) (CDRL A024) where individual task orders invoke EVM. When EVM is required by a task order, DFARS 252.234-7001 will be incorporated into the Task Order RFP and, per DFARS 252.234-7001, a comprehensive Earned Value Management System (EVMS) compliant with American National Standards Institute /Electronic Industries Association Standard 748-C, EVMS (ANSI/EIA – 748C) is required. The Contractor shall follow the requirements set forth in the following subsections below. Where EVM is required, the EVMS shall:

- a. Relate resource planning to schedules and technical performance requirements
- b. Integrate technical performance, cost, schedule, and risk management
- c. Provide the integrated management information to plan the timely performance of work, budget resources, account for costs, and measure actual performance against plans and by Work Breakdown Structure (WBS) element
- d. Have the capability to predict, isolate, and identify variances and the factors causing the variances

3.1.7.1 Use of EVMS Information

The Contractor shall use the EVMS information to develop alternative solutions and implement corrective action. The Contractor shall use the EVMS information to generate progress and financial reports to analyze and track scheduled versus actual events, including, but not limited to cost analysis and status by task order. The EVMS reports shall identify any issues and risk elements, and shall include recommended methods to mitigate those risks. The Contractor shall produce a Performance Measurement Baseline (PMB) that integrates contract work scope and schedule and budget to achieve a realistic, executable contract plan.

3.1.7.2 Contractor Integrated Performance Management

The Contractor shall use its existing, internal Integrated Program Management System (IPMS) to plan, schedule, budget, monitor, manage, and report cost, schedule, and technical status applicable to the contract. The Contractor's system shall be compliant with the Industry Guidelines delineated in the ANSI/EIA-748C, the general provisions of the contract, and this SOW.

3.1.7.2.1 Integrated Subcontract Management and Reporting

The EVMS requirement shall be flowed down to subcontractors in accordance with DFARS 252.234-7001. The prime Contractor and the Government shall agree on the subcontractors or the subcontracted effort selected for application of the EVMS requirement. Any subcontractor with a contractual flow down requirement for EVM shall be included in the Integrated Baseline Review (IBR) process. A separate IBR may be conducted at the subcontractor's facility, in which case the prime Contractor shall take the lead in conducting the IBR, with active Government participation. On subcontracts where EVM and IMS requirements are not flowed down, subcontracted scope and performance information shall be incorporated/integrated into and reported via the prime's Contractor's integrated performance management system and EVMS Integrated Program Management Report (IPMR) (CDRL A024).

3.1.7.2.2 Integrated Baseline Review (IBR)

The Contractor shall participate and assist the Government program manager and technical staff in conducting IBRs to assess the realism and inherent risks in the Contractor's integrated PMB plan. The Contractor shall present the contents and underlying/ supporting assumptions of its initial PMB to Government representatives via an IBR to be held at the Contractor's facilities. The initial IBR shall be conducted as soon as practicable after the Task Order is awarded but not later than 90 days after Task Order award.

Subsequent IBRs shall be conducted, as required, throughout the life of the contract following initiation of the Task Order, including undefinitized contract actions, contract modifications, major milestone events, major changes to the baseline, or re-planning. The scope of the IBRs shall be tailored to the nature of the work content and/or dollar value issued with the Task Order, and the IBR shall be conducted within a reasonable time. Each IBR will verify that the Contractor has established and is maintaining a reliable PMB that includes the entire contract scope of work; is consistent with contract cost targets and schedule requirements; has adequate resources assigned; and uses effective

Earned Value (EV) techniques/methods to accurately reflect technical achievement/progress. Each IBR will also record any indications that effective EVM is not being used. IBR planning, preparation and conduct details will be discussed and finalized on a case-by-case basis with the issuance of the Task Order.

The prime Contractor shall seek Government concurrence on:

- The IBR scope and approach, i.e., Contract Line Item Number (CLIN)/Performance Work Schedule (PWS) scope coverage, dates, duration, depth of the event, and preliminary IBR agenda.
- IBR entrance and exit criteria. The government program office Lead will take lead roles in assessing Contractor IBR readiness.
- If the scope of the Task Order and dollar value warrant, pre-IBR support requirements include:
 - Advance IBR artifacts (EVMS output) submittal requirements and IBR schedule Integrated Baseline Review (CDRL A025).
 - Contractor participation in Government pre-IBR Workshop activities (e.g., vendor may be asked to send 1-3 representatives (i.e., PM, System Engineering (SE) Lead, Scheduler) to a Government pre-IBR workshop to provide 2-4 hours of PMB, IMS, IBR artifact overview and data traces.

During contract performance, the Contractor shall provide ongoing access to its records and data that underlie and support the Performance Measurement Baseline and cost and schedule data reported.

3.1.7.2.3 Over Target Baseline (OTB)/Over Target Schedule (OTS)/ Restructure

During performance, the Contractor may conclude the baseline no longer represents a realistic plan in terms of budget/schedule execution. In the event the Contractor determines an OTB/OTS/Restructuring action is necessary, the Contractor shall obtain customer approval prior to implementing an OTB/OTS/Restructuring action. The request shall also include detailed implementation procedures as well as an implementation timeframe. The Contractor shall not implement the OTB/OTS/Restructuring prior to receiving written approval of their Recovery Plan from the Ordering Officer.

3.1.7.2.4 Integrated Master Schedule (IMS) (IPMR Format 6)

The Contractor shall develop, maintain, and deliver a logically networked IMS in accordance with the DoD Integrated Master Plan and Integrated Master Schedule Preparation and User Guide, DI-MGMT-81861, Format 6, and tailoring instructions provided in CDRL A024, Integrated Program Management Report (IPMR). The IMS shall contain the planned events and milestones, all activities from task order award to task order completion, activity entrance and exit criteria, and risks/risk mitigation activities identified and documented in the Contractor's Risk Management Plan (RMP). The IMS shall also reflect the tasks, dates (baseline, forecast, and actual), external and internal dependences and relationships necessary to support independent accurate forecasts of task order milestone delivery dates by both the Contractor and the Government. The IMS shall be developed, maintained and reported consistently and in conjunction with the Contract Work Breakdown Structure (CWBS) and the IPMR. The

Contractor shall support teleconferences, as needed, to discuss IMS progress and issues and shall be available for review at all Government meetings. (CDRL A024)

3.1.7.2.5 Schedule Analysis/Schedule Risk Assessment (SRA)

A Schedule Analysis section shall be included with the monthly IPMR deliverable as part of Format 5 of the IPMR. This section shall be in accordance with DI-MGMT-81861 and tailoring instructions provided in CDRL A024, Integrated Program Management Report (IPMR). Schedule Risk Assessment shall be conducted quarterly as outlined in CDRL A024.

3.1.7.2.6 Contract Work Breakdown Structure (CWBS)

Where EVMS is required by a Task Order, the Contractor shall develop an extended CWBS and CWBS dictionary in accordance with the guidelines in DI-MGMT-81334D. Unless otherwise required by the Task Order, the Contractor shall use the work elements in Attachment 1 of the SOW as a starting point. The Contractor's organizational entity responsible for systems engineering shall analyze the requirements specified in the Task Order and translate them into a Contract Work Breakdown Structure (CWBS) (CDRL A026) representing the products and services that comprise the entire work effort commensurate with the contract requirements. The Contractor shall extend the Government provided WBS as outlined in Contract Work Breakdown Structure (CWBS) (CDRL A026) down to the appropriate levels required providing adequate internal management, surveillance, and performance measurement. The Contractor shall use the CWBS as the primary framework for task order planning, budgeting and reporting of cost, schedule and technical performance status to the Government. The Contractor shall maintain, update and deliver the CWBS and the CWBS Dictionary during the execution of the contract in accordance with DI-MGMT-81334D and the tailoring instructions provided in Contract Work Breakdown Structure (CWBS) (CDRL A026). Changes to the CWBS and/or associated CWBS Dictionary definitions at any reporting level require approval of the Government.

3.1.7.2.7 Contract Fund Status Report (CFSR)

The Contractor shall submit a quarterly Contract Fund Status Report (CFSR) (CDRL A027) as required by Task Order. The CFSR will be used by the Contractor and the Government to update and forecast task order funds requirements; to plan and communicate funding changes; to develop funding requirements for approved efforts; to determine funds in excess of task order needs and available for de-obligation; and to obtain rough estimates of termination liability and open commitment costs on all cost reimbursable contract line items. The CFSR shall be prepared by JID, with a rollup to the task order level. All data shall be time phased and displayed in conjunction with Government fiscal years.

3.1.8 Cost Estimate Work Breakdown Structure (WBS) Report

The Contractor shall provide a Cost Estimate WBS Report (CDRL A028) as required by individual task orders. After award, the Contractor shall provide a Cost Estimate WBS Report, which shall be a detailed breakdown of the Contractor's cost proposal for the task order in accordance with Attachment 1, "Work Breakdown Structure", Table 1, "WBS Hierarchy", to the Contract Statement of Work. Table 1 shall be used unless directed by

the task order to use a different WBS level. The total cost of each JID provided in the Cost Estimate WBS Report shall equal the total cost of each JID proposed for the Task Order. The overall total of the Cost Estimate WBS Report shall equal the total cost proposed for the task order. The initial report shall be provided within 30 days after task order award. The Contractor shall provide details attributed to each applicable WBS element shown in Attachment 1, Table 1 of the SOW. Subsequent reports are due within 30 days after the award of a Task Order modification, to include Change Order Request Notifications (CORNs), which increases or decreases the task order value, or reallocates cost between WBS elements of a JID. In these instances, the Contractor shall provide updates to the Cost Estimate WBS Report (CDRL A028). When a JID modification occurs, a new tab (JID WBS Change) shall be added to the WBS report that reflects the following items across each WBS element for the JID:

- 1) Major column headings (for WBS information): “WBS Number,” “WBS Description”
- 2) Major column headings (for data): “JID Cost from Last Report,” “Change (+/-); Approved Change,” “New Total Cost for JID for This Report”
- 3) Sub-columns under each of the three major column headings (for data): “Labor Hours,” “Labor Dollars,” “Material Dollars,” “Travel Dollars,” “ODC Dollars,” “Total Dollars”

For subsequent modifications/updates to the same JID, the “JID WBS Change” tab will be updated for each change to reflect the total authorized for that JID (e.g., Government approved CORNs).

3.1.9 Change Order Request Notification (CORN) Process

The purpose of the Change Order Request Notification (CORN) (CDRL A003A) process is to provide prompt notification to the Government of any problems or conditions that are expected to cause a change to the cost or requirements of the work covered by the Task Order. The Contractor shall initiate the CORN process by completing an “Info CORN” in accordance with CDRL A003A. This shall be accomplished in the IMOTracker within two (2) business days of becoming aware of the problem or condition. The Contractor shall enter a description of the problem or condition found on the CORN form and a proposed solution, including a Rough Order of Magnitude (ROM) estimate for any additional work to be performed. The Contractor shall notify the On-site Government Representative (OSGR), Project Engineer (PE), or another Government representative as identified on the IMOTracker of the “Info CORN” prior to submission. The “Info CORN” will be reviewed by the appropriate Government Representatives for comments and concurrence.

3.1.9.1 Following coordination and concurrence by the appropriate Government Representatives, the Contractor shall update the CORN form as necessary and shall upload a *detailed* description of the problem, a proposed *detailed* solution and proposed *detailed* cost (including specific labor categories) and scheduling change estimates to the IMOTracker website. This “Cost CORN” with the *detailed* information specified above shall be uploaded to the IMOTracker within five (5) business days of Government approval of the “Info CORN.” For each CORN that exceeds the simplified acquisition

threshold, the contractor shall certify, through the use of a “certificate of cost or pricing data” that the request for approval is made in good faith, and that the supporting data are accurate and complete to the best of the contractor’s knowledge and belief, as required by DFARS 252.243-7002, Requests for Equitable Adjustment. This certificate shall be uploaded into the IMOTracker website. The Contractor shall notify the cognizant Ordering Officer (from the cognizant task order contracting office) or the Contracting Officer who issued (or is assigned to) the original task order via email. The Contractor shall use the IMOTracker website to provide this email notification whenever this capability is available from the website. The Government will review the submitted documents, and if the Government review indicates that the CORN form contains insufficient technical information or supporting documentation, the Government will notify the Contractor POCs identified on the CORN form via email. The Contractor shall update the CORN form to provide any additional information requested within two (2) business days of receipt of the notice.

3.1.9.2 If the CORN is approved, the Ordering Officer will authorize the contractor to proceed with the work by issuing an Authorization to Proceed by email. Details on this process will be provided on the IMOTracker website. If the CORN is rejected, the Government will notify the contractor. When a CORN is based on a Ship Alteration (SHIPALT) drawing, the contractor shall develop a Liaison Action Record (LAR) in accordance with the most recent version of NAVSEA Technical Specification Number: TS9090-100.

3.1.9.3 The Contractor shall submit a request for a CORN modification no later than thirty (30) days after receiving the Ordering Officer authorization to proceed. Extensions of this deadline or exceptions to this requirement shall be coordinated in advance of the deadline with the Ordering Officer. The Contractor shall submit a Cost Estimate WBS Report (CDRL A028) within 30 days of Government approval of the CORN.

3.1.10 Meetings

The Contractor shall attend installation project related meetings and provide Meeting Minutes (CDRL A010) as required by Task Order, or as conditions/circumstances require.

3.1.11 Trip Reports

The Contractor shall prepare a Trip Report (CDRL A004D) as required by the Task Order. Where required by the Task Order, the trip report shall provide a detailed record of events that occurred, to include but not limited to, meetings attended, meeting results, project related information obtained, and actions assigned.

3.1.12 Technical Reports

The Contractor shall provide technical reports, studies, white papers, technical presentations, comments to technical documents, recommendations as required by Task Order. (CDRL A003B)

3.1.13 Production Schedule/POA&M

The Contractor shall provide a Shore Production Schedule (CDRL A018) for each JID that lists all tasks identified in Appendix H of the SIPH that apply to the task order. In addition, the following activities shall be included as separate sub-tasks for the purpose of production scheduling only under the “On-Site Installation” task, whenever they apply:

- a. Cabinet Mounting and Grounding
- b. Antenna Mounting and Grounding
- c. Electrical Wiring Pathway Installation
- d. Inside Plant Cable Pathway Installation
- e. Outside Plant Cable Pathway Installation
- f. Electrical Wiring Installation
- g. Signal Cabling Installation
- h. Equipment Installation

3.1.14 Electronic Contractor Manpower Reporting

The Contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract for the Navy via a secure data collection site. The Contractor shall be required to completely fill in all required data fields using the following web address <https://doncmra.dmdc.osd.mil/>. Reporting inputs will be for the labor executed during the period of performance during each Government fiscal year (FY), which runs October 1 through September 30. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year. Contractors may direct questions to the help desk, linked at <https://doncmra.dmdc.osd.mil/>.

3.1.15 Project Integrated Master Plan

The Contractor shall develop, maintain, and deliver a logically networked Project Integrated Master Plan (IMP) (CDRL A022), where required by the Task Order. The IMP shall provide an overarching framework against which all work is accomplished.

3.2 Systems Engineering

3.2.1 Configuration Management

As outlined in MIL-HDBK-61A, the contractor shall apply engineering analytical disciplines to identify, document, and verify that functional, performance, and physical characteristics of systems, to control changes and non-conformance, and to track actual configurations of systems and platforms.

3.2.2 Cybersecurity

Cybersecurity is defined as prevention of damage to, protection of, and restoration of computers, electronic communications systems, electronic communications services, wire communication, and electronic communication, including information contained therein, to ensure its availability, integrity, authentication, confidentiality, and nonrepudiation. Contractor personnel shall perform tasks to ensure Navy applications, systems, and networks satisfy Federal/DoD/DON/Navy cybersecurity requirements.

3.2.2.1 Cyber IT and Cybersecurity Personnel

(a) The Cyberspace workforce elements addressed include contractors performing functions in designated Cyber IT positions and Cybersecurity positions. In accordance with DFARS Subpart 5239.71, DoDD 8140.01, SECNAVINST 5239.20A, and SECNAV M-5239.2, contractor personnel performing cybersecurity functions shall meet all cybersecurity training, certification, and tracking requirements as cited in DoD 8570.01-M prior to accessing DoD information systems. Proposed contractor Cyber IT and cybersecurity personnel shall be appropriately qualified prior to the start of the contract performance period or before assignment to the contract during the course of the performance period.

(b) The Contractor shall be responsible for identifying, tracking and reporting cybersecurity personnel, also known as Cybersecurity Workforce (CSWF) and Cyber IT workforce personnel. Although the minimum frequency of reporting is monthly, the Task Order can require additional updates at any time.

(c) Contractors that access Navy IT shall also follow guidelines and provisions documented in Navy Telecommunications Directive (NTD 10-11) and are required to complete a System Authorization Access Request (SAAR) – Navy form as documented in Section 7.4.2b.

(d) Contractor personnel with privileged access will be required to acknowledge special responsibilities with a Privileged Access Agreement (PAA) IAW SECNAVINST 5239.20A

3.2.2.2 Cybersecurity Workforce (CSWF) Report

DoD 8570.01-M and DFARS PGI 239.7102-3 have promulgated that contractor personnel shall have documented current cybersecurity certification status within their contract. In accordance with clause 252.239-7001, Contractor personnel accessing information systems shall meet all Information Assurance (IA) training, certification, and tracking requirements prior to accessing DoD information systems. Personnel tracking information, which includes subcontractor personnel, shall be included in the Monthly Contract Status Report (CDRL A023B) and the Quality Assurance Workbook (CDRL A011C).

3.2.3 Design, Integration, Configuration or Installation of Hardware and Software

The Contractor shall ensure any equipment/system installed or integrated into Navy platform will meet the cybersecurity requirements as specified under DoDI 8500.01. The Contractor shall ensure that any design change, integration change, configuration change, or installation of hardware and software is in accordance with established DoD/DON/Navy cyber directives and does not violate the terms and conditions of the accreditation/authorization issued by the appropriate Accreditation/Authorization official. Contractors that access Navy IT are also required to follow the provisions contained in DON CIO Memorandum: Acceptable Use of Department of the Navy Information Technology (IT) dtd 12 Feb 16. Use of blacklisted software is specifically prohibited and only software that is registered in DON Application and Database Management System (DADMS) and is Functional Area Manager (FAM) approved can be used as documented

in Section 3.12.2.1. Procurement and installation of software governed by DON Enterprise License Agreements (ELAs) – Microsoft, Oracle, Cisco, Axway, Symantec, ActivIdentity, VMware, Red Hat, NetApp, and EMC shall be in accordance with DON CIO Policy and DON ELAs awarded.

3.3 Pre-Installation

3.3.1 Site Surveys

The Contractor shall conduct inspections of shore platforms identified by Task Order to validate the location and configuration for an equipment/system installation and any site or platform preparation requirements. The Contractor shall be capable of gathering all pertinent environmental, security access, pre-boarding training, engineering, configuration, and design information relevant to site conditions, analyzing the collected data, performing necessary calculations to make technical recommendations, and preparing technical reports and documentation (CDRL A003C) (such as Site Survey In-Briefs and Out-Briefs, and Site Survey Reports) for a specific installation or a group of installations. The Contractor shall assess potential impacts to cost, schedule and performance and communicate recommendations to mitigate discoveries. The Contractor shall conduct Site Surveys of shore installation sites in accordance with the requirements in the SPAWAR SIPH.

3.3.2 Shore Design Documentation

The Contractor shall provide shore Installation Design Documentation that meets the applicable requirements of the current version of the SPAWAR SIPH or the SPAWAR Installation Requirements Drawings (IRD) Standard, whichever is applicable. Installation Design Documentation includes, but is not limited to:

- a. Base Electronic System Engineering Plans (BESEPs) (CDRL A009A)
- b. Training System Installation Plans (TSIPs) (CDRL A009B)
- c. Installation Requirements Drawings (IRDs) (CDRL A005A)
- d. Site Preparation Specifications (CDRL A020)
- e. Installation Design Plans (IDPs) (CDRL A005B)
- f. IDP Quality Assurance Checklists (CDRL A011E)

3.3.3 Systems Operation and Verification Test (SOVT) Development

The Contractor shall develop and provide site specific Systems Operation and Verification Test (SOVT) plans. (CDRL A012A)

3.3.4 Contractor Furnished Material

The Contractor shall furnish all installation material identified as contractor furnished material and provide an Installation Bill of Materials (IBOM) (CDRL A006D) to include any long lead material and estimated delivery dates where required by the Task Order. Installation material (not to include incidental material, e.g., cable hangers, label plates, etc.) or equipment that is not identified on the approved installation drawings shall not be provided without adding the unspecified material to the appropriate parts lists on the red-lined copy of the IDPs used to produce as-built drawings. In accordance with individual

task orders, the Contractor shall be required to purchase major system components, sub-systems, systems and support systems, such as HVAC units.

3.3.5 Fabrication

The Contractor shall fabricate foundations, antenna platforms and towers, rack adapters, switching units, relay panels, patch panels, test sets, equipment stands, lockers, mounting brackets, switch assemblies, junction boxes, nameplates, cable tags, wire markers, cable hangers, wiring harnesses, fiber optic cable assemblies, and other miscellaneous items required to complete installations. As required on individual task orders, all fabricated items shall meet criteria for installation at shore stations and be capable of passing through the required shore access doors. Fabricated items must meet industry standards of workmanship. Due to the quick turnaround time frequently required, the Contractor shall have the ability to initiate fabrication of items within 24 hours of issue of a task order. The Contractor shall also assemble alteration and installation kits as specified in the individual task orders.

3.3.6 Equipment and Material Staging and Transportation

The Contractor shall provide equipment and material staging areas, which includes Government Furnished Equipment and Material (GFE/GFM) and contractor acquired Equipment and Material, as required to support work under this contract. The Contractor shall provide all equipment and/or material transportation to and from the installation sites including transportation of Government-Furnished Property. Prior to shipment, all items shall be packaged in accordance with the contract. The Contractor shall develop and maintain inventory control records of all equipment and material transported and develop logistics status reports, including DD Form 1149, Requisition and Invoice/Shipping Document, which are parts of the Monthly Contract Status Report (CDRL A023A) as specified in this SOW or by individual task orders.

3.4 Installation

3.4.1 Installation Tasks

The Contractor shall execute shore installations in accordance with Government approved design packages and relevant documents identified in the Applicable Documents section, and as specified in individual Task Orders. The Contractor shall install new or overhauled systems, equipment upgrades, and field change kits at shore facilities located worldwide. The Contractor shall be responsible for the full range of installation services including crane service, rigging services, welding, foundation fabrication, cable installation, connector assembly, equipment mounting, and equipment alignment. The Contractor shall also be required to install or modify the following including but not limited to: power, grounding; ducting for ventilation, power and signal; cabinets/racks on foundations; deck covering, sheet metal, insulation, vault doors, safes; fiber optic, multi-conductor and/or coaxial cables; distribution frames and signal cross connects; and/or HVAC, water and dry air systems. The Contractor shall be responsible for the fabrication or machining of various items (housings, shelves, nuts, bolts, screws, bushings, couplings, mounting plates, brackets, towers/platforms, etc.) in support of shore installations. The Contractor shall continue-to maintain inventory control records of all equipment and material available or needed during the completion of installation tasks.

This data shall also be included in the Monthly Contract Status Report (CDRL A023A). The Contractor shall perform installation tasks as required by individual Task Orders, which include, but may not be limited to the following:

- a. Pre-Installation Checkout (PICO) to verify operational condition of existing equipment prior to modifications
- b. Installation/removal/modification of electronic equipment/systems/software
- c. Installation/removal/modification of temporary or permanent local area networks (LANs), wide area networks (WANs) and Fiber Optic cable and networks. This may include the installation of outside plant cable to connect buildings at shore locations.
- d. Installation/removal/modification of antenna and RF distribution systems
- e. Installation/removal/modification of inside plant and outside plant cable pathways above and below ground
- f. Test and checkout of electronic/electrical equipment/systems
- g. Modification, overhaul or minor repair to designated electrical/electronic equipment/systems
- h. Fabrication of switching units, relay panels, patch panels, test sets, equipment stands, etc., used with electronic/electrical equipment/systems
- i. Fabrication/modification of foundations, antenna platforms/towers, enclosures, equipment racks, shelves, and miscellaneous metal structures in accordance with applicable shock and environmental requirements

3.4.2 Removal

The Contractor shall be responsible for removal of systems/equipment as required by individual Task Orders, which includes but may not be limited to:

- a. Blown Fiber Cable
- b. Cableway
- c. Protected Distribution System (PDS)
- d. Blown Fiber Tubing
- e. Antenna
- f. Waveguide
- g. Antenna Tower/Platform/Foundation
- h. Cabinet
- i. Cabinet Foundation
- j. Minor Equipment
- k. Major Equipment
- l. Stud Mounts
- m. HVAC Mod Devices
- n. HVAC Mod
- o. Pipe Mod Devices
- p. Pipe Mod
- q. Interference

The Contractor shall continue to maintain inventory control records of all equipment and material available or needed during the completion of installation or removal tasks. This data shall also be included in the Monthly Contract Status Report (CDRL A023A).

3.4.3 Minor Construction

The Contractor shall perform minor construction work to prepare the facility for the installation or operation of C4ISR systems and components. Minor construction work, when required, will be specified in the individual Task Order. Examples of minor construction efforts include, but may not be limited to:

- a. Secondary power panels (excludes building service entrance panels)
- b. Electrical branch circuit wiring
- c. Conduit, junction boxes, and power connections
- d. Cabling in and on buildings for C4ISR system (power, signal, RF, etc.)
- e. Cable conduit/duct/raceways/risers both in and on the building
- f. Drops for network connections
- g. Equipment support platforms/towers
- h. Equipment such as antennas, cameras, speakers, sensors, and card readers
- i. Lightning protection
- j. Outside plant cable and pathways to include trenching
- k. Protected distribution systems (PDS)
- l. Room and building physical security improvements to protect classified equipment/information
- m. Wall penetrations
- n. Raised flooring associated with preparing a space for an equipment installation
- o. Asbestos abatement as required to install equipment anchors or to penetrate walls for cable pathways
- p. Supplemental HVAC system
- q. Minor modifications to air-conditioning air flows to extend ducts or install ventilation fans to improve cooling of equipment

3.4.4 Shore Confined Space Work

The Contractor shall provide their own competent personnel and equipment to test the confined spaces they work in. The Contractor shall provide all items needed to maintain a safe working environment while work is being performed in confined spaces as required by the US Army Corps of Engineers EM 385-1-1, Section 34.

3.5 Installation Testing and Logistics

3.5.1 Installation Pre-SOVT Inspection and Testing

The Contractor shall perform all work in accordance with Government approved design packages and relevant documents identified in the Applicable Documents section, and as specified in individual Task Orders. The Contractor shall apply necessary rigor to the inspection of all cabling installed by performing a cold-check on cables after assembly for point-to-point continuity and adequate insulation resistance. Additional pre-light-off testing may be designated in individual Task Orders depending on specialized signal/cable type requirements. A person technically qualified, other than the assembler,

shall perform these cold checks. For each Task Order and Task Order Sub-task with a separate JID number the Contractor shall maintain a Microsoft Excel compatible spreadsheet titled Cable Inspection and Test Report (CDRL A013A) that is available for examination at the work site and that clearly identifies the following for each cable end installed:

- a. The individual or individuals who terminated it
- b. The cable number and cable end termination point location
- c. The individual or individuals who inspected the completed work
- d. Any defects that were found and not corrected
- e. Any test results (e.g., optical loss readings, successful Cat 6 cable tester check, etc.) (Contractors can identify and reference a separately provided report containing the test results instead of providing results in the spreadsheet.)

3.5.2 System Operational Verification Test (SOVT) Support

The Contractor shall support the conduct of the System Operational Verification Test (SOVT) on designated systems as specified by individual task orders. The Contractor shall inspect the system installation for discrepancies. All discrepancies shall be documented in the Report of SOVT Discrepancies (CDRL A013B), and included in the executed SOVT document. Major discrepancies/deficiencies that will adversely impact task completion schedule shall be immediately reported to the On-Site Government Representative or another Government representative as identified in the IMOTracker and other specified Government personnel designated in individual task orders. The Contractor shall provide an operational system to be certified by the Government and accepted by the receiving activity.

3.5.3 System Operational Verification Test (SOVT) Performance

The Contractor shall perform system checkout/System Operational Verification Tests in accordance with the Government approved SOVT (CDRL A013C) document for the installation. The Contractor shall inspect the system installation for discrepancies. All discrepancies shall be documented and included in the completed SOVT document. Major discrepancies/deficiencies that will adversely impact task completion schedule shall be immediately reported to the On-Site Government Representative or another Government representative as identified in the IMOTracker and other specified Government personnel designated in individual Task Orders. The Contractor shall provide an operational system to be certified by the Government and accepted by the receiving activity.

3.5.4 Training

The Contractor shall conduct on-the-job training (OJT) on specific equipment and /or systems as designated by Task Order upon completion of installation. The Contractor shall record the names and point of contact information for all individuals receiving training, the training dates, and training locations within the Installation Completion Report (ICR) (CDRL A003D).

3.5.5 Shore Installation Logistic Support Documentation

Shore Installation Logistic Support Documentation, as designated by Task Order, includes with the exception of final (finished) as-built drawings, the following:

3.5.5.1 CDMD-OA Data

The Contractor shall collect configuration data, as designated by Task Order, needed to validate Configuration Data Managers Database – Open Architecture (CDMD-OA) Documentation (CDRL A006C) and provide corrected copies of the documentation to the On-Site Government Representative or another Government representative as identified in the IMOTracker prior to leaving the installation site.

3.5.5.2 Red-lined As-Built Drawings

Whenever the contractor is tasked to execute an installation on site, the Contractor shall create at least three “red-lined” copies of the Installation Design Plan (IDP) (CDRL A005B) showing all differences between IDP and the actual installation performed by the contractor. Two red-lined copies shall be turned over to the On-Site Government Representative (OSGR) or Project Engineer (PE) at the site, and one shall be retained by the contractor for the purpose of creating the final Shore As-Built Drawings. As-built drawing numbering shall be in accordance with Appendix Q of the SPAWAR SIPH, and shall be uploaded to IMOTracker.

3.5.5.3 Final Shore As-Built Drawings

The Contractor shall use provided red-lined drawings to modify existing As-built drawings to the new current configuration, not just an update to the IDP. (CDRL A005D)

3.5.5.4 Reverse Engineering As-Built Drawings

The Contractor shall incorporate multiple existing drawings and reverse engineer installation to develop and provide finished as-built drawings. (CDRL A005D)

3.5.5.5 Installation Completion Report

The Contractor shall provide an electronic copy of the Installation Completion Report (ICR) (CDRL A003D) for the installation to the OSGR or PE prior to leaving the installation site. The contents of the report shall be developed following the guidance in the SIPH. Where appropriate, a separate form shall be provided to account for previously existing site assets that were used to support the installation. The contractor prepared ICR shall provide inventories of the following:

- a. Spare parts provided to support the installed equipment
- b. Documentation to be turned over to the installation site
- c. Special purpose support and test equipment provided to support the installed equipment.
- d. Software licenses. Information showing where the licenses were installed shall be provided when different computers are installed with different licenses. The inventory list shall clearly distinguish between operational software, management software, and diagnostic software.
- e. Software Configuration CD-ROMs
- f. Firmware Configuration Setting CD-ROMs

- g. Maintenance Documentation
- h. Training and Training Documentation
- i. Warranties

3.5.5.6 Software Configuration Files

The Contractor shall perform a complete backup of the installed systems. The Contractor shall provide the afloat platform with all directions and data necessary to perform additional backups and a full restoration of all installed systems under the Task Order, which shall include, but may not be limited to, providing files containing software configuration information for each piece of equipment installed that is sufficient to restore the system to operation if any pieces of hardware need to be replaced. Software Configuration Files (CDRL A016A) shall include those containing the state of installed servers, clients, switches, virtual private network (VPN) devices, routers, firewalls, and intrusion detection systems. The files containing the configuration data shall be burned onto four identical CD-ROMs. Two CD-ROMs shall be provided to the receiving activity, and two shall be provided to the On-Site Government Representative or another Government representative as identified in the IMOTracker. The Contractor shall mark and handle the files according to appropriate classification level.

3.5.5.7 Firmware Configuration Settings

The Contractor shall ensure that all equipment items installed are capable of being restored by capturing all BIOS and other similar settings embedded in permanent or semi-permanent programmable ROMs and documenting this within text files (.txt extension) or other appropriate installed system backup methods submitted as Firmware Configuration Settings (CDRL A016B). This shall include the firmware version and the settings in use. The Contractor shall develop four complete backup copies using the installed system's appropriate backup method. Two backup copies shall be provided to the shore site's receiving authority, and two shall be provided to the On-Site Government Representative or another Government representative as identified in the IMOTracker. The Contractor shall mark and handle the backup files according to appropriate classification level.

3.6 Technical Assistance

The Contractor shall provide technical assistance directly to shore platforms for CASREP resolution, fault analysis, testing, and/or repair of various installed systems and equipment, as directed by individual task orders, to restore the units to operational status. The contractor personnel providing technical assistance shall be prepared to travel for onsite assistance within 24 hours of notification and shall have subject matter expertise and be capable of analyzing system problems and implementing corrective actions in collaboration with shore personnel. To the extent specified in the task order, the Contractor shall be responsible for the minor repair of modules/subassemblies removed or returned from the shore stations. The Contractor shall submit a Failure and Corrective Action Report (CDRL A003E) after performing each repair task. Technical assistance may also involve collecting additional information for the Government, such as design, operation and equipment conditions, training and skill levels of site operators, engineering change status, initial calibration, re-calibration and maintenance problems.

The Contractor shall submit findings, analysis results, and corrective actions associated with technical assistance provided.

3.6.1 Fault Isolation and Repair

The Contractor shall perform fault isolation and repair on equipment/systems as specified by individual task orders. Faults discovered, and corrective action taken shall be documented in a Failure and Corrective Action Report (CDRL A003E). If the unit is not repairable or if such repair is outside the scope of the assignment, the Contractor must immediately notify the designated SPAWAR point of contact or In-Service Engineering Agent (ISEA) and obtain proper instructions for reporting and/or returning the item.

3.7 Special Fabrication Tasks

The Contractor shall design and/or fabricate items required to adapt various C4ISR systems to a variety of installation platforms without being tasked to install the item being fabricated. Where design materials are chosen by the contractor, all such items shall be designed to withstand the installation environment identified in the Task Order for the amount of time specified in the Task Order. Unless otherwise specified in the individual Task Order, the design life shall be at least 15 years with minimal maintenance. Items destined for burial shall be designed to withstand the environment for at least 30 years. Examples of items that the Contractor could be tasked to fabricate are equipment/rack foundations, antenna mounts (e.g., for testing and evaluation), pier and other mobile platform connection boxes, and custom switches. Fabricated items shall be free of burrs and rough or sharp edges. All contractor designed fabricated items shall be provided with sufficient manufacturing engineering documentation per SPAWAR M-9810.1, Technical Data Package (TDP) Standard, to enable the item to be duplicated by any competent manufacturer:

- a. Technical Reports (CDRL A003B)
- b. Fabrication Drawing (CDRL A005C)
- c. Factory Acceptance Test Plan/Report (CDRL A012B)

3.8 Excess Material and Equipment Disposition

The Contractor shall remove all excess material and equipment from the work site, and stage the items in contractor furnished warehouse facilities prior to or at completion of individual Task Orders. Unless prior arrangements are made via the Task Order, the Contractor shall submit a Disposition Inventory List (CDRL A006A) outlining Government property/material along with a request form for Plant Clearance action to the cognizant Defense Contract Management Agency (DCMA) and COR within 15 days after completion of each task. After right of first refusal is waived by the COR, the Contractor shall coordinate with the DCMA Plant Clearance Officer for the disposition of excess material and equipment. Hazardous Material storage and disposal shall conform to federal, state, and local regulations and the requirements of this SOW. The Contractor shall also comply with any additional Hazardous Materials requirements of host activities such as military bases, foreign countries, etc.

3.9 Quality

3.9.1 Quality Management System

The Contractor shall provide and maintain a quality management system that meets ANSI/ISO/ASQ Q9001-2015: *Quality Management Systems Requirements Standard*. The quality management system (QMS) shall be accredited by an ANSI-ASQ National Accreditation Board (ANAB) accredited certification body. Upon contract award, the contractor shall possess an accreditation Certificate of Conformity to ISO 9001:2015. The quality system shall be documented and contain procedures, planning, and all other documentation and data necessary to provide an efficient and effective quality system. The quality system shall be made available to the Government for review at both a program and worksite services level during predetermined visits. Existing quality documents that meet the requirements of this contract may continue to be used. The Contractor shall also require all subcontractors to possess a quality assurance and control program commensurate with the services and supplies to be provided as determined by the contractor's internal audit system. The Government reserves the right to disapprove the contractor's and/or subcontractor's quality system or portions thereof where the quality system(s) fail(s) to meet contractual requirements at either the program or worksite services level.

3.9.2 Quality Control

The Contractor shall conduct quality control inspections as necessary in the performance of the various tasks as assigned and identified by the respective WBS, Plan of Action and Milestones (POA&M), or procedural quality system document.

3.9.3 Quality Assurance Records

The Contractor shall keep and maintain quality assurance records for the duration of the contract. This includes all test and inspection records. Original test and inspection results, including but not limited to written SOVT Test results recorded by the contractor (Cable Inspection Report (CDRL A013A), Report of SOVT Discrepancies (CDRL A013B), and SOVT (CDRL A013C)), shall be legible and in indelible ink. Erasures, write-overs, white-outs, ditto marks, continuation arrows, signature stamps, etc., are not acceptable on quality assurance, test and inspection records. Record and Certification signatures and initials shall be in indelible ink. Each signature and initial shall be accompanied by the legible name of the person represented printed by that person in indelible ink. The Contractor shall correct errors in record keeping by drawing a single line through the error, recording the correct entry, initialing, dating, and printing the name of the person making the correction.

3.9.3.1 Quality Assurance Documentation Availability

The Contractor shall provide to the Government a current Quality Manual and statements of quality policy and quality objectives in the Quality Management System (QMS) Documentation (CDRL A019). Copies of requested quality assurance records shall be provided to the Government as required to support investigations of quality problems and as required to support semi-annual Quality Assurance audits. Original documentation shall be available for examination within one (1) hour of the arrival of a Government representative at the location where the records are held. Copies shall be provided within

two (2) business days of receipt of notification that the records are required for investigations. Copies of Quality Assurance documentation requested to support semi-annual Quality Assurance Audits shall be provided within seven (7) days of request for the records. Quality Assurance Documentation includes, but is not limited to:

- a. All test and inspection records and procedures (Cable Inspection Report (CDRL A013A), Report of SOVT Discrepancies (CDRL A013B), and SOVT (CDRL A013C))
- b. Qualification records of electricians, welders, and other specialized trades and professions (CDRL A011A)
- c. All test and measuring equipment calibration records (CDRL A011B)

3.9.3.2 Support of Quality Assurance Audits

The Contractor shall provide interior work space at the contractor's main facility to support up to four (4) auditors for up to five (5) full working days during scheduled Quality Assurance Audits. The work space shall provide a quiet, clean, and comfortable working environment with lighting, seating, ventilation, heating, air-conditioning, and access to toilet facilities that is substantially equal to that provided to senior management personnel working at the facility. The work space shall include a minimum of six (6) square feet of usable open desk or conference room table space per auditor, adequate electrical power for four (4) laptop computers, a telephone line, and chairs similar to those used by office workers at the facility. Auditors shall be also provided with four (4) parking spaces that are within 300 feet of the main facility. Auditors shall be provided with the maximum possible access to the facility and its records during the audit period. This includes full access to the library or other locations where installation standards are held, full access to the locations where tools and test equipment are held, full access to painting and other shop locations, and full access to storage locations during the audit period. The Government will limit the amount of time spent in active work areas to the minimum amount of time needed for auditors to verify that the requirements of the SOW are being complied with. The Government will work with the contractor to avoid unnecessarily disrupting ongoing operations during the audit period. The Government will provide an audit schedule at least two (2) weeks prior to each event.

3.9.4 Contractor Quality Assurance Workbook

The Contractor shall develop a Quality Assurance Workbook (CDRL A011C) as specified in individual task orders.

3.9.5 Formal Corrective Action Responses and Root Cause Analysis

When the Contracting Officer or Ordering Officer notifies the contractor that a systemic or major quality assurance problem requires corrective action, the Contractor shall prepare a Formal Corrective Action Response (CDRL A011D) that addresses the problem and its root causes response shall be delivered to the Contracting Officer within seven (7) working days, shall provide root cause analysis information, and shall identify any preventive or corrective actions to be implemented by the Contractor with implementation schedule dates.

3.10 Safety

The Contractor shall be solely responsible for compliance with the Occupational Safety and Health Act (OSHA) (Public Law 91-596) and the resulting standards, OSHA Standard 29 CFR 1910 (general), and 1926 (shore), and for the protection, safety and health of their employees and any subcontractors assigned to the respective task orders under this contract. Contractor personnel working at shore installations shall be familiar with and shall follow all applicable safety guidance, including documentation requirements, in Section 7 and Appendix AC of the SIPH, and submit Miscellaneous Safety Documentation (CDRL A014) as required.

3.10.1 Accident Notification

The Contractor shall immediately verbally report any accidents (including fires) involving Government or contractor personnel injuries needing medical treatment or property/equipment damage affecting safety or operations to the FIO, Contracting Officer (PCO), and COR for incidents incurred during performance under this contract. All property damage and accidents shall be immediately reported to the cognizant OSGR or another Government representative identified in IMOTracker. In addition to the verbal notification, the Contractor shall submit via digitally signed and encrypted email one legible copy of a formal written report Miscellaneous Safety Documentation (CDRL A014) to the PCO and COR within 24 hours of each accident involving medical treatment, fire, or property/equipment damage that affects safety or operations or that the contractor will not repair within five days. The written report shall contain the name and ID number of each injured person, date and time of accident/fire, extent of each personal injury or property damage, contractor/subcontractor name, task order number, type of accident/fire, location of event (e.g., Base Name, Base Location, Command Occupying Building, Building Number, and Room Number), and a brief description of the event including occurrences leading up to the accident/fire. The Contractor shall ensure that all Privacy Act data (e.g., names and employee ID numbers) within these reports are accorded appropriate protection.

3.10.2 Shore Facilities Electrical Safety

The Contractor shall comply with the energy control (lockout/tagout) and other applicable safety requirements contained in UFC 3-560-01, *Electrical Safety, O & M*.

3.10.2.1 Safe Building Wiring Practices

The Contractor shall use safe wiring practices as defined in the SIPH Section 7 and Appendix AC. Bare wires shall not be left exposed and unattended. Bushings shall be used to cover the cut ends of flexible conduit prior to inserting wire or cable. Non-flexible conduit ends shall be reamed to eliminate burrs and sharp edges that could damage wires and cables. Likewise cable trays shall be free of burrs or sharp edges that could damage the cable insulation. All metallic conduit runs shall be terminated with a smooth insulated bushing to protect electrical wires and cables during installation. All building wiring shall meet the requirements of the most recent National Electrical Code available on the date of the Task Order. Wiring at Department of Defense Communications-Electronics facilities shall also meet the more stringent grounding requirements of MIL-STD-1 88-1 24B and its change notices. All unterminated electrical wiring that is unattended (e.g., left overnight after installers have gone home) shall be

clearly labeled at each end to indicate points of origin and termination (e.g., Power Panel and Circuit Breaker Identification).

3.10.2.2 Energized Work

The Contractor shall not perform any work on energized electrical circuits without being in possession of an Energized Work Permit, signed by the authority having jurisdiction, whenever such a permit is required by NFPA 70E. The Contractor shall provide the information needed to obtain the permit (CDRL A014) to the Authority Having Jurisdiction (AHJ) and the SPAWAR Project Engineer. A copy of the permit shall be posted as close as practical to the location or locations of the energized work. All such energized work at US Navy Facilities shall require written, job specific procedures approved, in writing, by the Commanding Officer/Executive Officer and considered necessary to support a critical mission, prevent human injury, or protect property.¹ (See UFC 3-560-01 for corresponding Air Force requirements.) In all instances of work on energized electrical circuits, workers shall be qualified for energized line work and all required protective equipment and special tools shall be available at the work site and used as required during the performance of the work.

3.10.2.3 Lockout and TagOut Procedures

Energized work shall be avoided except “when required to support a critical mission, prevent human injury, or protect property.”² Where energized work is not necessary, prior to working on any electrical power circuit, the Contractor shall follow the steps for placing a circuit in an Electrically Safe Work Condition contained in UFC 3-560-01. This process shall be fully coordinated with the SPAWAR Project Engineer prior to initiation. The Contractor shall apply the lockout/tagout program **with temporary grounding** to ensure that an appropriate ground potential is maintained as required by UFC 3-560-01. The Contractor shall provide any data needed to obtain a safe clearance form for locking out or tagging out circuits in accordance with the requirements of UFC 3-560-01. The Contractor shall provide the information needed to obtain the safe clearance form and annotate in Miscellaneous Safety Documentation CDRL A014 to the Authority Having Jurisdiction (AHJ) and the SPAWAR Project Engineer.

3.11 Clean-up

The Contractor shall be responsible, while performing tasks under this contract, for maintaining all work areas in a neat and orderly manner and for properly removing and disposing of all wastes daily in accordance with the SPAWAR SIPH. Waste material includes discarded packaging materials, cable scraps, removed sealants, and all other debris resulting from the installation. Due caution shall be exercised at all times and preventive measures employed to prevent dust, waste materials, or other contaminants from entering or damaging existing or new equipment. Upon completion of all work, the work area shall be left in a neat condition. Interior working areas shall be vacuumed daily and wireways cleaned of all debris upon completion of the contractor’s work. The Contractor shall be responsible for covering equipment as part of protection from dust and contaminants associated with work in an industrial environment.

¹ UFC 3-560-01, December 06, 2006 (with change 5) Section 1-5.1.1

² UFC 3-560-01, December 06, 2006 (with change 5), Section 8-1

3.11.1 Abandoned Cable

The Contractor shall be responsible, while performing tasks under this contract, for removing any cabling or wiring that is no longer connected to equipment or outlets (electrical, data, or phone) as a result of removing equipment or outlets under the task order.

3.12 Data Security

As a minimum, the Contractor shall handle all data received or generated under this contract as For Official Use Only (FOUO) material. The Contractor shall handle all classified information received or generated pursuant to the attached DD Form 254 and be in compliance with all applicable security references.

3.12.1 Effective Use of Controls

The Contractor shall screen all electronic deliverables or electronically delivered information for malicious code using DoD approved anti-virus software prior to delivery to the Government. The Contractor shall also use appropriate safeguards (firewalls, password protection, encryption, digital certificates, etc.) at all times to protect contract related information processed, stored or transmitted on the Contractor's and Government's computers/servers to ensure confidentiality, integrity, availability, authentication, and non-repudiation. The Contractor shall ensure provisions are in place that will safeguard all aspects of information operations pertaining to this contract in compliance with all applicable SOW references. In compliance with Section 6.1.1, Safeguards, the Contractor shall ensure Data-at-Rest is required on all portable electronic devices including storage of all types. Digital signing of communications is required for authentication and non-repudiation. Emails that contain sensitive/controlled information or enclosures shall be digitally signed and encrypted.

3.12.2 National Information Assurance Partnership (NIAP) Requirement

The Contractor shall ensure all products recommended and/or procured that impact cybersecurity or Information Assurance (IA) are selected from the National Information Assurance Partnership (NIAP) Validated Products List.³ The Contractor shall ensure the products selected are based on the appropriate Evaluated Assurance Level (EAL) for the network involved, and used in accordance with the latest Defense Information Systems Agency (DISA) policy at time of order. The Contractor shall store all product information and ensure it is available for Government review as required.

3.12.2.1 DON Application and Database Management System (DADMS)

The Contractor shall ensure that no Functional Area Manager (FAM) disapproved applications are integrated, installed or operational on Navy networks. The Contractor shall ensure that all databases that use database management systems (DBMS) designed, implemented, and/or hosted on servers and/or mainframes supporting Navy applications and systems be registered in DoN Application and Database Management System (DADMS) and are FAM approved. All integrated, installed, or operational applications hosted on Navy networks must also be registered in DADMS and approved by the FAM.

³This is to comply with DoDI 8500.2, Information Assurance (IA) Implementation, 2 Jun 2003.

No operational systems or applications shall be integrated, installed, or operational on the RDT&E network.

3.13 Task Order (TO) Completion

The Contractor shall submit a Task Order Completion Report (TOCR) for each Task Order as part of the Task Order completion process. The Contractor shall submit a completion invoice as follows:

- a. If the final cost/price of the task order does not change, a completion invoice shall be submitted within sixty (60) calendar days after the Government's acceptance of the TOCR.
- b. If the final cost/price of the task order changes, the Contractor shall submit a completion invoice within sixty (60) calendar days after the award of the modification resulting from the TOCR.

3.13.1 Task Order Completion Report (TOCR)

The Contractor shall post a completed Task Order Completion Report (CDRL A007) to the IMOTracker website for each task order within ninety (90) calendar days of the latter of the following two milestones: a) the end of the task order's period of performance, or b) after the final modification to fund all outstanding CORNs. The TOCR shall be segregated to show the actual final costs of each JID. The contractor shall not reallocate costs between JIDs. The Ordering Officer and COR shall be notified via email on the same day that the report is posted. All report data shall be submitted using the standard Microsoft Excel spreadsheet template for the report provided on IMOTracker (hereafter referred to as the "posted template"). The report shall include:

- a. A completely filled out "Cover" worksheet from the posted template containing a digital signature certifying that the contents of the entire spreadsheet are complete and accurate. The digital signature shall use a United States Government issued certificate unless another digital ID is approved in writing by the Ordering Officer. The signature shall be that of an employee who has been legally authorized to represent the contractor.
- b. A completely filled out "Costs by JID & WBS" worksheet from the posted template providing information for every task or subtask identified by a JID on the Task Order.
- c. A completely filled out "Deliverable Status" worksheet listing of all CDRL items ordered and status of all other deliverables. "Deliverables" are defined in Section 3.13.1.2.
- d. A completely filled out "Warranties" worksheet for each warranty provided. Each item provided with a warranty shall appear on the "Deliverable Status" worksheet with a Deliverable Item number that appears there and on the "Warranties" worksheet for the item.
- e. A completely filled out "Final Inventory List" worksheet (CDRL A006B) for each JID covered by the Task Order that has government furnished property that has not been consumed or installed during the installation. See Section 3.13.1.3 for detailed requirements for this list.

- f. If the final cost for any JID deviates (overrun or under run) from the target cost by more than three percent (3%) or \$15,000, whichever is less, a “Cost Analysis Report” shall be included within the TOCR. See Section 3.13.1.4 for detailed requirements for this report.
- g. A completely filled out WBS Actual Cost Report (CDRL A029). The Contractor shall use the WBS elements provided in Attachment 1, Table 3, to report cumulative final expenditures for each Task Order and for each JID (including JID associated CORNs) within the Task Order.

3.13.1.1 Financial Data

The TOCR shall include a statement on the cover sheet identifying the amount of funds received, any remaining funds, and balances available, if any, for return (de-obligation).

3.13.1.2 Deliverables

The term “deliverables” includes all CDRL items, all items with a warranty, and all active electronic equipment (e.g., Ethernet switches, routers, radio frequency transmitters, signal converters) purchased under the task order. The term “deliverables” also includes all government furnished equipment transferred to the contractor’s custody for delivery to an installation site under a task order. Deliverables do not include government furnished property that was delivered to the site and installed by the contractor, but that were never transferred to the contractor’s custody.

3.13.1.3 Government Property

The Contractor shall provide a Final Task Order Inventory List (CDRL A006B) where a Task Order results in excess government property. All items purchased by the contractor to directly support the task that do not meet the FAR definition for material are considered Contractor Acquired Property. Contractor-Acquired Property and Government-Furnished Property provided on a Task Order shall be consumed, installed, or returned to the Government as “excess government property”. For each JID with excess material, the Contractor shall complete a “Final Inventory List” worksheet of the Excel spreadsheet for the TOCR. The Contractor shall incorporate information and receipts obtained from the initial Disposition Inventory List covered by CDRL A006A. (See SOW Para. 3.8) The Contractor shall include on the inventory list the following minimum information for each excess government property item:

- a. Item Number (from the master parts list or bill of materials on the installation drawing (SID or IDP as-built) associated with the JID)
- b. Manufacturer or, if the Manufacturer is unknown, the Supplier of the item
- c. Manufacturer’s part number, if the manufacturer is known or the supplier’s part number if the manufacturer is unknown
- d. National Stock Number (NSN) for all items with a NSN
- e. Description of the item from the installation drawing parts list or a better multiple-word item description
- f. Quantity
- g. Unit of measure associated with the quantity. In most cases, this will be “EA” for “each”. See Note 1 below.
- h. Unit cost

- i. Condition of each item (i.e., Condition A, F, etc.). See Note 2 below.
- j. Disposition method (e.g. Returned to Program Office, Delivered to DRMO, etc.)
- k. An associated attachment number that will enable the government to quickly locate the paperwork proving the item was returned or properly disposed of. See Note 3 below.

Notes:

1. The abbreviations given for the unit of measure shall be one of the two-letter abbreviations used by the Navy Supply System and found in the Shore Installation Process Handbook (SIPH) Appendix Q1 (based on NAVSUP Publication 409, MILSTRIP MILSTRAP Desk Guide).
2. A complete list and definitions of supply condition codes may be found in Appendix 2.5 of DoD 4000.25-2-M, MILSTRAP Manual. See Appendix F of DoD 4140.27-M for a table for the “Application of Supply Condition Codes to Shelf-Life Items”.
3. Paperwork validating official receipt by the Government is required for returned items. The government reserves the right to require the contractor to provide a scanned copy of this paperwork in an Adobe Acrobat (PDF) file format sequenced by attachment number in lieu of or in addition to the actual paperwork. In these cases, the file name shall be part of the attachment number.

3.13.1.4 Cost Analysis Report

The Contractor shall include a Cost Analysis Report in the Task Order Completion Report for all TOs with a final JID cost that overruns or underruns the target cost for the same JID by more than three percent (3%) or \$15,000, whichever is less. The report shall include either a cost underrun explanation in accordance with Section 3.13.1.4.1 or an overrun explanation in accordance with Section 3.13.1.4.2. Report data shall be submitted using the “Cost Analysis” worksheet of the Excel spreadsheet for the TOCR.

3.13.1.4.1 Cost Underrun Explanation

Where the final cost underruns the target cost, the Cost Analysis Report shall explain the innovations or other factors that account for the cost savings.

3.13.1.4.2 Cost Overrun Explanation and Recommended Corrective Action

Where the final cost overruns the target cost, the Cost Analysis Report shall explain the circumstances leading to cost growth and recommended corrective or risk mitigation actions for future similar situations. The Cost Analysis Report does not alleviate the responsibility of the contractor to notify the PCO and COR upon discovery of any potential situation where the cost will exceed the target. At any time during task performance, the Contractor may request increase in target cost for unforeseen additional costs beyond their control. However, the new target cost cannot exceed the anticipated actual cost.

3.14 Planning & Design for Large Scale C4ISR Installation Projects

The Contractor shall perform planning and design activities for installation of electronic systems in large multi-sponsor, multi-system, shore C4ISR/IT projects. These projects could be C4ISR/IT integration projects for Military Construction (MILCON), Command Centers, Operations and Communications Centers, Training Centers, Data Centers,

Master Telecommunications Facilities, and other information centric facilities supporting the DoD mission. The process used and associated deliverables for these types of projects are defined in the SPAWAR Shore Installation Process Handbook (SIPH), Section 10 and associated SIPH appendices.

3.14.1 System Requirements

The Contractor shall perform a site assessment of the new or repurposed facility design and produce several initial project planning and design documents. From the information gathered during the assessment, review of SF1391s, and from end user interviews, several initial project deliverables are produced that progressively define in increasing detail the C4ISR requirements for the new facility and the project execution requirements. During this phase of the project, the Contractor shall produce the following document deliverables culminating with a System Requirements Review meeting usually conducted with SPAWAR and the end user leadership. As specified by individual Task Order, document deliverables may include:

- a. Site Assessment Report (CDRL A003F)
- b. Requirements Analysis Document (CDRL A003G)
- c. Capability Matrix (CDRL A003I)
- d. MILCON BESEP (CDRL A009C)
- e. Integrated Master Schedule (IMS) (CDRL A030)
- f. Project Management Plan (CDRL A004A)
- g. Resource-loaded Contract Work Breakdown Structure (CWBS) (CDRL A026)
- h. Task Order Progress and Status Report (CDRL A002), or Performance Reports (CDRL A015), or EVM reports as specified by Task Order
- i. Project Integrated Master Plan (IMP) (CDRL A022)
- j. System Requirements Review (SRR) meeting (CDRL A004B, CDRL A004C, and CDRL A010)

3.14.2 C4ISR/IT Integrated Systems Design

During the Integrated Systems Design phase of the project, the Contractor shall produce an integrated C4ISR/IT design for the new facility. This phase normally starts with MILCON project approval and ends with a NAVFAC/ACOE construction contract award. During this phase, SPAWAR works closely with NAVFAC/ACOE and their Architecture and Engineering (A&E) contractors in performing percent complete construction design reviews (usually at 30%, 60%, 90%, and design complete). Often these construction design reviews are referred to as design charrettes. During this phase SPAWAR must further define the C4ISR/IT system implementation requirements for both within and external to the facility. C4ISR/IT power, HVAC, facility ground, floor plans, Inside Plant (ISP) and Outside Plant (OSP) infrastructure, and other facility layout and C4ISR/IT required infrastructure requirements must be defined for implementation in the A&E design. During this phase of defining the integrated C4ISR/IT system and network infrastructure for the multi-system, multi-network facility, the Contractor shall produce or update some or all of the document deliverables and conduct some or all of the project gate review meetings as indicated below:

- a. Top Level Design Document (CDRL A004E)

- b. Functional Block Drawing (CDRL A005E)
- c. Functional Interface Drawing (CDRL A005F) “As-Is”
- d. Functional Interface Drawing (CDRL A005F) “Target”
- e. Requirements Analysis Document (CDRL A003G)
- f. Capability Matrix (CDRL A003I)
- g. MILCON BESEP (CDRL A009C)
- h. Project Integrated Master Plan (IMP) (CDRL A022)
- i. Resource-loaded Project Integrated Master Schedule (CDRL A030)
- j. Task Order Progress and Status Report (CDRL A002) or EVM Performance Reports (CDRL A015) as specified by Task Order
- k. Project Management Plan (A004A)
- l. Top Level Design Review meeting (CDRL A004B, CDRL A004C, and CDRL A010)
- m. System Design Review meeting (CDRL A004B, CDRL A004C, and CDRL A010)
- n. Critical Design Review meeting (CDRL A004B, CDRL A004C, and CDRL A010)

3.14.3 C4ISR/IT Systems Installation Design

During the C4ISR/IT System Installation Design phase of the project, the Contractor shall produce detailed and integrated Installation Design Plans (IDPs) for the suite of C4ISR/IT systems. This phase normally starts with facility construction and ends at a Beneficial Occupancy Date (BOD) when the facility construction team allows the C4ISR/IT installers access to the facility for installations of equipment to commence. During this phase 30% Integrated IDPs, 60% Integrated IDPs, and 100% Integrated IDPs is produced. Additionally a Project Quality Plan, Project Integrated Logistic Support Summary, Project Certification and Accreditation Plan, Facility Transition and Cutover Plan, Test/SOVT Plan, and Platform SOVT documents are normally produced during this phase. Project Control Reports and/or EVM reports usually continue during this project phase as well. The Contractor shall produce some or all of the document deliverables and conduct some or all of the project gates associated with this phase of the project as defined below. At the completion of this phase, installations of C4ISR/IT systems will commence and the contractor may be tasked with providing installation execution services following the requirements specified in Section 3 of this SOW:

- a. 30% Integrated IDP (CDRL A005G)
- b. 60% Integrated IDP (CDRL A005G)
- c. 100% Integrated IDP (CDRL A005G)
- d. Quality Assurance Workbook (CDRL A011C)
- e. User Logistic Support Summary (CDRL A004F)
- f. Certification and Accreditation Plan (CDRL A004G)
- g. Facility Transition and Cutover Plan (CDRL A003H)
- h. Platform SOVT documents (CDRL A012A, CDRL A013B, and CDRL A013C)
- i. Task Order Progress and Status Report (CDRL A002) or EVM Performance Reports (CDRL A015) as specified by Task Order
- j. Preliminary Installation Design Review (PIDR) meeting (CDRL A004B, CDRL A004C, and CDRL A010)

- k. Final Installation Design Review (FIDR) meeting (CDRL A004B, CDRL A004C, and CDRL A010)
- l. Installation Readiness Review (IRR) meeting (CDRL A004B, CDRL A004C, and CDRL A010)

4.0 FACILITY REQUIREMENTS

Effective technical performance of this contract requires immediate response from the contractor, and, therefore necessitates frequent communication with SPAWAR technical personnel. The contractor team shall have a permanent contractor warehouse and fabrication facilities within a 30-mile radius of at least one of the following sites, and a permanent furnished office in each Area of Responsibility (AOR).

- a. Space and Naval Warfare Systems Center Atlantic (SSC LANT) facilities in Charleston, SC
- b. Space and Naval Warfare Systems Center Atlantic (SSC LANT) facilities in Norfolk, VA
- c. Space and Naval Warfare Systems Center Pacific (SSC PAC) facilities in San Diego, CA
- d. Space and Naval Warfare Systems Center Pacific (SSC PAC) facilities in Pearl Harbor, HI

4.1 Permanent Facilities

The Contractor's facility shall be capable of performing the work requirements in this SOW within 60 days after contract award. Examples of Contractor facility capabilities are:

- a. Provide sufficient environmentally controlled spaces for personnel, documents, and equipment, as appropriate, to support the functions of this contract. Document and Material Storage areas shall be organized so that storage locations are clearly and logically labeled in a sequential manner that is consistent with the database used to track and report on the material used to support this contract. The areas shall be accessible to the Government during audits.
- b. Have provisions for generation and secure storage of and timely access to classified (up to and including SECRET) documentation and material.
- c. Be physically secure to prevent unauthorized access to classified material or Government equipment and material.
- d. Provide telephone, email, and high-speed Internet service for all design and management personnel. The Contractor shall have broadband Internet connectivity and an industry standard email system for communication with the Government. The Contractor shall be capable of Public Key Infrastructure (PKI) client side authentication to DOD private web servers. All key personnel on contract shall be accessible by email and cell phone through individual accounts during all working hours.
- e. Be properly outfitted with necessary equipment/hardware/software (including Microsoft Office, Microsoft Project, and AutoCAD) to accomplish routine office procedures, develop project plans, develop and print (A, B, C, D, and F size) drawings, and produce reports.

- f. Be outfitted for warehouse storage and staging of system equipment, installation materials including racks and cabinets, and programmatic assets.
- g. Be outfitted for storage, issuance and control, and staging of tools and test equipment.
- h. Provide environmentally controlled and well lighted workbench space designed for testing, inspection, repair, modification, assembly, and installation of electronic equipment.
- i. Contain paint booths for painting and powder coating that meet Federal, state, and local environmental requirements.
- j. Contain a fabrication shop with a drill press, sheet metal brakes, power cold saw and band saw, welding equipment, grinders, belt sanders, iron worker, and other appropriate machine tools.
- k. Be capable of providing embossed metal cable tags, wire markers, photosensitive aluminum and laminated plastic engraved identification plates on a quick reaction basis.
- l. Possess immediate access (physical or electronic) to all standards listed in this SOW or addressed in Appendix AC of the Shore Installation Process Handbook (SIPH).

5.0 DOCUMENTATION AND DELIVERABLES

5.1 CDRLs

The Contractor shall prepare the required documentation in accordance with the requirements on the Task Order and the requirements provided in the appropriate Contract Data Requirements List (CDRL). The CDRLs that apply to this SOW are shown in Table 2.

Table 2 – CDRLs

CDRL Number	Type Document	Corresponding Contract Reference
A002	Task Order (TO) Progress and Status Report	3.14.1, 3.14.2, 3.14.3
A003A	Change Order Request Notification (CORN)	3.1.9
A003B	Technical Reports	3.1.12, 3.7
A003C	Shore Site Survey	3.3.1
A003D	Installation Completion Report (ICR)	3.5.4, 3.5.5.5
A003E	Failure and Corrective Action Report	3.6, 3.6.1
A003F	Site Assessment Report	3.14.1
A003G	Requirements Analysis Document	3.14.1, 3.14.2
A003H	Facility Transition and Cutover Plan	3.14.3
A003I	Capability Matrix	3.14.1, 3.14.2
A004A	Project Management Plan	3.1.2, 3.14.1, 3.14.2
A004B	Agenda	3.1.1, 3.14.1, 3.14.2, 3.14.3
A004C	Project Status Brief	3.1.1, 3.14.1, 3.14.2, 3.14.3
A004D	Trip Report	3.1.11
A004E	Top Level Design Document	3.14.2
A004F	Users Logistics Support Summary	3.14.3
A004G	Project Accreditation Plan	3.14.3
A005A	Installation Requirements Drawing (IRD)	3.3.2
A005B	Installation Design Plan (IDP)	3.3.2, 3.5.5.2
A005C	Fabrication Drawing	3.7
A005D	Shore As-Built Drawings	3.5.5.3, 3.5.5.4
A005E	Functional Block Drawing	3.14.2
A005F	Functional Interface Drawings	3.14.2
A005G	30%, 60%, 100% Integrated IDP	3.14.3
A006A	Disposition Inventory List	3.8, 3.13.1.3
A006B	Final Task Order Inventory List	3.13.1, 3.13.1.3
A006C	CDMD-OA Documentation	3.5.5.1
A006D	Installation Bill of Materials	3.3.4
A007	Task Order Completion Report	3.13.1
A009A	Base Electronic System Engineering Plan (BESEP)	3.3.2
A009B	Training System Installation Plan (TSIP)	3.3.2
A009C	MILCON BESEP	3.14.1, 3.14.2
A010	Meeting Minutes	3.1.1, 3.1.10, 3.14.1, 3.14.2, 3.14.3
A011A	Qualification Records	3.9.3.1
A011B	Test and Measuring Equipment Calibration Records	3.9.3.1
A011C	Quality Assurance Workbook	3.2.2.2, 3.9.4, 3.14.3
A011D	Formal Corrective Action Response	3.9.5

CDRL Number	Type Document	Corresponding Contract Reference
A011E	Installation Design Plan (IDP) Quality Assurance Checklist	3.3.2
A012A	System Operational Verification Test (SOVT) Plan	3.3.3, 3.14.3
A012B	Factory Acceptance Test Plan/Report	3.7
A013A	Cable Inspection Report	3.5.1, 3.9.3, 3.9.3.1
A013B	Report of SOVT Discrepancies	3.5.2, 3.9.3, 3.9.3.1, 3.14.3
A013C	SOVT	3.5.3, 3.9.3, 3.9.3.1, 3.14.3
A014	Miscellaneous Safety Documentation	3.10, 3.10.1, 3.10.2.2, 3.10.2.3
A015	Performance Report	3.1.6, 3.14.1, 3.14.2, 3.14.3
A016A	Software Configuration Files	3.5.5.6
A016B	Firmware Configuration Files	3.5.5.7
A018	Shore Production Schedule	3.1.13
A019	Quality Management System (QMS) Documentation	3.9.3.1
A020	Site Preparation Specifications	3.3.2
A021	Daily Status Report	3.1.4
A022	Project Integrated Master Plan (IMP)	3.3.2, 3.14.1, 3.14.2
A023A	Monthly Contract Status Report	3.3.6, 3.4.1, 3.4.2
A023B	Cybersecurity Workforce (CSWF) Report	3.2.2.2
A024	Integrated Program Management Report (IPMR)	3.1.7, 3.1.7.2.4, 3.1.7.2.5
A025	Integrated Baseline Review (IBR)	3.1.7.2.2
A026	Contract Work Breakdown Structure (CWBS)	3.1.7.2.6, 3.14.1
A027	Contract Funds Status Report (CFSR)	3.1.7.2.7
A028	Cost Estimate WBS Report	3.1.6, 3.1.8, 3.1.9.3
A029	WBS Actual Cost Report	3.13.1
A030	Project Integrated Master Schedule	3.1.3, 3.14.1, 3.14.2

5.2 ELECTRONIC FORMAT

At a minimum, the Contractor shall provide deliverables electronically by email; hard copies are only required if requested by the government. To ensure information compatibility, the Contractor shall guarantee all deliverables (i.e., CDRLs), data, correspondence, and etc., are provided in a format approved by the receiving government representative. The Contractor shall provide all data in an editable format compatible with SPAWAR/SSC LANT/SSC PAC corporate standard software configuration as specified below. Contractor shall conform to SPAWAR/SSC LANT/SSC PAC corporate standards within 30 days of contract award unless otherwise specified. *The initial or future upgrades costs of the listed computer programs are not chargeable as a direct cost to the government.*

Table 3 – Electronic format of deliverables

	Deliverable	Software to be used
a.	Word Processing	Microsoft Word
b.	Technical Publishing	PageMaker/Interleaf/SGML / MSPublisher
c.	Spreadsheet/Graphics	Microsoft Excel
d.	Presentations	Microsoft PowerPoint
e.	2-D Drawings/ Graphics/Schematics (new data products)	Vector (CGM/SVG)
f.	2-D Drawings/ Graphics/Schematics (existing data products)	Raster (CAL S Type I, TIFF/BMP, JPEG, PNG)
g.	Scheduling	Microsoft Project
h.	Computer Aided Design (CAD) Drawings	AutoCAD/Visio
i.	Geographic Information System (GIS)	ArcInfo/ArcView

6.0 CONTRACTOR INFORMATION SYSTEM

The Contractor shall have broadband Internet connectivity and an industry standard email system for communication with the Government. The Contractor shall be capable of Public Key Infrastructure client side authentication to DOD private web servers. Unless otherwise specified, all key personnel on contract shall be accessible by email through individual accounts during all working hours. Key personnel shall have full email capability while on travel through secure (through a commercial VPN system) remote access services.

6.1 Information Security

Pursuant to DoDM 5200.01, the Contractor shall provide adequate security for all unclassified DoD information passing through non-DoD information system including all subcontractor information systems used on contract. The Contractor shall disseminate unclassified DoD information within the scope of assigned duties and with a clear expectation that confidentiality is preserved. Examples of such information include the following: non-public information provided to the contractor, information developed during the course of the contract, and privileged contract information (e.g., program schedules, contract-related tracking).

6.1.1 Safeguards

The Contractor shall protect government information and shall provide compliance documentation validating they are meeting this requirement in accordance with DFARS Clause 252.204-7012. The Contractor and all subcontractors shall abide by the following safeguards:

- a. Do not process DoD information on public computers (e.g., those available for use by the general public in kiosks or hotel business centers) or computers that do not have access control.
- b. Protect information by at least one physical or electronic barrier (e.g., locked container or room, login and password) where not under direct individual control.
- c. Sanitize media (e.g., overwrite) before external release or disposal.

- d. Encrypt all information that has been identified as controlled unclassified information (CUI) where stored on mobile computing devices such as laptops, personal digital assistants, cell phones, or removable storage media such as portable hard drives and digital optical disks, using DoD Authorized Data-at-Rest encryption technology. NOTE: Thumb drives are not authorized for DoD work, storage, or transfer. Use GSA Awarded DAR solutions (GSA # 10359) complying with ASD-NII/DOD-CIO Memorandum, "Encryption of Sensitive Unclassified Data-at-Rest on Mobile Computing Devices and Removable Storage." The Contractor shall ensure all solutions meet FIPS 140-2 compliance requirements.
- e. Limit information transfer to subcontractors or teaming partners with a need to know and a commitment to at least the same level of protection.
- f. Transmit email, text messages, and similar communications using technology and processes that provide the best level of privacy available, given facilities, conditions, and environment. Examples of recommended technologies or processes include closed networks, virtual private networks, public key-enabled encryption, and Transport Layer Security (TLS). Encrypt organizational wireless connections and use encrypted wireless connections where available when traveling. If encrypted wireless is not available, encrypt application files (e.g., spreadsheet and word processing files), using at least application-provided password protection level encryption.
- g. Transmit voice and fax transmissions only where there is a reasonable assurance that access is limited to authorized recipients.
- h. Do not post DoD information to website pages that are publicly available or have access limited only by domain or Internet protocol restriction. Such information may be posted to website pages that control access by user identification or password, user certificates, or other technical means and provide protection via use of TLS or other equivalent technologies. Access control may be provided by the intranet (vice the website itself or the application it hosts).
- i. Provide protection against computer network intrusions and data exfiltration, minimally including the following:
 - 1. Current and regularly updated malware protection services, e.g., anti-virus, anti-spyware.
 - 2. Monitoring and control of inbound and outbound network traffic as appropriate (e.g., at the external boundary, sub-networks, individual hosts) including blocking unauthorized ingress, egress, and exfiltration through technologies such as firewalls and router policies, intrusion prevention or detection services, and host-based security services.
 - 3. Prompt application of security-relevant software patches, service packs, and hot fixes.
- j. As applicable, comply with other current Federal and DoD information protection and reporting requirements for specified categories of information (e.g., medical, critical program information (CPI), personally identifiable information, export controlled).
- k. Report loss or unauthorized disclosure of information in accordance with contract or agreement requirements and mechanisms.

6.1.2 Compliance

Pursuant to DoDM 5200.01, the Contractor shall include in their quality processes procedures that are compliant with information security requirements.

7.0 SECURITY REQUIREMENTS

This contract and any task orders issued shall be limited to General Service (GENSER) Top Secret. However, the attached DD Form 254 includes access to Sensitive Compartmented Information (SCI) that is limited to unescorted access to Government SCI Facilities (SCIFs) only. Any tasks requiring substantial access to SCI will be processed via a separate contract. Personnel shall possess the minimum clearance requirements contained in the contract Personnel Qualifications requirements. Additional personnel security clearance requirements or requirements for access to classified material will be specified in individual task orders. Where a task requires access to classified (i.e., CONFIDENTIAL, SECRET, or TOP SECRET) data, information, and spaces, the Contractor shall only assign personnel with appropriate security clearances to the task or portion of the task requiring access. TOP SECRET Sensitive Compartmented Information (TS/SCI) security clearance requirements are covered in Section 7.3 of this SOW.

The Contractor shall conform to the security provisions of the latest version of DoDI 5220.22/DoD 5220.22-M – National Industrial Security Program Operating Manual (NISPOM), SECNAVINST 5510.30, DoD 8570.01-M, and the Privacy Act of 1974. Classified information released to industry shall be safeguarded in accordance with DoDI 5220.22. Controlled Unclassified Information (CUI) shall be identified and safeguarded consistent with the requirements of *Executive Order 13556, Controlled Unclassified Information (CUI)*, November 4, 2010 and DoD 5200.01M. This is required by DODI 5200.01. (Note: The designation CUI replaces the term “sensitive but unclassified” (SBU). See DoDI 5200.01, April 21, 2016.) Any security violation shall be reported immediately to the respective Government Project Manager.

The Contractor shall employ personnel that possess and can maintain appropriate security clearances at the appropriate level(s). Prior to any labor hours being charged on contract, the Contractor shall ensure all personnel (including administrative and subcontractor personnel) have obtained and can maintain favorable background investigations at the appropriate level(s) for access required for the contract/task order, and if applicable, are certified/credentialed for the Cybersecurity Workforce (CSWF). A favorable background determination is determined by either a National Agency Check with Inquiries (NACI), National Agency Check with Law and Credit (NACLC), or Single Scope Background Investigation (SSBI) and favorable Federal Bureau of Investigation (FBI) fingerprint checks. Investigations are not necessarily required for personnel performing unclassified work who do not require access to government installations/facilities, government IT systems and IT resources, or SPAWAR information.

Cost to meet these security requirements is not directly chargeable to the contract or a task order.

7.1 Access Control of Contractor Personnel

7.1.1 Physical Access to Government Facilities and Installations

Contractor personnel shall physically access government facilities and installations for purposes of site visitation, supervisory and quality evaluation, work performed within government spaces (either temporary or permanent), or meeting attendance. Individuals supporting these efforts shall comply with the latest security regulations applicable to the government facility/installation. The majority of government facilities require contractor personnel to have an approved visit request on file at the facility/installation security office prior to access.

7.1.2 Submittal of Security Clearance Information for US Locations

The Contractor shall submit a completed OPNAV Form 5521 (filled out in its entirety) to include providing full SSN (for JPAS verification) for each employee who will require access to installation sites or SPAWAR facilities in the U.S. For installation site visits within the US, the Contractor shall be responsible for forwarding the required visit request information to the appropriate site security office and to the local Regional Shore Installation Manager (RSIM) at least 30 days prior to the scheduled arrival date.

7.1.3 Submittal of Security Clearance Information for Tasks Outside of the US

The Contractor shall submit a completed OPNAV Form 5521 (filled out in its entirety) to include providing full SSN (for JPAS verification) for each employee who will require access to Department of Defense or Department of Homeland Security installation sites or SPAWAR facilities overseas. Visit requests for installations outside of the US will be handled per the requirements in the individual task orders. If foreign travel is required, all outgoing Country/Theater clearance message requests shall be submitted to the SSC Pacific Foreign Travel Team, (OTC Building 2, Room 1656), for action unless direction to use another SPAWAR Foreign Travel Team or Travel office is provided in the task order. A *Request for Foreign Travel* form shall be submitted for each traveler, in advance of the travel, to initiate the release of a clearance message at least 40 days in advance of departure. Each traveler to a foreign country must also submit a *Personal Protection Plan* and shall have had a Level 1 Antiterrorism/Force Protection briefing within one year of departure and a country specific briefing within 90 days of departure. In addition, the Contractor shall notify the RSIM at least 30 days prior to scheduled arrival.

7.2 Classified Materials Handling

The Contractor shall verify that classified equipment removed as part of an installation effort as well as all classified documents are marked or tagged and safeguarded at all times in accordance with the National Industrial Security Program Operating Manual (DOD 5220.22-M).

7.3 Requirements for TS/SCI Clearances

Within 90 days of contract award, the Contractor will be tasked to request TS/SCI clearances for the number of skilled installation personnel sufficient to meet task order requirements; no fewer than two per Contractor. They shall be available for worldwide assignment and be available to arrive at any US military facility within two weeks' notice

and must be able to stay at remote locations for up to four weeks at a time. Some of the individual task orders issued against this contract will require personnel having Top Secret (TS) clearances that have been the subject of a Single Scope Background Investigation (SSBI) and are eligible for access to Sensitive Compartmented Information (SCI). Prior to starting work on these tasks, Contractor personnel shall have the required clearance granted by the Department of Defense Consolidated Adjudications Facility (DoD CAF) and shall comply with IT access authorization requirements. In addition, Contractor personnel shall possess the appropriate IT level of access for the respective tasks and position assignment as defined in paragraph 7.4.3.

7.4 Control of Contractor Personnel

7.4.1 Site Security

The Contractor shall comply with site security regulations. All persons engaged in work while on Government property shall be subject to inspection of their vehicles at any time by the Government, and shall report any known or suspected security violations to the Security Department at that location.

7.4.2 Common Access Card (CAC) Requirements

Some government facilities/installations (e.g., Joint Base Charleston) require contractor personnel to have a Common Access Card (CAC) for physical access to the facilities or installations. Contractors supporting work that requires access to any DoD IT/network also requires a CAC. Granting of logical and physical access privileges remains a local policy and business operation function of the local facility. The Contractor is responsible for obtaining the latest facility/installation and IT CAC requirements from the applicable local Security Office. When a CAC is required to perform work, Contractor personnel shall be able to meet all of the following security requirements prior to work being performed:

- a. Pursuant to DoD Manual (DoDM-1000.13-M-V1), issuance of a CAC is based on the following four criteria:
 1. eligibility for a CAC – to be eligible for a CAC, Contractor personnel’s access requirement shall meet one of the following three criteria: (a) individual requires access to multiple DoD facilities or access to multiple non-DoD Federal facilities on behalf of the government on a recurring bases for a period of 6 months or more, (b) individual requires both access to a DoD facility and access to DoD network on site or remotely, or (c) individual requires remote access to DoD networks that use only the CAC logon for user identification.
 2. verification of DoD affiliation from an authoritative data source – CAC eligible personnel must be registered in the Defense Enrollment Eligibility Reporting Systems (DEERS) through either an authoritative personnel data feed from the appropriate Service or Agency or Trusted Associated Sponsorship System (TASS) (formally Contractor Verification System (CVS)).
 3. completion of background vetting requirements according to FIPS PUB 201-2 and DoD Regulation 5200.2-R – at a minimum, the completion of Federal Bureau of Investigation (FBI) fingerprint check with favorable results and

submission of a National Agency Check with Inquiries (NACI) investigation to the Office of Personnel Management (OPM), or a DoD-determined equivalent investigation. NOTE: Contractor personnel requiring logical access shall obtain and maintain a favorable National Agency Check with Law and Credit (NACLC) investigation. Contractor personnel shall contact the SPAWAR/SSC Atlantic/SSC Pacific Security Office to obtain the latest CAC requirements and procedures.

4. verification of a claimed identity – all Contractor personnel shall present two forms of identification in its original form to verify a claimed identity. The identity source documents must come from the list of acceptable documents included in Form I-9, OMB No. 115-0136, Employment Eligibility Verification. Consistent with applicable law, at least one document from the Form I-9 list must be a valid (unexpired) State or Federal Government-issued picture identification (ID). The identity documents will be inspected for authenticity, scanned, and stored in the DEERS.
 - b. When a contractor requires logical access to a government IT system or resource (directly or indirectly), the required CAC will have a Public Key Infrastructure (PKI). A hardware solution and software (e.g., ActiveGold) is required to securely read the card via a personal computer. Pursuant to DoDM 1000.13-M-V1, CAC PKI certificates will be associated with an official government issued email address (e.g. .mil, .gov, .edu). Prior to receipt of a CAC with PKI, Contractor personnel shall complete the mandatory Cybersecurity Awareness training and submit a signed System Authorization Access Request Navy (SAAR-N) form to the contract's designated COR. Note: In order for personnel to maintain a CAC with PKI, each Contractor employee shall complete annual cybersecurity training. The following guidance for training and form submittal is provided; however, contractors shall seek latest guidance from their appointed company Security Officer. Company Security Officers shall obtain latest guidance from the designated contract COR.
 1. For annual DoD Cybersecurity/IA Awareness training, contractors shall use this site: <https://twms.navy.mil/>. Those contractors requiring initial training and do not have a CAC, shall contact their appointed company Security Officer for guidance. Training can be taken online at <http://iase.disa.mil/index2.html>.
 2. For SAAR-N form, the Contractor shall use OPNAV 5239/14 (Rev 9/2011). Contractors can obtain a form from the website: <https://navalforms.documentservices.dla.mil/>. Digitally signed forms will be routed to the contract's designated COR via encrypted email.

7.4.3 IT Position Categories

Pursuant to DoDI 8500.01, DoD 8570.01-M, SECNAVINST 5510.30, SECNAV M-5239.2, and applicable to unclassified DoD information systems, a designator is assigned to certain individuals that indicates the level of IT access required to execute the responsibilities of the position based on the potential for an individual assigned to the position to adversely impact DoD missions or functions. As defined in DoD 5200.2-R, SECNAVINST 5510.30 and SECNAV M-5510.30, three basic DoN IT levels/Position categories exist:

- IT-I (Privileged access)
- IT-II (Limited Privileged, sensitive information)
- IT-III (Non-Privileged, no sensitive information)

Note: The term IT Position is synonymous with the older term Automated Data Processing (ADP) Position (as used in DoD 5200.2-R, Appendix 10).

Investigative requirements for each category vary, depending on the role and whether the individual is a U.S. civilian contractor or a foreign national. The Contractor PM shall assist the Government Project Manager or COR in determining the appropriate IT Position Category assignment for all contractor personnel. All required Single-Scope Background Investigation (SSBI), SSBI Periodic Reinvestigation (SSBI-PR), and National Agency Check (NAC) adjudication will be performed Pursuant to DoDI 8500.01 and SECNAVINST 5510.30. IT Position Categories are determined based on the following criteria:

7.4.3.1 IT-I Level (Privileged)

Positions in which the Contractor is responsible for the planning, direction, and implementation of a computer security program; major responsibility for the direction, planning and design of a computer system, including the hardware and software; or, can access a system during the operation or maintenance in such a way, and with a relatively high risk for causing grave damage, or realize a significant personal gain. Personnel whose duties meet the criteria for IT-I Position designation require a favorably adjudicated SSBI or SSBI-PR. The SSBI or SSBI-PR shall be updated a minimum of every 5 years. Assignment to designated IT-I positions requires U.S. citizenship unless a waiver request is approved by CNO.

7.4.3.2 IT-II Level (Limited Privileged)

Positions in which the Contractor is responsible for the-direction, planning, design, operation, or maintenance of a computer system, and whose work is technically reviewed by a higher authority at the IT-II Position level to insure the integrity of the system. Personnel whose duties meet the criteria for an IT-II Position require a favorably adjudication of a Position of Trust National Agency Check with Law and Credit (PT/NACLC). Assignment to designated IT-II positions requires U.S. citizenship unless a waiver request is approved by CNO.

7.4.3.3 IT-III Level (Non-privileged)

All other positions involved in computer activities. Contractor in this position has non-privileged access to one or more DoD information systems/applications or database to which they are authorized access. Personnel whose duties meet the criteria for an IT-III Position designation require a favorably adjudication of a Position of Trust National Agency Check with Written Inquiries (PT/NACI).

7.4.4 Security Training

Regardless of the contract security level required, the Contractor shall be responsible for verifying applicable personnel (including subcontractors) receive all required training.

At a minimum, the Contractor's designated Security Officer shall track the following information: security clearance information; dates possessing Common Access Cards; issued & expired dates for SPAWAR badges; Cybersecurity training; Privacy Act training; Personally Identifiable Information (PII) training; Cybersecurity Workforce (CSWF) certifications; etc. The Contractor shall educate employees on the procedures for the handling and production of classified material and documents, and other security measures as described in the SOW in accordance with DoD 5220.22-M.

7.4.5 Handling of Personally Identifiable Information (PII)

When a contractor, including any subcontractor, is authorized access to Personally Identifiable Information (PII), the Contractor shall complete annual PII training requirements and comply with all privacy protections under the Privacy Act (Clause 52.224-1 and 52.224-2). The Contractor shall safeguard PII from theft, loss, and compromise. The Contractor shall transmit and dispose of PII in accordance with the latest DON policies. The Contractor shall not store any government PII on their personal computers. The Contractor shall mark all developed documentation containing PII information accordingly in either the header or footer of the document: "FOUO – Privacy Sensitive. Any misuse or unauthorized disclosure may result in both criminal and civil penalties." Any unauthorized disclosure of privacy sensitive information through negligence or misconduct can lead to contractor removal or contract termination depending on the severity of the disclosure. Upon discovery of a PII breach, the Contractor shall immediately notify the Ordering Officer and COR. Contractors responsible for the unauthorized disclosure of PII shall be held accountable for any costs associated with breach mitigation, including those incurred as a result of having to notify personnel.

8.0 OPERATIONAL SECURITY (OPSEC) REQUIREMENTS

Security programs are oriented towards protection of classified information and material. Operations Security (OPSEC) is an operations function which involves the protection of any critical information – focusing on unclassified information that may be susceptible to adversary exploitation. Pursuant to DoDD 5205.02E and SPAWARINST 3432.1, SPAWAR's OPSEC program implements requirements in DoD 5205.02-M – OPSEC Program Manual. Note: OPSEC requirements are applicable where contract personnel have access to either classified information or unclassified Critical Program Information (CPI)/sensitive information.

8.1 Local and Internal OPSEC Requirement

Contractor personnel, including subcontractors if applicable, shall adhere to the OPSEC program policies and practices as cited in the SPAWARINST 3432.1 and existing local site OPSEC procedures. The Contractor shall develop an internal OPSEC program specific to the contract and based on SPAWAR OPSEC requirements. The Contractor shall protect Government designated critical information and critical information generated by the contractor in accordance with the OPSEC attachment to the DD Form 254. The Contractor shall use the guidance provided in the OPSEC attachment to the DD Form 254 to determine if the contractor will generate or use critical information. The Contractor shall ensure that procedures for protecting OPSEC information are documented and followed.

8.2 OPSEC Training

The Contractor shall track and ensure applicable personnel receive initial and annual OPSEC awareness training. Online OPSEC training may be obtained from <https://twms.navy.mil/>. OPSEC training requirements are applicable for personnel during their entire term supporting SPAWAR contracts.

Attachment 1

Work Breakdown Structure

TABLE 1: WBS Hierarchy

This attachment provides a WBS table with work element descriptions. WBS elements required for reporting will be specified by the individual Task Order.

Notes:

- (a) There are WBS numbers that are missing from this WBS List and Dictionary. This is intentional to enable use of a common WBS across multiple task orders. Do not renumber the WBS elements due to any missing numbers.
- (b) Refer to the definitions in Table 2 for these WBS elements.

	WBS	SP Type	Quantity	Labor Hrs	Labor \$	Material \$	Travel \$	ODC \$	Total \$
10.1	Planning & Design for Typical C4ISR Installation Project								
10.1.1	Installation Design POA&M Development								
10.1.2	Site Survey / Shipcheck Design								
10.1.3	Site Survey Report / Shipcheck Design Report								
10.1.4	Base Electronic Systems Engineering Plan (BESEP) Development								
10.1.5	Training System Installation Plan (TSIP) Development								
10.1.6	Installation Design Plan (IDP) Development / Ship Installation Drawing (SID) Development								
10.1.7	Platform SOVT Development								
10.1.8	On-The-Job Training (OJT) Material Development								

	WBS	SP Type	Quantity	Labor Hrs	Labor \$	Material \$	Travel \$	ODC \$	Total \$
10.1.9	Other								
10.2	Planning & Design for Large Scale C4ISR Installation Projects (e.g., MILCON & Site Relocation Projects)								
10.2.1	System Requirements Review (gate review)								
10.2.1.1	Site Assessment								
10.2.1.2	Site Assessment Report								
10.2.1.3	Program Management Plan								
10.2.1.4	Requirements Analysis Document (RAD)								
10.2.1.5	Capabilities Matrix								
10.2.1.6	Resource Loaded Work Breakdown Structure (RL-WBS)								
10.2.1.7	MILCON BESEP								
10.2.1.8	Integrated Master Plan (IMP) (commonly named "Placemat")								
10.2.2	Top Level Design Review (gate review)								
10.2.2.1	Resource Loaded - Integrated Master Schedule (RL-IMS)								
10.2.2.2	Project Controls Report								
10.2.2.3	Earned Value Management (EVM) Performance Report								
10.2.2.4	Top Level Design Document								
10.2.3	System Design Review (gate review)								
10.2.3.1	Functional Interface Diagram (FID) "As-Is"								
10.2.4	Critical Design Review / Design Lock (gate review)								
10.2.4.1	FID "Target"								
10.2.4.2	Project Configuration Management Plan								
10.2.5	Preliminary Installation Design Review (gate review)								

	WBS	SP Type	Quantity	Labor Hrs	Labor \$	Material \$	Travel \$	ODC \$	Total \$
10.2.5.1	30% Integrated IDP								
10.2.5.2	Project Integrated Logistic Support Summary								
10.2.5.3	Project Certification & Accreditation Plan								
10.2.5.4	Transition & Cutover Plan								
10.2.5.5	Test/SOVT Plan								
10.2.5.6	Quality Plan								
10.2.6	60% Integrated IDP								
10.2.7	Final Installation Design Review (gate review)								
10.2.7.1	100% Integrated IDP								
10.2.7.2	Approved Platform SOVT(s)								
10.2.8	Other								
10.3	Pre-Installation								
10.3.1	Production POA&M Development								
10.3.2	Material Procurement								
10.3.3	Pre-installation Fabrication, Testing, Staging								
10.3.3.1	Cable Fabrication and Testing								
10.3.3.2	Cabinet Assembly								
10.3.3.3	Cabinet Foundation								
10.3.3.4	Specialized Supporting Hardware (e.g., mounting hardware, cableway, antenna tower/platform)								
10.3.3.5	Specialized Equipment (Fabrication/Modification)								
10.3.3.6	HVAC Mod								
10.3.3.7	Pre-Installation Test and Checkout (PITCO) Reports								
10.3.3.8	Material Staging and Shipping								

	WBS	SP Type	Quantity	Labor Hrs	Labor \$	Material \$	Travel \$	ODC \$	Total \$
10.3.3.9	Team Preparations (e.g. Travel, Clearances)								
10.3.3.10	Other								
10.3.4	Other								
10.4	Removal								
10.4.1	Cable Removal								
10.4.2	Blown Fiber Cable Removal								
10.4.3	Cableway Removal								
10.4.3.1	Protected Distribution System (PDS) Removal								
10.4.3.2	Blown Fiber Tubing Removal								
10.4.4	Antenna Removals								
10.4.4.1	Waveguide Removal								
10.4.5	Antenna Tower/Platform/Foundation Removal								
10.4.6	Cabinet Removal								
10.4.6.1	Cabinet Foundation Removal								
10.4.6.2	Minor Equipment Removal								
10.4.6.3	Major Equipment Removal								
10.4.7	Stud Mounts Removal								
10.4.8	HVAC Mod Devices Removal								
10.4.9	HVAC Mod Removal								
10.4.10	Pipe Mod Devices Removal								
10.4.11	Pipe Mod Removal								
10.4.12	Interference Removal								
10.4.13	Other								

	WBS	SP Type	Quantity	Labor Hrs	Labor \$	Material \$	Travel \$	ODC \$	Total \$
10.5	Installation								
10.5.1	Cable Installation								
10.5.1.1	Coax/Conduit Cable Installation								
10.5.1.2	Fiber Cable Installation								
10.5.1.3	Blown Fiber Cable Installation								
10.5.1.4	Heliac Cable Installation								
10.5.1.5	CAT 5/6 Cable Installation								
10.5.1.6	Cable Fabrication and Testing								
10.5.1.7	Other								
10.5.2	Cableway Installation								
10.5.2.1	Protected Distribution System (PDS)								
10.5.2.2	Blown Fiber Tubing Installation								
10.5.3	Antenna Installation								
10.5.3.1	Waveguide Installation								
10.5.4	Antenna Tower/Platform/Foundation Installation								
10.5.5	Cabinet Installation								
10.5.5.1	Cabinet Foundation Installation								
10.5.5.2	Minor Equipment Installation								
10.5.5.3	Major Equipment Installation								
10.5.6	Stud Mounts Installation								
10.5.7	HVAC Mod Devices Installation								
10.5.8	HVAC Mod Installation								
10.5.9	Pipe Mod Devices Installation								

	WBS	SP Type	Quantity	Labor Hrs	Labor \$	Material \$	Travel \$	ODC \$	Total \$
10.5.10	Pipe Mod Installation								
10.5.11	Interference Installation								
10.5.12	Other								
10.6	Software Load & CYBER Scan								
10.7	SOVT Execution								
10.8	Completion/Space Closeout								
10.9	Program Management Support								
10.10	Special Fabrication								
10.11	Engineering/Logistics Support During and Post Installation								
10.11.1	Engineering Changes								
10.11.2	Quality								
10.11.3	Redlining Installation Drawings								
10.11.4	Redlining Platform SOVT								
10.11.5	Training								
10.11.6	As-built Drawing Development								
10.11.7	Other								
10.12	Task Order Completion								
10.12.1	Installation Completion Report (ICR) / Alteration Completion Report (ACR)								
10.12.2	Excess Material								
10.12.3	Other								
10.13	Technical Assistance								
10.14	Other								

TABLE 2: WBS Dictionary

Notes:

(a) There are WBS numbers that are missing from this WBS List and Dictionary. This is intentional to enable use of a common WBS across multiple task orders. Do not renumber the WBS elements due to any missing numbers.

WBS No.	WBS Description	WBS Definition
10	K1 Job (by Job ID)/CORN ID	System and work description provided in JID/CORN ID. Note: All labor reported in the WBS categories below assume the labor rates include overhead. Profit/Fee is reported in 10.16.
10.1	Program Management & PM Office Support	This category is intended for tasks accomplished in the office and not efforts on the deck plates/facility. Effort associated with developing and maintaining installation plans and schedules, not specifically called out below (e.g., 10.2.1.1, 10.3.1.8, 10.4.1). Also includes preparation of production briefs and meetings at the PM level (does NOT include shipboard/facility meetings). Typical on-site shipboard/facility meetings are considered part of the task and not a separate WBS item. Includes various reports, but does NOT include Completion Reports in 10.12.1. Includes project reviews not specifically listed elsewhere in the WBS. Effort related to Cost Estimate WBS reporting or Actual Cost WBS reporting is reported in 10.15.
10.2	Planning & Design for Typical C4ISR Installation Project	
10.2.1	Design Planning	
10.2.1.1	Installation Design POA&M Development	The POA&M includes efforts related to all elements of 10.2.
10.2.1.2	Site Survey / Ship Check (Design)	A visit to an installation site that collects data for a planned installation. The site is inspected and data gathered to enable identification of the existing configuration to enable the scope of the changes to implement the installation. The visit gathers information in sufficient detail to enable design efforts and plan/drawing development in 10.2.2.3 to implement the alteration.
10.2.1.3	Site Survey Report / Ship Check Design Report	The report which describes the results of the site visit in 10.2.1.2.
10.2.2	Design Documentation	

WBS No.	WBS Description	WBS Definition
10.2.2.3	Installation Design Plan (IDP) Development / Ship Installation Drawing (SID) Development	Develop the IDP (Shore)/SIDs (Afloat) to specify methods and materials in enough detail to enable professional installers to complete an installation that meets all requirements; the installation is a separate WBS item.
10.2.2.4	Platform System Operational Verification Test (SOVT) Development	Develop the SOVT document in sufficient detail to test the newly installed system/equipment or modification, and demonstrate to the site that it is ready for operational use in 10.9. The SOVT document also enables recording the results of the tests and inspections.
10.2.2.5	On-The-Job Training (OJT) Material Development	Develop training materials in sufficient detail to enable providing on-the-job training to activity personnel regarding the installed system/equipment, or modification. The training is provided in 10.11.3.
10.2.3	Miscellaneous Planning & Design for Typical C4ISR Installation Project	For items that are not associated with an existing WBS category in this section.
10.4	Pre-Installation	
10.4.1	Production POA&M Development	Includes efforts related to Pre-Installation (10.4), Removal 10.5, and Installation 10.6 and other production tasks associated with the alteration (10.7).
10.4.2	Post-award Verification Ship Validation	Effort to physically walk and inspect a ship and compare against existing GFI that was used in the solicitation to scope proposals (e.g., SID validation). The effort to prepare bids for any additional identified work is typically funded separately, and would not be captured in this element. Does NOT include <u>post installation</u> SID redline mark-ups.
10.4.3	Material Procurement (Labor)	Procurement includes LABOR and those efforts to procure materials required for installation or removal. Also includes efforts for tracking of material, when required, until the material is received. Does NOT include the cost of material, which is included in under the applicable installation section in 10.6, 10.7, and 10.8 (e.g., material cost for CAT 5/6 pre-fab is captured in 10.6.1.1.3).

WBS No.	WBS Description	WBS Definition
10.4.4	Pre-installation Fabrication (Labor)	<p>The following paragraph applies to each element of 10.4.4.1 – 10.4.4.9: The LABOR associated with fabrication activities that take place in preparation for installation for cables, waveguides, foundations, ventilation, piping, HVAC, and other. The material cost is NOT included in 10.4.4.1 – 10.4.4.9, but should be listed in the correct detailed WBS category for the installation (i.e., under 10.6, 10.7). Only the pre-fab labor cost should be reflected here. In cases where the installation contractor will pay a fabricator to pre-fab an item, this may result in a single total cost to the installation contractor comprising both the fabricators labor cost and material cost. In cases where it is not possible to separate the fabricators labor cost and material cost for a particular item, list the TOTAL cost paid to the fabricator (labor + material) in the correct WBS category material line for the installation (i.e., under applicable section in 10.6, 10.7). Each category listed below also includes the pre-fabrication of Supporting Hardware required to install the equipment (e.g., mounting hardware, etc.).</p>
10.4.4.1	Cable Pre-Fabrication and Testing	See note in 10.4.4. Includes pre-fabrication and testing of all cables types such as copper power and data cables, CAT 5/6, fiber cables, blown fiber tubing, coax, heliax, waveguides, and conduit.
10.4.4.2	Mechanical/Foundation Pre-fabrication	See note in 10.4.4. Includes pre-fabrication of mechanical items such as Deck Mounted Foundations (e.g., rack/cabinet foundations), Decking, Bulkhead & Overhead Foundations, Antenna Foundations, and Antenna Towers.
10.4.4.3	HVAC Pre-fabrication	See note in 10.4.4. See definition for ventilation/HVAC in 10.6.3.1 and 10.6.3.2. This does not include Piping Pre-fab.
10.4.4.4	Piping Pre-fabrication	See note in 10.4.4. See definition for piping in 10.6.4.1 and 10.6.4.2.
10.4.4.5	Electrical Equipment Pre-fabrication	See note in 10.4.4. Includes pre-fabrication of electrical equipment, rack and cabinet assembly, and placement of equipment in the racks/cabinets if done during pre-fabrication.
10.4.4.6	Specialized Supporting Hardware	See note in 10.4.4. Supporting hardware that is not pre-fabricated under a WBS above (e.g., cableway for multiple types of cables, MCTs, etc.).
10.4.4.7	Special Fabrication Tasks	See note in 10.4.4. Design and/or fabrication of items required to adapt various C4ISR systems to a variety of installation platforms without being tasked to install the item being fabricated. See SOW paragraph “Special Fabrication Tasks”.
10.4.4.8	Pre-Installation Test and Checkout (PITCO) Reports	See note in 10.4.4. Conducting the PITCO(s) and generating the PITCO report(s).

WBS No.	WBS Description	WBS Definition
10.4.4.9	Miscellaneous Pre-installation Fabrication	See note in 10.4.4. For items that are not associated with an existing WBS category in this section.
10.4.5	Equipment and Material Staging	Represents the equipment and material staging costs associated in all phases of the project, not just staging of pre-fabricated items. Does NOT include staging of Excess Material and Equipment Disposition in 10.12.2. Also does NOT include any Equipment and Material Shipping/Transportation costs (see 10.7.8).
10.4.6	Team Preparations (e.g. Travel, Clearances)	For travel preparations such as travel arrangements, clearances, etc. Does NOT include the cost of travel that is being prepared for.
10.4.7	Miscellaneous Pre-Installation	For items that are not associated with an existing WBS category in this section.
10.5	Removal	
10.5.1	Pre-Installation Check Out (PICO)	Effort to ascertain interface, equipment, and/or system status before modification.
10.5.2	Electrical Removal	
10.5.2.1	Cable Removal	Removal of all "cable types" (e.g., power, data cables, coax, CAT 5/6, heliax, waveguides, conduit, fiber optic cables (definition: 10.6.1.1.4), blown fiber tubing, blown fiber, etc.) to all drop locations and appliances. Effort includes cable disconnection from equipment, cable removal, stud mount removal associated with the cable run, welding removal and rigging to de-install. Does NOT include rigging from the de-install location to off-ship in 10.7.4. Does NOT include removal of any electrical equipment or electrical equipment stud mounts in 10.5.3.5.
10.5.2.2	Cableway Removal	Includes removal of cableways/supports that were not removed as part of the individual cable run (e.g., cableways being removed that contained multiple cable types, MCTs, Protected Distribution System {PDS}, etc.). Includes all elements associated with removal such as welding removal and rigging to de-install. Does NOT include rigging from the de-install location to off-ship in 10.7.4.
10.5.2.3	Antenna, Minor/Major Equipment Removal	
10.5.2.3.1	Antenna Removal	Also includes radome removal and rigging to de-install. Does NOT include crane services in 10.7.5, or include rigging from the de-install location to off-ship in 10.7.4.

WBS No.	WBS Description	WBS Definition
10.5.2.3.2	Minor Equipment Removal	Removal of minor electrical hardware items requiring less than two hours to remove. Includes removal of mounted equipment, equipment from racks & cabinets, and removal of racks/cabinets. Each item is considered separately if removed separately for the less than two hour requirement. Does NOT include foundation removal, or ventilation/HVAC and piping equipment/ device removal. Does NOT include disconnection of cable connectors/ conductors performed in 10.5.2.1. Includes rigging to de-install. Does NOT include rigging to remove from the de-install location to off-ship.
10.5.2.3.3	Major Equipment Removal	Removal of major electrical hardware items requiring two hours or more to remove. Includes removal of mounted equipment, equipment from racks & cabinets, and removal of racks/cabinets. Each item is considered separately if removed separately for the two hour or more requirement. Does NOT include foundation removal, or ventilation/HVAC and piping equipment/ device removal. Does NOT include disconnection of cable connectors/ conductors performed in 10.5.2.1. Includes rigging to de-install. Does NOT include rigging to remove from the de-install location to off-ship.
10.5.2.4	Miscellaneous Electrical Removal	For items that are not associated with an existing WBS category in this section.
10.5.3	Mechanical/Foundation Removal	
10.5.3.1	Antenna Tower/Platform/Foundation Removal	Antenna foundation or radome foundation removal, safety rail removal if applicable, welding removal, and grinding down of foundational structure. Includes rigging for de-install. Does NOT include rigging from antenna mounting location to off-ship. Does NOT include antenna/ radome de-installation in WBS category 10.5.2.3.1. Does not include crane services in 10.7.5.
10.5.3.2	Bulkhead & Overhead Mounted Foundation Removal	Intended for all bulkhead foundations (e.g., power panel and transformer foundations) and overhead mounted foundations (includes sway braces). Includes de-install of bulkhead & overhead mounted foundations, welding removal, deck stiffeners, cable hangers, and grinding down of foundational structure. Also includes making access cuts, and door and ladder mods (repair of access cuts, door mods and ladders is in Installation category 10.6.2.2). Includes rigging for de-install. Does NOT include rigging from the de-install location to off-ship.
10.5.3.3	Deck Mounted Foundation Removal (Afloat) & Cabinet Foundation Removal (Shore)	Intended for all deck mounted foundations (e.g., rack/cabinet foundations, etc.). Includes de-install of deck/floor mounted foundation, welding removal/lag bolt removal, and grinding down/repair of any foundational structure. Includes rigging to de-install. Does NOT include rigging from the de-install location to off-ship.

WBS No.	WBS Description	WBS Definition
10.5.3.4	Decking Removal	Includes decking removal such as raised floor, skid plates, etc. Includes de-install of decking, associated welding removal and grinding. Includes rigging to de-install. Does NOT include rigging from the de-install location to off-ship. Does NOT include equipment foundation removal.
10.5.3.5	Stud Mount Removal	Intended only for removal of the stud mounts for discrete items (e.g., panels, etc.). Does NOT include the stud mounts for attaching cables, ventilation ducts, and piping. Effort includes: Removal of stud mount, grinding, and welding removal. Also includes items such as light fixture mounting pipes and stuffing tube removal.
10.5.3.6	Miscellaneous Mechanical/Foundation Removal	For items that are not associated with an existing WBS category in this section.
10.5.4	HVAC System & HVAC Device Removal	Removal of ventilation ducts, ventilation devices, and associated mounting hardware and stud mounts, HVAC Devices and HVAC System, and the associated grinding, welding removal, and rigging to de-install. Includes removal of items planned for reuse. Does NOT include rigging from the de-install location to off-ship. Does NOT include foundation removal. This does not include Piping Device or Piping System removal. Note: Ventilation/HVAC devices are defined as discrete items within the ventilation/HVAC run (e.g., bellmouths, filters, frames, fans, etc.).
10.5.5	Piping System & Piping Device Removal	Removal of piping, piping devices, and associated mounting hardware and stud mounts, and the associated grinding, welding removal, and rigging to de-install. Includes removal of items planned for reuse. Does NOT include rigging from the de-install location to off-ship. Does NOT include foundation removal. Note: Piping devices are defined as discrete items within the piping run (e.g., valves, pressure gauges, flow controls, etc.).
10.5.6	Interference Removal	Removal of items that are ONLY being removed and reinstalled/relocated as they are interfering with removal or installation of items that are part of the alteration. This WBS element includes all tasks associated with removal of the “interfering” items (e.g., equipment removal, foundation removal, disconnection of cable/piping/HVAC, etc. Re-installation of these items is performed in 10.6.5.
10.5.7	Miscellaneous Removal Items	For items that are not associated with an existing WBS category in this section.

WBS No.	WBS Description	WBS Definition
10.6	Installation (Installation labor and installation material cost)	In addition to the labor to install the installation material, the material cost of all installation material is captured in the applicable 10.6 sub-elements. That is: (a) The cost of material ordered in 10.4.3 and pre-fabricated under 10.4.4 is captured in the sub-elements where the ordered/pre-fabricated material is installed (e.g., The labor to order installation material is captured in 10.4.3, and the labor to pre-fabricate HVAC devices is captured in 10.4.4.3, while the <u>material cost</u> for both 10.4.3 and 10.4.4.3 is captured in 10.6.3.1). (b) The <u>material cost</u> and the <u>labor cost</u> to <u>install</u> the 10.4.3 ordered material and the 10.4.4.3 pre-fabricated material is captured in 10.6.3.1.
10.6.1	Electrical Installation	
10.6.1.1	Cable Installation	<u>The following paragraph applies to each element of 10.6.1.1.1 – 10.6.1.1.11:</u> Intended for cable installation to all drop locations and appliances. Effort includes cable installation, installation welding, cable mount/ stud mount installation for ONLY for the cable run (NOT stud mounts for electrical equipment mounting), and rigging for installation. Includes effort for installation of cable banding and cable tags. Includes box entries such as power panels, fiber junctions, connection boxes, etc. Does NOT include preparing the conductors and installing the connector to the cable/ conductors, cold checks, and connecting the connector / conductors to the equipment in 10.6.1.4. Does NOT include rigging from off-ship to the installation area. Includes pre-fab material cost, but NOT pre-fab labor in 10.4.4. Does NOT include electrical <u>equipment</u> installation.
10.6.1.1.1	Power Cable Installation	See note in 10.6.1.1.
10.6.1.1.2	Copper Data Cable Installation	See note in 10.6.1.1.
10.6.1.1.3	CAT 5/6 Cable Installation	See note in 10.6.1.1.
10.6.1.1.4	Fiber Cable Installation	See note in 10.6.1.1. This is not blown fiber tubes or fiber strands. This is fiber cable that has the strands inside of a manufactured jacket for the cable.
10.6.1.1.5	Coax Cable Installation	See note in 10.6.1.1.
10.6.1.1.6	Conduit Installation	See note in 10.6.1.1.
10.6.1.1.7	Heliac Cable Installation	See note in 10.6.1.1.
10.6.1.1.8	Wave Guide Installation	See note in 10.6.1.1.
10.6.1.1.9	Blown Fiber Tubing Installation	See note in 10.6.1.1. Installation of blown fiber tubing ONLY to all drop locations and appliances. Effort includes tubing installation, and other 10.6.1.1 items.
10.6.1.1.10	Blown Fiber Installation	See note in 10.6.1.1. Installation of blown fiber ONLY to all drop locations and appliances. Effort includes fiber installation in tubing, and other 10.6.1.1 items.

WBS No.	WBS Description	WBS Definition
10.6.1.1.11	Miscellaneous Cable Installation	See note in 10.6.1.1. For items that are not associated with an existing WBS category in this section.
10.6.1.2	Cableway Installation	Includes installation of cableways/supports that were not installed as part of the individual cable run in 10.6.1.1 (e.g., cableways installed that contain multiple cable types, Protected Distribution System {PDS}, etc.). Includes installation required to install MCTs/Banks (e.g., cutting, welding, installation), but does NOT include painting and lagging/insulation in 10.7.3. Does NOT include blown fiber tubing installation in 10.6.1.1.9.
10.6.1.3	Antenna, Minor/Major Equipment Installation	
10.6.1.3.1	Antenna Installation	Also includes radome installation. Does not include crane services in 10.7.5.
10.6.1.3.2	Minor Equipment Installation	Installation of minor electrical hardware items requiring less than two hours to install. Includes installation of mounted equipment, equipment in racks & cabinets, and installation of racks/cabinets. Each item is considered separately if installed separately for the less than two hour requirement. Also includes installation of small components such as breakers in power panels. Does NOT include ventilation/HVAC and piping device installation. Does NOT include connection of cable connectors to the equipment (performed under 10.6.1.1). Includes rigging to install, but does NOT include rigging to deliver from off-ship to installation area. Does NOT include foundation installation (performed in 10.6.2.2 and 10.6.2.3).
10.6.1.3.3	Major Equipment Installation	Installation of major electrical hardware items requiring two hours or more to install. Includes installation of mounted equipment, installation of equipment into racks & cabinets, and installation of racks/cabinets. Each item is considered separately if installed separately for the two hour or more requirement. Does NOT include ventilation/HVAC and piping device installation. Does NOT include connection of cable connectors to the equipment (performed under 10.6.1.1). Includes rigging to install, but does NOT include rigging to deliver from off-ship to installation area. Does NOT include foundation installation (performed in 1.3.8, 1.3.10, and 1.3.11).
10.6.1.4	Terminations	<u>The following paragraph applies to each element of 10.6.1.4.1 – 10.6.1.4.7:</u> For termination of “cables” installed under 10.6.1.1. Includes tasks such as preparation for termination, terminal lugs, crimp or solder connectors, transflexing and weatherproofing. Also includes cold checks, and connecting the connector / conductors to the equipment.
10.6.1.4.1	Power Terminations	See note in 10.6.1.4. Includes terminations in power panels, transformers, switches and equipment terminal strips. Does not include power connectors at equipment.

WBS No.	WBS Description	WBS Definition
10.6.1.4.2	Circular Connector Terminations	See note in 10.6.1.4. All multi-pin circular connectors; solder cup and crimp style.
10.6.1.4.3	Data Terminations	See note in 10.6.1.4. All D-subminiature and CAT-5 connectors.
10.6.1.4.4	Transmission Line Terminations	See note in 10.6.1.4. Transmission Lines; all heliax/co-axial connectors.
10.6.1.4.5	Waveguide Terminations	See note in 10.6.1.4. Waveguide terminations.
10.6.1.4.6	Fiber Optic Terminations	See note in 10.6.1.4. Fiber optic; all fiber terminations/splicing.
10.6.1.4.7	Miscellaneous Terminations	See note in 10.6.1.4. For items that are not associated with an existing WBS category in this section.
10.6.1.5	Miscellaneous Electrical Installation	For items that are not associated with an existing WBS category in this section.
10.6.2	Mechanical/Foundation Installation	
10.6.2.1	Antenna Tower/Platform/Foundation Installation	Includes antenna or radome foundation installation, welding, safety rail installation/modification if applicable. Includes rigging to install, but does NOT include rigging to deliver from off-ship to installation area. Includes pre-fab material cost, but NOT pre-fab labor. Includes related efforts such as lightning suppression, weight loading calculations, etc. Does NOT include antenna or radome installation performed in 10.6.1.3.1. Includes optical blockage survey if applicable. Does not include crane services in 10.7.5.
10.6.2.2	Bulkhead/Overhead Mounted Foundation Installation	Intended for all bulkhead foundations (e.g., power panel and transformer foundations) and overhead mounted foundations (includes sway braces) for any system (e.g., electrical, ventilation/HVAC, piping, etc.). Includes installation and welding for foundational structure, deck stiffeners, cable hangers, repairing access cuts, door mods, and ladders (initial access cuts, door and ladder mods is in Removal category 10.5.3.2). Includes rigging to install, but does NOT include rigging to deliver from off-ship to installation area. Includes pre-fab material cost, but NOT pre-fab labor. Does NOT include deck/floor mounted foundations or antenna foundations.
10.6.2.3	Deck Mounted Foundation Installation (Afloat) & Cabinet Foundation Installation (Shore)	Intended for all deck/floor mounted foundations (e.g., rack/cabinet foundations, etc.) for any system (e.g., electrical, ventilation/HVAC, piping, etc.). Effort includes rigging associated with the installation, welding, lag bolt installation, and foundation installation. Does NOT include rigging to deliver from off-ship to installation area. Includes pre-fab material cost, but NOT pre-fab labor. Does NOT include sway brace foundations, bulkhead/overhead mounted foundations, or antenna foundations.

WBS No.	WBS Description	WBS Definition
10.6.2.4	Decking Installation	Includes decking installation such as raised floor, skid plates, etc. Includes associated welding for decking installation. Includes rigging to install, but does NOT include rigging to deliver from off-ship to installation area. Includes pre-fab material cost, but NOT pre-fab labor. Does NOT include equipment foundation installation.
10.6.2.5	Stud Mount Installation	Intended only for discrete items that are stud mounted (e.g., panels, etc.). Does not include stud mounts for attaching cables, ventilation ducts, HVAC items, or piping. Effort includes installation area preparation and stud mount installation (e.g., welding, etc.). Includes light fixture mounting pipes and stuffing tube installation. Does NOT include painting or lagging/insulation installation.
10.6.2.6	Miscellaneous Mechanical/Foundation Installation	For items that are not associated with an existing WBS category in this section.
10.6.3	HVAC Device and HVAC System Installation	
10.6.3.1	HVAC Device Installation	Includes installation of discrete ventilation/HVAC devices such as bellmouths, filters, frames, fans, etc., and associated rigging for ONLY the device. Does NOT include rigging from off-ship to the installation area. Includes pre-fab material cost, but NOT pre-fab labor. Does NOT include installation of ventilation/HVAC duct or foundations. Does NOT include Piping device installation. Note: Ventilation/HVAC devices are defined as discrete items within the ventilation/HVAC System run (e.g., bellmouths, filters, frames, fans, etc.).
10.6.3.2	HVAC System Installation	Includes installation of HVAC system such as ventilation ducting and associated mounting hardware, welding, and rigging associated with the installation. Does NOT include rigging from off-ship to the installation area. Includes pre-fab material cost, but NOT pre-fab labor. Does NOT include installation of ventilation/HVAC devices in 10.6.3.1. Does NOT include foundation installation.
10.6.3.3	Miscellaneous HVAC Device and HVAC System Installation	For installation of items that are not associated with an existing WBS category above.
10.6.4	Piping Device and Piping System Installation	
10.6.4.1	Piping Device Installation	Includes installation of discrete piping devices such as valves, pressure gauges, flow controls, etc. and rigging for ONLY the device. Does NOT include rigging from off-ship to the installation area. Includes pre-fab material cost, but NOT pre-fab labor. Does NOT include installation of piping or foundations. Note: Piping devices are defined as discrete items within the piping run (e.g., valves, pressure gauges, flow controls, etc.).

WBS No.	WBS Description	WBS Definition
10.6.4.2	Piping Installation	Includes installation of piping and associated mounting hardware, welding, and rigging associated with the installation. Does NOT include rigging from off-ship to the installation area. Includes pre-fab material cost, but NOT pre-fab labor. Does NOT include the installation of piping devices in 10.6.4.1. Does NOT include foundation installation.
10.6.4.3	Miscellaneous Piping Device and Piping System Installation	For installation of items that are not associated with an existing WBS category above.
10.6.5	Interference Installation	Re-installation of items that were only removed and reinstalled/relocated as they are interfering with removal or installation of items that are part of the alteration. This WBS element includes all tasks associated with re-installation of the “interfering” items (e.g., equipment re-installation/re-location, foundation reinstallation, reconnection of cable/piping/HVAC, etc. Does NOT include re-painting the area or insulation of bulkheads/decks or facility walls/ceilings in 10.7.2. Removal of these items was performed in 10.5.6.
10.6.6	Completion/Space Closeout	Includes tasks associated with space close-out after completion of work within the space.
10.6.7	Miscellaneous Installation Items	Includes other miscellaneous installation tasks not associated with another installation WBS category. Does NOT include installation of label plates, which are included with the applicable WBS category installing the associated equipment/device (e.g., 10.6.1.3.1 – 10.6.1.3.3, 10.6.3.1, 10.6.3.2, 10.6.4.1, 10.6.4.2, etc.).
10.7	General Removal/Installation Related Items	The items under this WBS category are items which may apply to both removal and installation tasks. The total cost is captured within the element regardless of then the effort is accomplished.
10.7.1	Tag Outs	Includes all types of tag outs related to removal or installation (e.g., electrical, ventilation/HVAC, and piping systems), man-aloft chits, hot work, gas free certification, etc.
10.7.2	Painting	Includes surface preparation required for painting, and all painting related tasks required for either equipment removal (e.g., painting restoration) or due to equipment installation.
10.7.3	Lagging/Insulation	Includes all lagging (e.g., for piping) and insulation (e.g., bulkhead/decks), and related tasks required by either equipment removal (e.g., lagging/insulation restoration) or due to equipment installation.

WBS No.	WBS Description	WBS Definition
10.7.4	Rigging (off ship/facility or onto ship/facility only)	Labor for rigging from de-install location to off-ship/off-facility, or rigging from off-ship/off-facility to the installation location. Does NOT include rigging within a space/compartment for removal or installation of the item (e.g., rigging a rack for installation within the compartment). The extent of the rigging will be specified by the PWS. Do NOT include the cost of rigging paid for by outside organizations (e.g., shipyard, etc.). Does not include the cost of crane services in 10.7.5.
10.7.5	Crane Rental and Other Rental Costs	Includes miscellaneous costs which are required to support the alteration such as renting scaffolding, crane rental, fencing, conex boxes, etc. Do NOT include the cost of crane services or rentals paid for by outside organizations (e.g., shipyard, etc.).
10.7.6	Potentially Hazardous Material Handling/Testing	Includes Material Safety Data Sheets, and handling and testing of potentially hazardous materials. Does NOT include hazardous material abatement/ disposal costs in 10.7.7, as the extent of these costs will be unknown until after testing is accomplished.
10.7.7	Hazardous Material Abatement/Disposal	Includes labor and cost for abatement/ disposal of identified hazardous material.
10.7.8	Equipment and Material Shipping/Transportation	Represents the shipping/transportation involved in ALL phases of the project, NOT just shipping of pre-fabricated items. Includes shipping/transportation from contractor site to installation site. Also includes shipping/transportation costs for Excess Material and Equipment Disposition in 10.12.2.
10.8	Software Load & CYBER Scan	The effort to load software and perform scans. This item may be N/A for the installation contractor if a separate team is tasked to perform this function. Also includes other associated tasks such as software and firmware backups.
10.9	SOVT Execution	The effort to conduct the SOVT. This item may be N/A for the installation contractor if a separate team is tasked to perform this function. This does NOT include the efforts for the "Technical Assistance" WBS element in 10.13.
10.10	Post Install SOVT Support	For any post installation support the installation contractor provides to the SOVT personnel/ team. For example, the SOVT team discovers a terminal box was incorrectly wired on the drawing. This WBS item covers the effort of the installation contractor to correctly wire the terminal box. This also includes any time for the installation contractor to "stand-by" if applicable, if the installation contractor has otherwise finished all installation efforts and COULD depart the ship/facility if not for the pending SOVT. Installation problems requiring correction due to any contractor errors should be captured under 10.4 – 10.7, as applicable.
10.11	Engineering/Logistics Support During and Post Installation	

WBS No.	WBS Description	WBS Definition
10.11.1	Engineering Studies	Conducting various engineering studies when specified by the task order.
10.11.2	LAR processing	Assisting with or processing of Liaison Action Requests (LARs) to document issues with the alteration.
10.11.3	Training	Providing training on specific equipment and/or systems.
10.11.4	Redlining Installation Drawings	Providing redline mark-up of installation drawings.
10.11.5	Redlining Platform SOVT	Providing redline mark-up of SOVT.
10.11.6	As-built Drawing Development	Developing as-built drawings, when required.
10.11.7	Miscellaneous Engineering/Logistics Support During and Post Installation	For items that are not associated with an existing WBS category in this section.
10.12	Task Order Completion	
10.12.1	Completion Reports	Includes various completion reports such as Installation Completion Report (ICR), Alteration Completion Report (ACR), and Task Order (TO) Completion Report (TOCR). Other reports during the effort are documented in the Program Management WBS element.
10.12.2	Excess Material and Equipment Disposition	Removal of all excess material and equipment from the work site, material staging, and disposition. Does NOT include material and equipment transportation/shipping costs (accounted for in 10.7.8).
10.12.3	Miscellaneous Task Order Completion	For items that are not associated with an existing WBS category in this section.
10.13	Technical Assistance	Technical assistance for CASREP resolution, fault analysis and other related testing/repair when required by the task order.
10.14	Miscellaneous Items (entire WBS)	For tasks that are not associated with an existing WBS category above.
10.15	CDRL WBS Reporting	Effort associated with providing WBS reporting required by the Contract SOW or Task Order.
10.16	Profit/Fee	Contractor profit/fee for the task. Assumes that the labor amounts in the WBS categories above include labor overhead.

TABLE 3: WBS Elements To Include in WBS Actual Cost Report (CDRL A029)

Notes:

(a) There are WBS numbers that are missing from this WBS List and Dictionary. This is intentional to enable use of a common WBS across multiple task orders. Do not renumber the WBS elements due to any missing numbers.

(b) Refer to the definitions in Table 2 for these WBS elements.

WBS No.	WBS Description
10	K1 Job (by Job ID)/CORN ID
10.1	Program Management & PM Office Support
10.2	Planning & Design for Typical C4ISR Installation Project
10.2.1	Design Planning
10.2.2	Design Documentation
10.2.3	Miscellaneous Planning & Design for Typical C4ISR Installation Project
10.4	Pre-Installation
10.4.1	Production POA&M Development
10.4.2	Post-award Verification Ship Validation
10.4.3	Material Procurement (Labor)
10.4.4	Pre-installation Fabrication (Labor)
10.4.5	Equipment and Material Staging
10.4.6	Team Preparations (e.g. Travel, Clearances)
10.4.7	Miscellaneous Pre-Installation
10.5	Removal
10.6	Installation (Installation labor and installation material cost)
10.6.1	Electrical Installation

WBS No.	WBS Description
10.6.2	Mechanical/Foundation Installation
10.6.3	HVAC Device and HVAC System Installation
10.6.4	Piping Device and Piping System Installation
10.6.5	Interference Installation
10.6.6	Completion/Space Closeout
10.6.7	Miscellaneous Installation Items
10.7	General Removal/Installation Related Items
10.8	Software Load & CYBER Scan
10.9	SOVT Execution
10.10	Post Install SOVT Support
10.11	Engineering/Logistics Support During and Post Installation
10.12	Task Order Completion
10.13	Technical Assistance
10.14	Miscellaneous Items (entire WBS)
10.15	CDRL WBS Reporting
10.16	Profit/Fee