C2BMC Spiral Capability Development Contract

Training

Task Order Number 0016

Revision 4

October 19, 2017

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1.0 Task Description

The Contractor shall provide the program management, secure systems engineering, hardware and secure software engineering, test and integration engineering and additional support required to develop and update training systems concurrent with C2BMC spiral development.

Training at and among C2BMC user sites, training C2BMC users via mobile training teams, and training C2BMC users at schoolhouses will be supported via the Training Support System (TSS). Distributed Training and Operational exercises, at and among C2BMC suites, will be supported via the Distributed Training System (DTS). The Contractor shall provide the DTS and TSS capabilities and upgrades and technical support required to ensure the capabilities are designed and delivered as required to support Warfighter training and exercises as approved by the MDA/BCDC program office. The Contractor shall develop architecture and design artifacts for current and future spirals of DTS/TSS.

2.0 Program Management

The Contractor shall provide Program Management services to assist the Government in planning, controlling, directing, monitoring, reporting, and managing this Task Order (TO). The Contractor shall support a Failure Review Board (FRB) to determine root cause and ensure timely corrective action for critical failures, when requested by the Government.

All documentation created and maintained in a database or storage medium associated with this contract shall be delivered to the Government by the various Contract Data Requirement Lists (CDRLs) associated with this contract. All deliverables (CDRLs) shall be submitted to the Government electronically, unless otherwise stated, with distribution method to the Government to be determined by the C2BMC Program Management Office (PMO).

2.1 Integrated Process and Product Development (IPPD)

The Contractor shall apply an IPPD approach in all technical/functional disciplines and requirements in a coordinated effort to meet established financial management, resource, cost, schedule, performance, and supportability requirements for the C2BMC system.

2.2 Contractor Integrated Performance Management

The Contractor shall prepare and utilize, in the performance of this TO, an integrated performance management system. Central to this integrated system shall be a Department of Defense (DoD) validated Earned Value Management System (EVMS). The EVMS shall be linked to, and supported by, the Contractor's management processes and systems to include the Integrated Master Schedule (IMS), Contract Work Breakdown Structure (CWBS), change management, materiel management, procurement, cost estimating, and accounting.

2.3 Integrated Baseline Reviews (IBRs)

The Contractor shall engage jointly with the Government's program manager and their representatives in IBRs to evaluate the risks inherent in the contract's planned performance measurement baseline for this TO. The totality of the baseline shall be reviewed and evaluated no less than annually by the Government. Each IBR shall verify that the Contractor is using a reliable performance measurement baseline (to include the entire

contract scope of work for this TO), is consistent with contract schedule requirements, and has adequate resources assigned. Each IBR shall contain integrated subcontract data.

2.4 Process Control

The Contractor shall maintain a set of operating documentation that provides management direction, policies and procedures, per established contractor tools and procedures in accordance with (IAW) existing Government processes.

2.5 Program Reviews

The Contractor shall support the planning, preparation, conduct, and preparation of minutes of program reviews. The Contractor shall support the IBR, Program Management Reviews (PMR), Government Internal Configuration Control Board (ICCB), Integration Synchronization Group (ISG)/Integration Synchronization Center (ISC), Program Change Board (PCB), In Progress Reviews (IPR), IMS and Government IMS (GIMS) Reviews, the Training Configuration Management Board (TCMB), bi-weekly Joint Business Reviews (JBRs) and other relevant meetings as requested and/or agreed upon by the Government. The Contractor shall support C2BMC component immersion reviews with the Government to facilitate understanding and agreement with implementation approaches used for chosen technical efforts. The results of these reviews shall include updating project documentation based on the outcome of the reviews.

2.6 Bills of Materials (BOM) Management

The contractor shall develop and maintain procurement Bills of Materials (BOMs) to cover hardware, software, maintenance and services required in support of program execution. The contractor shall generate engineering drawings, when appropriate, to identify materiel requirements at a level of detail adequate for procurement. The contractors shall baseline the BOM and manage changes IAW program configuration control procedures for this task order. The Contractor shall monitor new materiel requirements and identify when changes are required to BOM line items to meet baseline program requirements.

3.0 Training Systems

3.1 Training Support System (TSS)

The TSS is a training system that utilizes a custom modeling environment for integrated system models in lieu of federated models. The TSS is intended to train C2BMC personnel at C2BMC user sites, C2BMC personnel trained by mobile training teams, and C2BMC personnel trained at schoolhouses.

3.1.1 Spiral 6.4 TSS Sustainment

The contractor shall update and maintain S6.4 TSS capabilities as agreed to by the Government. These activities shall include the following:

3.1.1.1 Schedule

A) Develop/maintain a schedule and provide a fielding roadmap via the Data Accession List (DAL). Conduct reviews in contractor format to obtain Government concurrence with the update. (CDRL A012)

B) Conduct reviews in contractor format to obtain Government concurrence with the update.

3.1.1.2 Requirements/Design

A) Conduct engineering Technical Information Meetings (TIMs)/ Reviews as required by the Government. Develop and propose requirements and design of the following products, Delivered through CDRL A003:

aa) Requirements

bb) Architectural and engineering artifacts

cc) Design (to include Software and Network)

dd) Production artifacts

ee) Other technical artifacts

B) Perform design, implementation and test activities to develop the S6.4 Training Support System IAW Contractor's Systems Engineering Process.

C) Incorporate TSS Spiral Specification changes into baseline (CDRL A012).

3.1.1.3 Development/Implementation

A) Provide system updates to all TSS systems, agreed to by the government.

B) Provide executable and source code (CDRL A042).

C) Sustain development environment for TSS at the Contractor facility.

D) Sustain a developmental Test Environment (TE) laboratory at the Contractor facility for training system analysis and experimentation

E) The Contractor Shall perform requirement Verification Testing and deliver results via the DAL (CDRL A012).

3.1.1.4 Documentation

A) Maintain TSS operator training materials IAW Contractor's Systems Engineering Process via the DAL (CDRL A012)

B) Update and maintain the training Operations Concept within the C2BMC Operations Concept (OPSCON). (CDRL A016)

C) Develop and maintain scenario descriptions via the DAL (CDRL A012)

3.1.1.5 Demonstration

A) Provide status briefings for C2BMC Program Office with external stakeholders periodically.

3.1.1.6 Reserved

3.1.1.7 Cybersecurity

A) The Contractor shall develop and incorporate into the TSS the Cybersecurity RMF requirements for deployment on a Government-provided DoD network IAW DoDI 8510.01 and NIST SP 800-53, to include continuous monitoring capabilities. The Contractor shall correct, mitigate, or submit risk acceptance packages for all non-compliant requirements. The corrections implemented by the Contractor shall be coordinated and prioritized with the Government for inclusion in subsequent system software updates..

3.1.2 Spiral 8.2-1 TSS Development/Sustainment

The 8.2-1 TSS is an update to the S6.4 TSS version. The TSS is intended to train C2BMC personnel at C2BMC sites, C2BMC personnel trained by mobile training teams, and C2BMC personnel trained at schoolhouses.

The contractor shall update, maintain and sustain S8.2-1 TSS capabilities as agreed to by the Government. These activities shall include the following:

3.1.2.1 Schedule

A) Develop and maintain a schedule and provide a fielding roadmap via the Data Accession List (DAL) that has a TSS available for familiarization training 60 days prior to the Spiral 8.2-1 GTI and available for certification/qualification training 90 days prior to the first Spiral 8.2-1 PCB Technical Capability Declaration (TCD). Conduct reviews in contractor format to obtain Government concurrence with the update. (CDRL A012).

3.1.2.2 Requirements/Design

A) Conduct engineering Technical Information Meetings (TIMs)/ Reviews as required by the Government. Develop and propose requirements and design of the following products, delivered through CDRL A012:

   aa) Requirements

   bb) Architectural and engineering artifacts

   cc) Design (to include Software and Network)

   dd) Production artifacts

   ee) Other technical artifacts

B) Support annual Warfighter feedback sessions.

C) Perform design, implementation and test activities to develop the S8.2-1 Training Support System IAW Contractor's Systems Engineering Process.

D) Incorporate TSS Spiral Specification changes into baseline. (CDRL A015)

E) The Contractor shall update the S8.2-1 system Training Task List (TTL) and include training requirements in the C2BMC Spiral Specification (CSS) to define the S8.2-1 impacts to the TSS. The Contractor shall provide results to the Government via the DAL on an as needed basis (CDRL (A012)

F) Develop and maintain the system architecture required to deploy and/or make accessible system for use by schoolhouses, mobile training teams, and C2BMC User nodes for fielding of S8.2-1 via the DAL (CDRL A0012)

(period of performance for Section 3.1.2.2 is January 22, 2017 through November 1, 2019)

3.1.2.3 Development/Implementation

A) The Contractor shall perform design, implementation and test activities to develop the S8.2-1 TSS software. The Contractor shall also perform system engineering activities IAW Contractor's Systems Engineering Process to determine the systems architecture required to deploy and/or make accessible system for use by schoolhouses, mobile training teams, and C2BMC User nodes, the S8.2-1 Training System via the DAL (CDRL A012).

B) Provide executable and source code (CDRL A042) and software documentation and data (CDRL A044).

C) Develop and maintain a TSS software design specification. Documentation will be delivered via the DAL. (CDRL A012)

D) Maintain the TSS Planner non-real time interface so the TSS shall have the capability to receive C2BMC planner blue force laydown and threat data for a training scenario.

E) Update C2BMC screens and GFC screens, and maintain the interface so that TSS shall provide a capability to stimulate Missile Warning screens.

F) Verify the S8.2-1 TSS requirements using a process similar to the S6.4 TSS (the development team will conduct verification and results shall be provided to the Government via the DAL (CDRL A012)).

G) Sustain development environment for TSS at the Contractor facility.

H) Sustain a developmental Test Environment (TE) laboratory at the Contractor facility for training system analysis and experimentation

I) Update the S8.2-1 TSS IAW Configuration 2 in the GM-C2BMC ICD to reflect
   a. The GMD and C2BMC screens in the S8.2 TSS to reflect the CLE Re-Architecture changes.
   b. Update any necessary messages in the S8.2 TSS software to reflect the CLE Re-Architecture changes.
   c. Update the emulation modules needed to reflect the CLE Re-Architecture changes.

(period of performance for Section 3.1.2.3 is January 22, 2017 through November 1, 2019)

3.1.2.4 Documentation

A) Maintain TSS operator training materials IAW Contractor's Systems Engineering Process via the DAL (A012)

B) Update and maintain the training Operations Concept within the C2BMC Operations Concept (OPSCON). (CDRL A016)

C) Develop and maintain scenario descriptions via the DAL (A012).

3.1.2.5 Demonstration

A) Provide status briefings for C2BMC Program Office with external stakeholders periodically (e.g. Monthly).

B) Provide S8.2-1 TSS demonstrations for C2BMC Program Office with external stakeholders during the POP (maximum of 6 during POP.)

3.1.2.6 Product Distribution/ Deployment

A) Deliver the initial system (hardware and software) to the following locations with required DOD-compliant Cyber Security certifications, and provide install/check-out results to the Government via the DAL. (CDRL A012).

Deliver system (hardware and software) updates to the following locations

aa) Space and Missile Defense Command (SMDC) Schoolhouse

bb) US Pacific Command (PACOM) Sensor Managers

Deliver software updates to the following locations

cc) STRATCOM Test & Integration Facility (TIF)

dd) Joint BMDS Training and Education Center (JBTEC)

ee) USAF 505th AFAMS

B) Following initial delivery and installation of version of S8.2-1 TSS to sites listed below, deliver and install two (2) system software update, via Troubleshooting Procedure (TP), and provide install/check-out results to the Government via the DAL. (CDRL A012)

aa. Space and Missile Defense Command (SMDC) Schoolhouse

bb. US Pacific Command (PACOM) Sensor Managers

C) Following initial delivery of version of S8.2-1 to sites listed below, deliver two (2) system software update, via Troubleshooting Procedure (TP)

cc. STRATCOM Test & Integration Facility (TIF)

dd. Joint BMDS Training and Education Center (JBTEC)

ee. USAF 505th AFAMS

D) Complete removal of S6.4 TSS and S8.2-1 TSS components from contractor-maintained systems, as listed in aa. Thru bb. above, when no longer needed.

3.1.2.7 Cybersecurity

A) The Contractor shall develop and incorporate into the TSS the Cybersecurity RMF requirements for deployment on a Government-provided DoD network IAW DoDI 8510.01 and NIST SP 800-53, to include continuous monitoring capabilities. The Contractor shall correct, mitigate, or submit risk acceptance packages for all non-compliant requirements. The corrections implemented by the Contractor shall be coordinated and prioritized with the Government for inclusion in S8.2-1 TSS.

3.1.3 Spiral 8.2-3 TSS Development/Sustainment

The S8.2-3 TSS is an update to the S8.2-1 TSS. The TSS is intended to train C2BMC personnel at C2BMC sites, C2BMC personnel trained by mobile training teams, and C2BMC personnel trained at schoolhouses.

The contractor shall update, maintain and sustain S8.2-3 TSS capabilities as agreed to by the Government. These activities shall include the following:

3.1.3.1 Schedule

A) Develop and maintain a schedule and provide a fielding roadmap via the Data Accession List (DAL) that has a TSS available for familiarization training 60 days prior to the Spiral 8.2-3 GTI and available for certification/qualification training 90 days prior to the first Spiral 8.2-3 PCB technical declaration. Conduct reviews in contractor format to obtain Government concurrence with the update. (CDRL A012).

3.1.3.2 Requirements/Design

A) Conduct engineering Technical Information Meetings (TIMs)/ Reviews as required by the Government. Develop and propose requirements and design of the following products, delivered through CDRL A012:

   aa) Requirements

   bb) Architectural and engineering artifacts

   cc) Design (to include Software and Network)

   dd) Production artifacts

   ee) Other technical artifacts

B) Support annual Warfighter feedback sessions.

C) Perform design, implementation and test activities to develop the S8.2-3 Training Support System IAW Contractor's Systems Engineering Process.

D) Incorporate TSS Spiral Specification changes into baseline. (CDRL A015)

E) The Contractor shall update the S8.2-3 system Training Task List (TTL) and include training requirements in the C2BMC Spiral Specification (CSS) to define the S8.2-3 impacts to the TSS. The Contractor shall provide results to the Government via the DAL on an as needed basis (CDRL (A012).

F) Develop and maintain the system architecture required to deploy and/or make accessible system for use by schoolhouses, mobile training teams, and C2BMC User nodes for fielding of S8.2-3 via the DAL (CDRL A0012).

3.1.3.3 Development/Implementation

A) The Contractor shall perform design, implementation and test activities to develop the S8.2-3 TSS software. The Contractor shall also perform system engineering activities IAW Contractor's Systems Engineering Process to determine the systems architecture required to deploy and/or make accessible system for use by schoolhouses, mobile training teams, and C2BMC User nodes, the S8.2-3 Training System via the DAL (CDRL A012).

B) Provide executable and source code (CDRL A042) and software documentation and data (CDRL A044).

C) Develop and maintain a TSS software design specification. Documentation will be delivered via the DAL. (CDRL A012)

D) Maintain the TSS Planner non-real time interface so the TSS shall have the capability to receive C2BMC planner blue force laydown and threat data for a training scenario.

E) Update C2BMC screens and GFC screens, and maintain the interface so that TSS shall provide a capability to stimulate Missile Warning screens.

F) The contractor shall incorporate into OPIR sensors models in S8.2-3 TSS the sensor parameters and behaviors, as provided by the government.

G) Verify the S8.2-3 TSS requirements using a process similar to the S8.2-1 TSS (the development team will conduct verification, results shall be provided to the Government via the DAL (CDRL A012).

H) Sustain development environment for TSS at the Contractor facility.

I) Sustain a developmental Test Environment (TE) laboratory at the Contractor facility for training system analysis and experimentation

J) Upgrade S8.2-3 to run on the current operating system per agreement with the government direction, assuming not more than one upgrade during POP.

3.1.3.4 Documentation

A) Maintain TSS operator training materials IAW Contractor's Systems Engineering Process via the DAL (A012)

B) Update and maintain the training Operations Concept within the C2BMC Operations Concept (OPSCON). (CDRL A016)

C) Develop and maintain scenario descriptions via the DAL (A012).

3.1.3.5 Demonstration

A) Provide status briefings and TSS demonstrations for C2BMC Program Office with external stakeholders periodically (e.g. Monthly).

3.1.3.6 Product Distribution/ Deployment

A) Deliver the initial system to the following locations with required DOD-compliant Cyber Security certifications, and provide install/check-out results to the Government via the DAL. (CDRL A012).

Deliver system (hardware and software) updates to the following locations

aa) Space and Missile Defense Command (SMDC) Schoolhouse
bb) US Pacific Command (PACOM) Sensor Managers
cc) US European Command (EUCOM) Sensor Managers
dd) US Central Command (CENTCOM) Sensor Managers

Deliver software updates to the following locations

ee) STRATCOM Test & Integration Facility (TIF)

ff) Joint BMDS Training and Education Center (JBTEC)

gg) USAF 505th AFAMS

E) Following initial delivery and installation of version of S8.2-3 TSS to sites listed below, deliver and install one (1) system software update via Troubleshooting Procedure (TP), and provide install/check-out results to the Government via the DAL. (CDRL A012)

aa) Space and Missile Defense Command (SMDC) Schoolhouse
bb) US Pacific Command (PACOM) Sensor Managers
cc) US European Command (EUCOM) Sensor Managers
dd) US Central Command (CENTCOM) Sensor Managers

F) Following initial delivery of version of S8.2-3 to sites listed below, deliver one (1) system software update via Troubleshooting Procedure (TP).

ee) STRATCOM Test & Integration Facility (TIF)
ff) Joint BMDS Training and Education Center (JBTEC)
gg) USAF 505th AFAMS

3.1.3.7 Cybersecurity

A) The Contractor shall develop and incorporate into the TSS the Cybersecurity RMF requirements for deployment on a Government-provided DoD network IAW DoDI 8510.01 and NIST SP 800-53, to include continuous monitoring capabilities. The corrections implemented by the Contractor shall be coordinated and prioritized with the Government for inclusion in S8.2-3 TSS. The Contractor shall correct, mitigate, or submit risk acceptance packages for all non-compliant requirements.

B) Implement Public Key Infrastructure (PKI) on S8.2-3 TSS.

3.1.4 System Maintenance Request (SMR) Resolution for TSS Baselines

The contractor shall develop system changes as required to resolve SMRs documented against the TSS baselines (S6.4, S8.2-1, and S8.2-3). The contractor shall coordinate with the Government to gain approval/prioritization of SMRs to be fixed against each TSS baseline.

3.2 Distributed Training System (DTS)

The DTS is a model-based training system that is stimulated using medium fidelity physics-based Government-owned simulation/stimulation framework. The Strategic Simulation Framework (SSF) and its associated models (collectively known as DTS Sim/Stim) and GMD System Training (GST) are required to interact with multiple systems for operational exercises. The Contractor shall perform all activities required to update C2BMC to interface with DTS Sim/Stim for use in operational exercises.

3.2.1 Spiral 8.2-1 Distributed Training System (DTS) Sustainment

The contractor shall update and maintain S8.2-1 DTS capabilities as agreed to by the Government.

These activities shall include the following:

3.2.1.1 Schedule

A) Develop and maintain a development schedule and provide a fielding roadmap that is synchronized with the S8.2-1 C2BMC deployment schedule so that S8.2-1 DTS is available when C2BMC is fielded. The schedule and roadmap will be delivered via the DAL (CDRL A012)

B) Conduct reviews in contractor format to obtain Government concurrence with the update.

3.2.1.2 Requirements/Design

A) Conduct engineering Technical Information Meetings (TIMs)/ Reviews as required by the Government. Develop and propose requirements and design of the following products, delivered through CDRL A003:

aa) Requirements
bb) Architectural and engineering artifacts
cc) Design (to include Software and Network)
dd) Other technical artifacts

B) Incorporate DTS Spiral Specification changes into baseline. (CDRL A015)

C) Provide recommended changes to DTS Sim/Stim as required to reflect the impacts of any changes to the S8.2-1 C2BMC capabilities. Deliver via the DAL (CDRL A012).

(period of performance for Section 3.2.1.2 is January 22, 2017 through November 1, 2019)

3.2.1.3 Development/Implementation

A) Provide software updates to all DTS systems as agreed to by the Government.

B) Provide executable and source code (CDRL A042) and software documentation and data (CDRL A044).

C) Support Government coordination efforts with the exercise community (MDA/DTW, etc.) to define how the DTS will be utilized to support exercises. Support periodic meetings to work plans for applying the DTS Node for exercises. Provide assistance in applying the DTS Node in exercise architectures.

D) Integrate S8.2-1 DTS Node with government-provided versions of DTS Sim/Stim.

E) Interface the C2BMC S8.2-1 DTS Node with other Government-owned Simulation and Stimulation environments, models and trainers (e.g., GMD System Trainer (GST) using existing C2BMC tactical interfaces to include Hardware in The Loop (HWIL)).

F) Support training system analysis and experimentation activities conducted in the C2BMC Test Bed (CTB) laboratory at the MDIOC (e.g., pairwise and HWIL testing).

G) Sustain Development Environment for DTS at the Contractor Facility.

H) IAW Configuration 2 in the GM-C2BMC ICD the Contractor shall:

aa) Update any necessary messages in the S8.2 C2BMC software necessary for the DTS capability to reflect the CLE Re-Architecture changes.

bb) Update the DTS Node IDD to reflect any new connections that need to be made to the DTS Node to reflect the CLE Re-Architecture changes.

cc) Perform software updates to the DTS Node to implement any changes made in the DTS Node IDD.

I) Maintain a non-real time interface to permit import of C2BMC Planner information (i.e. Blue force laydown and threat data) into the DTS Sim/Stim for use in creating a training scenario.

3.2.1.4 Documentation

A) Update C2BMC operations manuals in support of DTS and deliver via the DAL. (CDRL A012)

B) Maintain the training Operations Concept within the C2BMC OPSCON. (CDRL A016)

C) Update the C2BMC to DTS IDD (#TD-AS-C2BMC to DTS IDD) to include additional hardware in the loop (HWIL) interfaces as directed by the government and deliver via the DAL (CDRL A012)

3.2.1.5 Demonstration

A) Provide DTS status briefings and SME support for DTS demonstrations for C2BMC Program Office with external stakeholders periodically.

3.2.1.6 Product Distribution/Deployment

A) Following installation of S8.2-1 DTS at the MDIOC, provide updates via Troubleshooting Procedure (TP), and provide install/check-out results to the Government via the DAL. (CDRL A012)

3.2.1.7 Cybersecurity

A) The Contractor shall develop and incorporate into the DTS the Cybersecurity RMF requirements for deployment on a Government-provided DoD network IAW DoDI

8510.01 and NIST SP 800-53, to include continuous monitoring capabilities. The corrections implemented by the Contractor shall be coordinated and prioritized with the Government for inclusion in S8.2-1 DTS. The Contractor shall correct, mitigate, or submit risk acceptance packages for all non-compliant requirements.

3.2.2 Spiral 8.2-3 Distributed Training System (DTS) Development/ Sustainment

The contractor shall update and maintain S8.2-3 DTS capabilities as agreed to by the Government.

These activities shall include the following:

3.2.2.1 Schedule

A) Develop and maintain a development schedule and provide a fielding roadmap that is synchronized with the S8.2-3 C2BMC deployment schedule so that S8.2-3 DTS is available when C2BMC is fielded. The schedule and roadmap will be delivered via the DAL (CDRL A012)

B) Conduct reviews in contractor format to obtain Government concurrence with the update.

3.2.2.2 Requirements/Design

A) Conduct engineering Technical Information Meetings (TIMs)/ Reviews as required by the Government. Develop and propose requirements and design of the following products, deliver through CDRL A003 :

   aa) Requirements
   bb) Architectural and engineering artifacts
   cc) Design (to include Software and Network)
   dd) Production artifacts
   ee) Other technical artifacts

B) Support quarterly Warfighter feedback sessions.

C) Perform design, implementation and test activities to develop the S8.2-3 DTS IAW Contractor's Systems Engineering Process.

D) Perform design, implementation and test activities to develop and maintain the S8.2-3 Distributed Training System IAW Contractor's Systems Engineering Process.

E) Develop and maintain the spiral requirements specifications and the required traceability for requirements verification. Incorporate C2BMC Spiral Specification changes into the baseline. (CDRL A015).

F) Provide recommended changes to DTS Sim/Stim as required to reflect the impacts of new Spiral8.2-3 capabilities and deliver via the DAL (CDRL A012).

G) The Contractor shall update the Training Task List (TTL) to reflect new training requirements in the C2BMC Spiral Specification (CSS) to define the S8.2-3 impacts to the DTS. The Contractor shall provide results to the Government via the DAL on an as needed basis (CDRL (A012).

3.2.2.3 Development/Implementation

A) Develop and maintain system architecture and design artifacts for the fielding of the S8.2-3 DTS. (CDRL A012)

B) Provide executable and source code (CDRL A042) and software documentation and data (CDRL A044).

C) Develop and maintain a DTS software design specification. Documentation will be delivered via the DAL. (CDRL A012)

D) Develop and maintain the Spiral 8.2-3 baseline's ability to conduct concurrent operational exercises and training exercise activities using DTS at all User Node and Web Browser sites via the DAL (CDRL A012).

E) Maintain the ability to use for operational exercises the non-active side of C2BMC and network equipment (e.g. the B-side when the A-side is in use for operations, or the A-side when the B-side is in use for operations of Concurrent Operations and Test (COT)) -enabled sites.

F) Coordinate with the exercise community (MDA/DTW, etc.) to define how the DTS will be utilized to support exercises. Support periodic meetings to work plans for applying the DTS Node for exercises. Provide assistance in applying the DTS Node in exercise architectures.

G) Maintain a non-real time interface to permit import of C2BMC Planner information (i.e. Blue force laydown and threat data) into the DTS Sim/Stim for use in creating a training scenario. Integrate Spiral 8.2-3 DTS Node with government-approved versions of DTS Sim/Stim

H) Update the DTS baseline to include additional HWIL interfaces as described in the C2BMC to DTS IDD and deliver in (CDRL A042).

I) Integrate with government-approved versions of DTS Sim/Stim.

J) Interface the C2BMC S8.2-3 DTS Node with other Government-owned Simulation and Stimulation environments, models and trainers (e.g., GMD System Trainer (GST) using existing C2BMC tactical interfaces to include Hardware in The Loop (HWIL)).

K) Develop and maintain the Spiral 8.2-3 baseline the ability to connect DTS to two or more Element instances at each Concurrent Operations and Test (COT) site.

L) Conduct demonstrations and testing to verify and validate the C2BMC requirements in support of DTS.

M) Support training system analysis and experimentation activities conducted in the Test Environment (TE) laboratory at the MDIOC (e.g., pairwise and HWIL testing).

N) Sustain the development environment for DTS at the Contractor Facility.

3.2.2.4 Documentation

A) Develop and update C2BMC operations manuals in support of DTS and deliver via the DAL. (CDRL A012)

B) Develop and maintain the training Operations Concept within the C2BMC OPSCON. (CDRL A016)

C) Update detailed analysis report describing the capabilities and limitations for the DTS Node and deliver via the DAL as requested by the government. (CDRL A012)

D) Update and maintain the spiral requirements specifications and the required traceability for requirements verification and deliver via the DAL. (CDRL A012)

E) Maintain the DTS Node IDD (TD-AS-C2BMC to DTS IDD and TD-AS-C2BMC Planner to DTS Sim-Stim NRT IDD) Deliver updates as required via the DAL (CDRL A012)

F) Update the C2BMC to DTS IDD (#TD-AS-C2BMC to DTS IDD) to include additional hardware in the loop (HWIL) interfaces as directed by the government and deliver via the DAL (CDRL A012)

3.2.2.5 Demonstration

A) Provide DTS status briefings and SME support for DTS demonstrations for C2BMC Program Office with external stakeholders periodically.

3.2.2.6 Cybersecurity

A) The Contractor shall develop and incorporate into the DTS the Cybersecurity RMF requirements for deployment on a Government-provided DoD network IAW DoDI 8510.01 and NIST SP 800-53, to include continuous monitoring capabilities. The corrections implemented by the Contractor shall be coordinated and prioritized with the Government for inclusion in S8.2-3 DTS. The Contractor shall correct, mitigate, or submit risk acceptance packages for all non-compliant requirements.

3.2.3 System Maintenance Request (SMR) Resolution for DTS Node Baselines

The contractor shall develop system changes as required to resolve SMRs documented against the DTS Node baselines (S8.2-1 and S8.2-3). The contractor shall coordinate with the Government to gain approval/prioritization of SMRs to be fixed against each DTS Node baseline.

4.0 Support Real World, Contingency Operations or Special Emphasis Projects

The Contractor shall execute special emphasis tasks that include implementation of technical study results or recommendations; analyses, assessments, and reports; issue resolutions for C2BMC; procurement of materiel; software updates/engineering releases; facility changes, and training. The Contractor shall maintain flexibility to call upon various degrees and types of support. Support could entail supporting mission priorities, real world deployments, and contingency events both CONUS and OCONUS. Results shall be delivered to the Government IAW instructions in the Task Instruction(s).

5.0 Period of Performance

1 October 2016 to 1 November 2019

6.0 Travel

The Contractor shall travel as necessary to participate in meetings, conferences, program reviews, technical interchanges, and test events to accomplish the work described in this task order.

7.0 Deliverables

The following identifies the required CDRL deliverables associated with this TO.

CDRL #	CDRL Title
A003	Program Reviews/ Conference Minutes
A012	Data Accession List (DAL)
A015	C2BMC Spiral Specifications (CSS)
A016	OPSCON Document
A042	Executable and Source Code
A044	Software Data/Documentation

The following deliverables require Government acceptance through Wide Area Work Flow (WAWF) Receiving Reports:

- S8.2-1 Training Support System IAW CDRL A042 and A044.
- S8.2-3 Training Support System IAW CDRL A042 and A044.
- S8.2-1 Distributed Training System IAW CDRL A042 and A044.
- S8.2-3 Distributed Training System IAW CDRL A042 and A044.

C2BMC capabilities will include completion of fielding efforts during this period of performance. The Contractor shall deliver the test reports through Wide Area Work Flow Receiving Reports for Government approval confirming successful completion of each listed event. Acceptance criteria for the below is successful evidence provided to the Government that each deployment has been completed and each system is fully operational.

- Completion of the initial S8.2-1 Training Support System (hardware and software) to the following locations with required DOD-compliant Cyber Security certifications, NLT Mar 31, 2018:
    - Space and Missile Defense Command (SMDC) Schoolhouse
    - US Pacific Command (PACOM) Sensor Managers
    - Joint BMDS Training and Education Center (JBTEC)

- Completion of S8.2-1 Training Support System software updates to the following locations, NLT Mar 31, 2018:
    - STRATCOM Test & Integration Facility (TIF)

- USAF 505th AFAMS

- Completion of the initial S8.2-3 Training Support System to the following locations with required DOD-compliant Cyber Security certifications:
  - Space and Missile Defense Command (SMDC) Schoolhouse
    NLT 30 June 2018
  - US Pacific Command (PACOM) Sensor Managers
    NLT 30 Nov 2018

  US European Command (EUCOM) Sensor Managers
    NLT 30 Aug 2018
  - US Central Command (CENTCOM) Sensor Managers
    NLT 30 Aug 2018

- Completion of S8.2-3 Training Support System software updates to the following locations, NLT 30 June 2018:
  - STRATCOM Test & Integration Facility (TIF)
  - Joint BMDS Training and Education Center (JBTEC)
  - USAF 505th AFAMS

8.0 Schedule

Key dates:

Milestone	Completion Date
S8.2-1 TSS Ship TIM	1st QTR FY18
S8.2-3 TSS Design TIM	3rd QTR FY17
S8.2-3 DTS Design TIM	2nd QTR FY18
S8.2-1 TSS Fielding Complete	2nd QTR FY18
S8.2-3 TSS Ship TIM	3rd QTR FY18
S8.2-3 DTS SRR	3rd QTR FY18
S8.2-3 TSS Fielding Complete	1st QTR FY19
S6.4 TSS Component removal Complete	3rd QTR FY19
S8.2-1 TSS Component removal Complete	3rd QTR FY19
S8.2-1 DTS Test Completion TIM	1st QTR FY18

9.0 Acronym List

AMDEX	Air & Missile Defense Exercise
ATP	Authority to Proceed
BISD	BMDS SSA Integrated Sensing Demonstration

BITC	BMDS Integration and Test Center
BOA	BMDS OPIR Architecture
BOM	Bill of Materials
C2	Command and Control
CBS	C2BMC Build Specification
CDR	Critical Design Review
CDRL	Contract Data Requirements List
CDU	Cobra Dane Upgrade
CENTCOM	US Central Command
COP	Common Operating Picture
COT	Concurrent Operations and Test
CSS	C2BMC Spiral Specification
CTTO	Concurrent Test, Training, and Operations
C&UT	Code and Unit Test
CWBS	Contract Work Breakdown Structure
DAL	Data Accession List
DEV	Development
DMETS	Distributed Multi-Echelon Training System
DTAPS	Detailed Test and Analysis Procedures
DTS	Distributed Training System
EADSIM	Extended Air Defense Simulation
EAMDEX	European Air & Missile Defense Exercise
EIUT	Early Integration User Test
EUCOM	US European Command
EVMS	Earned Value Management System
FADD	Functional Architecture Design Document
FRB	Failure Review Board
GCCS	Global Command and Control System
GCCTE	Global Combatant Commander's Training Environment
GEM	Global Engagement Manager
GFC	GMD Fire Control
GMD	Ground-based Midcourse Defense
GST	GMD System Training
GTI	Ground Test - Integrated
HWIL	Hardware in the Loop
IA	Information Assurance
IAW	In Accordance With
IBR	Integrated Baseline Review
ICCB	Internal Configuration Control Board
ICD	Interface Control Document
IMS	Integrated Master Schedule
IPPD	Integrated Process and Product Development
IPR	In Progress Review
ISC	Integration Synchronization Center
ISC-2	Integrated Space Command and Control
ISG	Integration Synchronization Group

JBTEC	Joint BMDS Training and Education Center
JFCC-IMD	Joint Functional Component Command for Integrated Missile Defense
JMS	Joint Space Operations Center Mission System
JTAGS	Joint Tactical Ground Station OR Joint Tactical Air-to-Ground Station
LRDR	Long Range Discrimination Radar
MDIOC	Missile Defense Integration and Operation Center
MDST	Missile Defense Space Warning Tool
MR	Maintenance Release
NAVCENT	US Naval Forces Central Command
O&S	Operation and Sustainment
OPSCON	Operations Concept
OSM	Open Systems Architecture Sensor Models
PAC-3	Patriot Advanced Capability - Increment 3
PACOM	US Pacific Command
PDR	Preliminary Design Review
PCB	Program Change Board
PDS-M	Processing and Display System Migration
PMR	Program Management Review
PKI	Public Key Infrastructure
PSN	Parallel Staging Network
SBIRS	Space Based Infrared System
SBX	Sea-Based X-Band Radar
SERR	System Engineering Requirements Review
SMDC	Space and Missile Defense Command
SOW	Statement of Work
SPEAR	Synchronization of Program Execution Activity Roundtable
SRR	Ship Readiness Review
STARS	Strategic Threat Analysis Reporting System
STRATCOM	US Strategic Command
TSRA	Training System Requirements Analysis
THAAD	Terminal High Altitude Area Defense
TEDD	TSS Emulation Description Document
TIF	Test & Integration Facility
TIM	Technical Information Meeting
TO	Task Order
TPY-2	Army/Navy Transportable Radar Surveillance
TSS	Training Support System
TTC	Task Training List
UEWR	Upgraded Early Warning Radar