

PERFORMANCE WORK STATEMENT (PWS)

Joint Project Manager Information Systems (JPM IS)

Joint Effects Model (JEM) Increment 2 Prototype Development and Integration



Joint Program Manager Information Systems (JPM IS)

4301 Pacific Highway

San Diego, CA 92110-3127

Contents

PERFORMANCE WORK STATEMENT (PWS)	1
Joint Project Manager Information Systems (JPM IS)	1
Joint Effects Model (JEM) Increment 2 Prototype Development and Integration.....	1
Contents.....	2
Performance Work Statement.....	6
1. Introduction	6
2. Background	6
3. Scope.....	7
3.1 Base Period.....	7
3.2 Option Period(s)	7
4. Base Period – Performance Requirements for RDT&E	7
4.1 Program and Systems Engineering Management (RDT&E)	8
4.1.1 Post Award Conference	8
4.1.2 Technical Interchange Meetings.....	8
4.1.3 Contract Work Breakdown Structure	8
4.1.4 Management, Development, and Test Plans – New Development	9
4.1.5 Routine Contractor Reporting	9
4.2 Software Development and Technical Documentation (RDT&E)	10
4.2.1 JEM Incr 2 System Allocated Baseline Software Requirements	10
4.2.2 Base Period – Software and Documentation Delivery Requirements.....	13
4.3 Configuration Management (RDT&E)	14
4.4 Information Assurance (IA) Implementation (RDT&E).....	14
4.4.1 Maintain IA Baseline Integrity	14
4.4.2 IA Implementation Plan	14
4.4.3 IA Control Testing and Validation	14
4.5 Technology Demonstrations and Government Assessments (RDT&E)	14
4.5.1 Mid-Term Demonstration and Government Assessment	14
4.5.2 Final Demonstration and Government Assessment.....	15
4.5.3 Technical Support during Government’s Final Assessment Period.....	15

5.	Option Periods – Performance Requirements for RDT&E.....	16
5.1	Program and Systems Engineering Management (RDT&E)	16
5.1.1	Post Award Conference	16
5.1.2	Program Management.....	16
5.1.3	Contract Work Breakdown Structure	16
5.1.4	Management, Development, and Test Plans – New Development	16
5.1.5	Routine Contractor Reporting	17
5.2	Preliminary Design Review and JEM Milestone B Support (RDT&E)	17
5.2.1	Technical Support	18
5.2.2	Software and Documentation Updates	18
5.3	Software Development and Technical Documentation (RDT&E)	18
5.3.1	JEM Incr 2 Initial Production Baseline Software Requirements	18
5.3.2	Option Period – Software and Documentation Delivery Requirements	21
5.4	Configuration Management (RDT&E)	22
5.5	Information Assurance (IA) Implementation (RDT&E).....	22
5.5.1	Maintain IA Baseline Integrity	22
5.5.2	IA Implementation Plan	22
5.5.3	IA Control Testing and Validation	22
5.6	C2 Integration Services (RDT&E)	23
5.7	S&T Integration Services (RDT&E).....	23
5.8	System Upgrade Support Services (RDT&E).....	23
5.8.1	Fielded System Upgrade Support	23
5.8.2	Program Change Report (PCR) Process Support.....	23
5.8.3	Software Delivery.....	24
5.8.4	Technical Publications and Training Materials	25
5.9	System Test and Evaluation (RDT&E).....	25
5.9.1	On-Going Developmental Test and Evaluation Support.....	25
5.9.2	Follow-on Operational Test and Evaluation Support	26
6.	Option Periods – Performance Requirements for PROC	26

6.1	Program Management – Production, Installation, and Logistics Support (PROC).....	26
6.1.1	Routine Contractor Reporting	26
6.2	Installation Support (PROC)	27
6.2.1	Software Delivery.....	27
6.2.2	Technical Publications and Training Materials	28
7.	Option Periods – Performance Requirements for O&M	29
7.1	Program Management – Sustainment Support (O&M).....	29
7.1.1	Routine Contractor Reporting	29
7.2	Configuration Management (O&M).....	30
7.3	Fielded System Maintenance Support (O&M).....	30
7.3.1	Software Delivery.....	30
7.3.2	Help Desk Support	32
7.3.3	Technical Publications and Training Materials	32
7.3.4	Maintain IA Baseline Integrity	32
7.3.5	IA Implementation Plan	32
7.3.6	IA Control Testing and Validation	32
7.3.7	Follow-on Test and Evaluation Support.....	33
8.	Option Periods – Performance Requirements for Foreign Military Sales	33
8.1	Program Management – Foreign Military Sales (FMS).....	33
8.2	Configuration Management (FMS)	33
8.3	Fielded System FMS Support (FMS).....	33
8.3.1	Software Delivery.....	33
8.3.2	Help Desk Support	35
8.3.3	Maintain IA Baseline Integrity	35
8.3.4	IA Implementation Plan	35
8.3.5	IA Control Testing and Validation	35
8.3.6	Test and Evaluation Support.....	36
9.	Deliverables and Additional Contractor Requirements.....	37
9.1	Contractor Employee Identification.....	37

9.2	Common Access Cards (CACs).....	37
9.3	Deliverable Products	37
10.	References and GFI	38
10.1	Government Furnished Information	38
10.2	Other Applicable References.....	39
11.	Travel.....	40
12.	Navy Marine Corps Intranet (NMCI)	40
13.	Place of Performance.....	40
14.	Period of Performance.....	40
15.	Performance Standards	40
16.	Security	41
17.	Acronym List	42

Performance Work Statement

Joint Project Manager Information Systems (JPM IS)

Joint Effects Model (JEM) Increment 2 Software Development, Integration, Upgrade and Maintenance Services

1. Introduction

The Performance Work Statement (PWS) describes the Contractor's work in terms of required results for the procurement of software development, integration, and on-going software upgrade services, including software maintenance and production updates to support the Joint Effects Model (JEM) Increment 2 (Incr 2) program of record.

Contractors are not expected to develop new modeling capability. The majority of modeling capability is provided in the Technical Data Package (TDP). Where the Contractor has a more mature, superior model that better meets the needs of an operational user than those included in the TDP, the model may be integrated, but should already be Technology Readiness Level (TRL) 6. The majority of the development activity should be focused on providing a robust end user architecture and graphical user interface that meets JEM Incr 1 and Incr 2 requirements and provides a substantial improvement over the existing JEM Incr 1 product.

2. Background

JEM is a web-based, software-only application that supplies the Department of Defense (DoD) with the single accredited and operationally tested tool to model and simulate the effects of Chemical, Biological, Radiological, and Nuclear (CBRN) weapon strikes and incidents. JEM combines the best components from existing CBRN Science and Technology (S&T) models into a single application. JEM provides rapid estimates of hazards and effects that can be integrated into the Common Operational Picture (COP). Additionally, JEM supports planning to mitigate the effects of Weapons of Mass Destruction (WMD).

JEM may be used at any level from strategic to tactical to collect and report CBRN event data from CBRN warning systems and observations from land, air, and maritime units. The plumes of CBRN events are computed, formatted for use by the warning system, and broadcast for operational CBRN cells' COP to provide a standardized picture of the effects of the CBRN material throughout the battlespace taking into account terrain and weather information. Analytic, reachback, and intelligence data can be shared between CBRN cells to further describe the effects of the CBRN event. JEM may be accessed through its Command and Control (C2) host system or it may be installed as a stand-alone software application on a computer that is not interfaced with or networked into a C2 system. In addition, JEM may be accessed in a network-enabled version of the stand-alone configuration that is independent of a host C2 system.

Acquisition management for JEM is provided by the Joint Project Manager for Information Systems (JPM-IS), a project office of the Joint Program Executive Office for Chemical and Biological Defense (JPEO-CBD). Requirements for JEM are generated by the Joint Requirements Office for CBRN Defense (JRO-CBRND), working together with the JEM stakeholders and the JEM Program Management Office (PMO).

Based on requirements contained in the original JEM Operational Requirements Document (ORD), the Chemical and Biological Defense Program (CBDP) began development and prototyping of S&T for JEM Increment 2 components in FY05 through a series of Broad Agency Announcements (BAA) managed by the Defense Threat Reduction Agency (DTRA) Joint Science and Technology Office (JSTO). The JPEO-CBD approved the JEM Increment 2 Materiel Development Decision (MDD) in September 2009. JEM Increment 2 reached a successful Milestone A and received authorization to enter the Technology Development Phase on February 22, 2011.

3. Scope

3.1 Base Period

The Contractor shall develop software to serve as the JEM Increment 2 System Allocated Baseline as well as the software architecture for the JEM S&T Prototype. The Contractor shall deliver the final JEM Incr 2 software product and associated technical documents, as described within the PWS and attached CDRLs. Additionally, the Contractor shall provide program and systems engineering management support to plan and execute all required work. The Contractor shall support two technology demonstrations: a midterm demo and final demo. These demonstrations will be part of the Government's assessment for the purposes of down-select evaluations. During the Government's down-selection process, the Contractor shall provide technical support to the Government assessors to clarify questions and concerns respecting the Contractor's delivered product. Thereafter, if the Contractor is evaluated as the best value developer within the down-select process, the Government will exercise the contract option period to retain the Contractor as the integrator of JEM Incr 2 software.

3.2 Option Period(s)

The Contractor shall provide technical support and software upgrades to the JEM Incr 2 System Allocated Baseline to assist the Government in achieving a successful Preliminary Design Review (PDR) and Milestone B decision. Thereafter, the Contractor shall develop and deliver JEM Incr 2 Initial Production Baseline software. Additionally, the Contractor shall provide program management support to plan and execute all required work. Throughout the option periods, the Contractor shall be responsible for maintaining the configuration management and information assurance posture of the existing JEM baseline. The Contractor shall perform on-going software integration services to integrate selected S&T components into the Initial Production Baseline software. The Contractor shall perform on-going software upgrades and C2 integration services. The contractor shall work with various JEM Integrated Product Team (IPT) working groups to analyze, discuss, evaluate, and resolve any software development issues with respect to the JEM model integration efforts. The Contractor shall provide the fielded product upgrade support of the JEM software. The Contractor shall support the Program Change Report (PCR) Process. The Contractor shall provide support to develop or update classroom curriculum and training materials for systems in development. The Contractor shall conduct or support system test and evaluation, as described in the PWS below.

4. Base Period – Performance Requirements for RDT&E

The following requirements apply to the contract base period.

4.1 Program and Systems Engineering Management (RDT&E)

The Contractor shall provide program management support to plan and execute all work required under this PWS, the CDRLs, and future TIs. The Contractor shall ensure all work conducted under this PWS is planned and executed in a manner that will achieve cost, schedule, and performance objectives. The Contractor shall use the Contracting Officer's Representative (COR) as the primary point of contact for all program activities.

4.1.1 Post Award Conference

The Contractor shall attend a Post-Award Conference (PAC) with the Government Program Office and contracting representatives. The PAC will be scheduled by the Procurement Contracting Officer (PCO) in conjunction with the Program Office as soon as practicable after contract award.

4.1.1.1 System Requirements Review

The Contractor shall attend a Government-hosted System Requirements Review (SRR) to ensure that JEM system requirements have been completely and properly identified and that a mutual understanding between the government and contractor exists. The SRR will be scheduled by the PCO in conjunction with the Program Office as soon as practicable following the PAC. The Government anticipates the SRR to be a one-day event. The Contractor shall deliver meeting minutes in accordance with Contract Data Requirement List (CDRL) A028 and within five working days following the SRR.

CDRL A028: Report, Record of Meeting / Minutes

4.1.2 Technical Interchange Meetings

The Contractor shall conduct approximately eight Technical Interchange Meetings (TIM) upon request by the Government or the Contractor. The date and frequency of the TIMs will be based on the specific request of the Government or Contractor, but shall not exceed once per month. It is anticipated the TIMs will be held at the Contractor's facility. For Government initiated TIMs, the Government will provide the Contractor with a list of topics to be discussed at the TIM no later than five working days prior to the requested date. For Contractor initiated TIMs, the Contractor shall provide the COR a list of topics to be discussed at the TIM five working days prior to the requested date, in accordance with CDRL A027. All Contractor TIMs shall be limited to clarifying or resolving issues arising from incomplete or conflicting information with respect to the information provided in the TDP. The Contractor shall document each meeting's significant events, results, and action items, in accordance with CDRL A028 and shall be delivered no later than five working days after each TIM. Agendas, briefing materials, and minutes shall be delivered in accordance with the following deliverables:

CDRL A027: Meeting Agenda

CDRL A028: Report, Record of Meeting / Minutes

4.1.3 Contract Work Breakdown Structure

The Contractor's cost and performance management approach shall be documented in a Contract Work Breakdown Structure (CWBS) and Data Dictionary. The CWBS shall be created in accordance with Military Handbook (MIL-HDBK) 881 and shall contain granularity commensurate with the work to be performed under this PWS. The CWBS shall be delivered in accordance with the following deliverable:

CDRL A003: Contract Work Breakdown Structure (CWBS)

4.1.4 Management, Development, and Test Plans – New Development

The Contractor shall define a systems engineering management approach appropriate for the work to be performed under this PWS. The Contractor shall document this approach in a Systems Engineering Management Plan (SEMP) consistent with the terms of this PWS and delivered in accordance with SEMPCDRL. The Contractor shall perform all applicable work in accordance with the Contractor's Government-approved SEMPCDRL. The Contractor shall provide the following deliverable:

CDRL A004: Systems Engineering Management Plan (SEMP)

The Contractor shall define a software development approach appropriate for the work to be performed under this PWS. The Contractor shall document this approach in a Software Development Plan (SDP) consistent with the terms of this PWS and SDPCDRL. The Contractor shall perform all applicable work in accordance with the Contractor's Government-approved SDPCDRL. The Contractor shall provide the following deliverable:

CDRL A005: Software Development Plan (SDP)

The Contractor shall define a test strategy that describes plans for qualification testing of Computer Software Configuration Items (CSCIs) and software systems. The Contractor shall document this approach in a Software Test Plan (STP) that describes the software test environment to be used for the testing, identifies the tests to be performed, and provides schedules for test activities. The Contractor shall provide the following deliverable:

CDRL A019: Software Test Plan (STP)

4.1.5 Routine Contractor Reporting

A) Weekly Status Report

On a weekly basis, the Contractor shall deliver a Weekly Status Report (WSR) that briefly discusses upcoming meetings, deliveries, travel, activities accomplished, plan for the next week, new issues, and current issues. The Contractor should highlight those items that are new additions over the previous week's WSR. The Contractor shall provide the following deliverable:

CDRL A006: Weekly Status Report (WSR)

B) Cost Control Report

On a monthly basis, the Contractor shall provide Cost Control Reports (CCRs) to: integrate cost and schedule performance data with technical performance measures; identify the magnitude and impact of actual and potential problem areas causing significant cost and schedule variances; and, provide valid, timely program status information and risks to the Program Office. The Contractor shall provide the following deliverable:

CDRL A007: Cost Control Report (CCR)

C) Software Resources Data Report

The Contractor shall provide Software Resources Data Reporting (SRDR) to describe the software product, developer, and actual as-developed software product size, development schedule, peak staff, and direct labor hours incurred. SRDR consists of an Initial Developer Report and Final Developer Reports, and shall be delivered by the Contractor in accordance with SRDR CDRL. The Contractor shall provide the following deliverable:

CDRL A008: Software Resources Data Reporting (SRDR)

D) Integrated Master Schedule Report

The Contractor shall define and continually update an integrated management control system for performance of the efforts associated with this contract. This system shall be documented and maintained in the Contractor's Integrated Master Schedule (IMS). To accomplish this subtask, the Contractor shall refer to the DoD Integrated Master Plan and Integrated Master Schedule Preparation and Use Guide (Version 9, 21 October 2005). Within the IMS, the Contractor shall describe the planned events and milestones, exit criteria, and activities, which shall directly relate to specific accomplishments. The Contractor shall provide the following deliverable:

CDRL A009: Integrated Master Schedule (IMS)

4.2 Software Development and Technical Documentation (RDT&E)

4.2.1 JEM Incr 2 System Allocated Baseline Software Requirements

The Contractor shall develop and deliver software to serve as the JEM Increment 2 System Allocated Baseline as well as the software architecture for the JEM S&T Prototype.

As used herein, the term "integration" shall mean:

- 1) To create a Common CBRN Model Interface (CCMI) component according to the guidelines and related blueprints,
- 2) To make corrections to the specified component, if necessary to fix issues or complete functionality in order to align with the related functional referent, and
- 3) To incorporate the specified CCMI component into the JEM System Allocated Baseline using the associated functional referent.

Acceptable software must meet the following requirements:

- a) Software components are CCMI compliant
 - i. As part of the CCMI component deliveries, Contractor shall confirm that the tests results are consistent with the referent models and if not, provide an explanation for the differences
- b) Software components can run within the CCMI Autogenerated Test Tool (CATT)
- c) Software complies with the Net-Ready Key Performance Parameter (NR-KPP) as defined in Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 6212.01F
- d) Software complies with current active communication and software standards, as defined in the JEM StdV-1 and the DoD Information Technology (IT) Standards Registry (DISR)
- e) Software that provides a scalable web application, in which the software:
 - i. Allows for a user to be authenticated
 - ii. Allows for models to be run concurrently
- f) Software provides a desktop solution with similar capabilities as the web application
- g) The software contains CBRN modeling web service methods, in order to:
 - i. Support information sharing among the CBRN communities
 - ii. Represent the interests of the Community of Interests (COI) to other domains and COIs
 - iii. Support backward compatibility with Joint Warning and Reporting Network (JWARN) Block 1 and JWARN Incr 1
- h) Software provides equivalent (or greater) functionality as JEM Incr 1

- i) The Contractor shall provide software to import or translate JEM Incr 1 problem sets
- j) Decouple Second-order Closure Integrated Puff (SCIPUFF) Transport and Dispersion and SCIPUFF Weather Input Module (SWIM)
- k) Use and extend the following Incr 1 blueprints from CATT in order to facilitate integration activities:
 - i. Agent Material
 - ii. Chemical/Biological Incident Release
 - iii. Meteorological Processor
 - iv. Meteorological Source
 - v. Output Generator
 - vi. Transport and Dispersion
 - vii. Secondary Evaporation
 - viii. Radiation Activity
 - ix. Isotope Properties
 - x. Munitions
 - xi. Explosive Warhead
 - xii. Effects
 - xiii. Effects Collator
 - xiv. Terrain
 - xv. Land Use
 - xvi. Population
 - xvii. Land Properties
- l) Create the following JEM Incr 1 blueprint and others, if necessary in order to facilitate integration activities:
 - i. Radiological/Nuclear Incident Release
- m) The software demonstrates the following Incr 1 CBRN agent material:
 - i. Integrate the Agent Material component. The functional referent will be from CATT
- n) The software demonstrates the following Incr 1 CBRN effects model:
 - i. Integrate the FxCODA capability. The functional referent will be from Hazard Prediction and Assessment Capability (HPAC) Maintenance Build Update v168
- o) The software demonstrates the following Incr 1 CBRN effects collator:
 - i. Integrate the Effects Collator component. The functional referent will be from CATT
- p) The software demonstrates the following Incr 1 CBRN incident source models:
 - i. Integrate the Analytical Incident Source Model component. The functional referent will be from CATT
 - ii. Integrate the Chemical Biological Facility Strike capability. The functional referent will be from HPAC Maintenance Build Update v168
 - iii. Integrate the Chemical Biological Weapon Strike Vapor Liquid Solid (VLS) capability. The functional referent will be from VLS Drive
 - iv. Integrate the Chemical Stored Weapon Incident capability. The functional referent will be from JEM Incr 1
 - v. Integrate the High Altitude Release (HAR) capability. The functional referent will be from JEM Incr 1
 - vi. Integrate the Radiological Weapon capability. The functional referent will be from HPAC Maintenance Build Update v168
 - vii. Integrate the Nuclear Technology weapon (NTwpm) capability. The functional referent will be from HPAC Maintenance Build Update v168

- viii. Integrate the Nuclear Weapon Incident capability. The functional referent will be from HPAC Maintenance Build Update v168
- ix. Integrate the Nuclear Facility capability. The functional referent will be from HPAC Maintenance Build Update v168
- q) The software demonstrates the following Incr 1 CBRN meteorological processors:
 - i. Integrate the SWIM capability. The functional referent will be from HPAC Maintenance Build Update v168
- r) The software demonstrates the following Incr 1 CBRN meteorological data sources:
 - i. Integrate the Meteorological Data Server (MDS) capability. The functional referent will be from HPAC Maintenance Build Update v168.
 - ii. Integrate the Stationary Wind Fit and Turbulence (SWIFT) capability. The functional referent will be from HPAC Maintenance Build Update v168.
 - iii. Integrate the Air Force Weather Agency (AFWA) capability. The functional referent will be from JEM Increment 1.
 - iv. Integrate the Meteorological Grid Format (METGM) capability. The functional referent will be from CATT.
 - v. Integrate the historical weather capability. The functional referent will be from HPAC Maintenance Build Update v168.
- s) The software demonstrates the following Increment 1 CBRN munitions model:
 - i. Integrate the Munitions component. The functional referent will be from CATT.
- t) The software demonstrates the following Increment 1 CBRN output generator capability:
 - i. Integrate the Output Generator component. The functional referent will be from CATT.
- u) The software demonstrates the following Increment 1 CBRN transport and dispersion models:
 - i. Integrate the SCIPUFF capability. The functional referent will be from HPAC Maintenance Build Update v168.
 - 1) Use the CCMI population data source in SCIPUFF.
 - 2) Use the CCMI terrain data source in SCIPUFF.
- v) The software demonstrates the following Increment 1 CBRN secondary evaporation models:
 - i. Integrate the Secondary Evaporation capability. The functional referent will be from VLS Drive.
- w) The software demonstrates the following Increment 1 CBRN radiological transport models:
 - i. Integrate the Radiological Transport for HPAC (RTH) capability. The functional referent will be from HPAC Maintenance Build Update v168.
- x) Use and extend the following JEM Incr 2 blueprints from CATT in order to facilitate integration activities:
 - i. Urban
 - ii. Transport and Dispersion Controller
- y) Create other JEM Incr 2 blueprints as necessary in order to facilitate integration activities
- z) The software demonstrates the following Incr 2 CBRN explosive warhead:
 - i. Integrate the Explosive Warhead component. The functional referent will be from CATT.
- aa) The software demonstrates the following Increment 2 CBRN geographic data sources:
 - i. Integrate the Land Use component. The functional referent will be from CATT.
 - ii. Integrate the Population component. The functional referent will be from CATT.
 - iii. Integrate the Urban component. The functional referent will be from CATT.
 - iv. Integrate the Terrain component. The functional referent will be from CATT.
 - v. Integrate the Land Properties component. The functional referent will be from CATT.
- bb) The software demonstrates the following Increment 2 CBRN Incident Source Models (ISM):

- i. Integrate the Missile Intercept (MInt) capability. The functional referent will be from HPAC Maintenance Build Update v168.
- cc) The software demonstrates the following Increment 2 CBRN transport and dispersion models:
 - i. Integrate the Urban Dispersion Model (UDM) component. The functional referent will be from CATT.
 - 1) Use the CCMI population data source in Urban Dispersion Model.
 - 2) Use the CCMI terrain data source in Urban Dispersion Model.
- dd) The software demonstrates the following Increment 2 CBRN transport and dispersion controller:
 - i. Integrate the Transport and Dispersion Controller. The functional referent will be from CATT.
- ee) The software demonstrates different user interfaces for user levels: limited, significant, and expert
- ff) The software demonstrates the capability to allow users to share project files

4.2.2 Base Period – Software and Documentation Delivery Requirements

The Contractor shall deliver software in accordance with the *JPM IS Software Deliveries Process, Standard Operating Procedures (SOP) 31* (24 March 2010) to include delivery of Software Items and Technical Documentation described below. Software delivery shall include all components of the software, even if no changes have been made to specific components. The Contractor shall ensure that all software and documentation are delivered electronically if possible. If problems arise which prevent electronic delivery (e.g. network outages), or if the size of the software file(s) is too large thereby preventing a successful download, then deliveries should be made via Digital Versatile Disc (DVD).

As part of a Software Delivery, the Contractor shall create and deliver the following software and technical documentation:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

CDRL A011: Software Requirements Specification (SRS)

CDRL A012: Software Design Description (SDD)

CDRL A013: Software Version Description (SVD)

CDRL A014: Interface Design Document (IDD)

CDRL A015: Software Programmer's Guide (SPG)

CDRL A016: System Administrator Manual (SAM)

CDRL A017: Software User Manual (SUM)

CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

With respect to the Contractor's delivery of its final JEM Incr 2 System Allocated Baseline Software, the Contractor shall deliver a Preliminary Verification and Validation (PV&V) Report that supports the assessment of the Contractor's delivered software for maturity and suitability for fielding, and assessment of the Contractor's delivered software for its potential of receiving model accreditation at a future date.

CDRL A026: Preliminary Verification and Validation Report (PV&V Report)

4.3 Configuration Management (RDT&E)

The Contractor shall implement a configuration management strategy for systems in development that is consistent with the JPM IS Standard Operating Procedures. The Contractor shall implement a mechanism for recording, tracking, and reporting the status of Configuration Items (CIs).

4.4 Information Assurance (IA) Implementation (RDT&E)

The Contractor shall deliver software that is secure and accreditable. The Contractor shall ensure security requirements, as described in the JEM Information Assurance (IA) Strategy, are addressed in software design and development. The Contractor shall conduct security scans, document vulnerabilities, correct vulnerabilities, and document the resolution or mitigation of vulnerabilities. The Contractor shall support the Government's effort to accomplish JEM accreditation by assessing the validity of vulnerabilities identified during formal Government accreditation testing, recommending corrective actions to resolve or mitigate vulnerabilities, and estimating the level of effort and time required to resolve valid vulnerabilities.

4.4.1 Maintain IA Baseline Integrity

The Contractor shall ensure that the addition of software developed under this PWS does not compromise the security posture of the JEM software. Any Category 1 and Category 2 findings shall be considered a compromise of the security posture of the JEM software. Category definitions shall be governed by DoDI 8510.01, DoD Information Assurance Certification and Accreditation Process (DIACAP).

4.4.2 IA Implementation Plan

The Contractor shall implement IA strategies and a validation plan consistent with JEM's IA Strategy.

4.4.3 IA Control Testing and Validation

The Contractor shall demonstrate compliance with the applicable IA controls through performance of a Contractor IA Self Assessment. The Contractor shall evaluate each software end-item against the applicable Security Technical Implementation Guides (STIGs) or checklists as provided in JEM's IA Strategy. Additionally, for STIGs or checklists that are supported by automated test tools, the Contractor shall deliver the test reports generated by the test tools as part of any software delivery:

CDRL A021: Information Assurance Test Tool Reports (IATTRs)

4.5 Technology Demonstrations and Government Assessments (RDT&E)

4.5.1 Mid-Term Demonstration and Government Assessment

The Contractor shall prepare a demonstration of the to-date completed software no later than 2 calendar weeks after the mid-point of the base period of performance. The Contractor shall coordinate and schedule this event with the Government at least 5 weeks prior to holding the event. The

Contractor shall demonstrate their delivered software and explain how their software meets the software assessment criteria (also referred to as, “down-select criteria”). In addition to a demonstration, the Contractor shall prepare a status review to brief the PMO on the current cost, schedule, and performance status metrics of the JEM Incr 2 System Allocated Baseline Software. For the purposes of planning Contractor level of effort, the JEM PMO anticipates one mid-term status review and demonstration lasting no more than 1 working day, to be held at Government facilities in the San Diego area.

Five days prior to the scheduled mid-term demonstration, the Contractor shall deliver a completed Self-Assessment Report and Briefing Materials in accordance with the following deliverables:

CDRL A001: Self-Assessment Report (SAR)

CDRL A002: Briefing Materials

4.5.2 Final Demonstration and Government Assessment

Within 10 business days (2 weeks) following the Contractor’s final delivery of the JEM Incr 2 System Allocated Baseline Software and at least 30 business days (6 weeks) prior to end of the base period, the Contractor shall demonstrate their delivered software and explain how their software meets the software assessment criteria (also referred to as, “down-select criteria”). The Contractor shall coordinate the date and time of the final demonstration with the JEM PMO. The final demonstration will be held at the JEM Prototyping Lab at Space and Naval Warfare (SPAWAR) Systems Center (SSC) Pacific. In addition to a demonstration, the Contractor shall prepare a status review to brief the PMO on the current cost, schedule, and performance status metrics of the JEM Incr 2 System Allocated Baseline Software. For the purposes of planning Contractor level of effort, the JEM PMO anticipates one demonstration lasting no more than 2 consecutive working days.

Five days prior to the scheduled final demonstration, the Contractor shall deliver a completed Self-Assessment Report in accordance with the following deliverable:

CDRL A001: Self-Assessment Report (SAR)

CDRL A002: Briefing Materials

4.5.3 Technical Support during Government’s Final Assessment Period

Following the Contractor’s final delivery of the JEM Incr 2 System Allocated Baseline Software, the Contractor shall provide technical support to the Government assessors to answer any questions and to clarify any concerns the Government may have during the assessment respecting the Contractor’s delivered product. For the purposes of planning, the Government intends to complete the final assessment within 2 calendar weeks following the last day of the last Contractor’s final demonstration.

5. Option Periods – Performance Requirements for RDT&E

The following requirements apply to the contract option periods.

5.1 Program and Systems Engineering Management (RDT&E)

The Contractor shall provide program management support to plan and execute all work required under this PWS, the CDRLs, and future TIs. The Contractor shall ensure all work conducted under this PWS is planned and executed in a manner that will achieve cost, schedule, and performance objectives. The Contractor shall use the COR as the primary point of contact for all program activities.

5.1.1 Post Award Conference

The Contractor shall attend a PAC with the Government Program Office and contracting representatives. The PAC will be scheduled by the PCO in conjunction with the Program Office as soon as practicable after contract award.

5.1.2 Program Management

The Contractor shall schedule, coordinate and present program status updates at quarterly In Process Reviews (IPR) in or around San Diego, California (CA) at a Government facility. Upon the Government's request, additional IPRs may be scheduled if critical issues arise or significant events or changes occur. Within 5 days of any IPR, the Contractor shall provide the following deliverable:

CDRL A002: Briefing Materials

5.1.3 Contract Work Breakdown Structure

The Contractor's cost and performance management approach shall be documented in a CWBS and Data Dictionary. The CWBS shall be created in accordance with MIL-HDBK-881 and shall contain granularity commensurate with the work to be performed under this PWS. The CWBS shall be delivered in accordance with the following deliverable:

CDRL A003: Contract Work Breakdown Structure (CWBS)

5.1.4 Management, Development, and Test Plans – New Development

The Contractor shall define a systems engineering management approach appropriate for the work to be performed under this PWS. The Contractor shall document this approach in a SEMP consistent with the terms of this PWS and delivered in accordance with SEMP CDRL. The Contractor shall perform all applicable work in accordance with the Contractor's Government-approved SEMP. The Contractor shall provide the following deliverable:

CDRL A004: Systems Engineering Management Plan (SEMP)

The Contractor shall define a software development approach appropriate for the work to be performed under this PWS. The Contractor shall document this approach in a SDP consistent with the terms of this PWS and SDP CDRL. The Contractor shall perform all applicable work in accordance with the Contractor's Government-approved SDP. The Contractor shall provide the following deliverable:

CDRL A005: Software Development Plan (SDP)

The Contractor shall define a test strategy that describes plans for qualification testing of Computer Software Configuration Items (CSCIs) and software systems. The Contractor shall document this

approach in a STP that describes the software test environment to be used for the testing, identifies the tests to be performed, and provides schedules for test activities. The Contractor shall provide the following deliverable:

CDRL A019: Software Test Plan (STP)

5.1.5 Routine Contractor Reporting

A) Weekly Status Report

On a weekly basis, the Contractor shall deliver a WSR that briefly discusses upcoming meetings, deliveries, travel, activities accomplished, plan for the next week, new issues, and current issues. The Contractor should highlight those items that are new additions over the previous week's WSR. The Contractor shall provide the following deliverable:

CDRL A006: Weekly Status Report (WSR)

B) Cost Control Report

On a monthly basis, the Contractor shall provide Cost Control Reports (CCRs) to: integrate cost and schedule performance data with technical performance measures; identify the magnitude and impact of actual and potential problem areas causing significant cost and schedule variances; and, provide valid, timely program status information and risks to the Program Office. The Contractor shall provide the following deliverable:

CDRL A007: Cost Control Report (CCR)

C) Software Resources Data Report

The Contractor shall provide a SRDR to describe the software product, developer, and actual as-developed software product size, development schedule, peak staff, and direct labor hours incurred. SRDR consists of an Initial Developer Report and Final Developer Reports, and shall be delivered by the Contractor in accordance with SRDR CDRL. The Contractor shall provide the following deliverable:

CDRL A008: Software Resources Data Reporting (SRDR)

D) Integrated Master Schedule Report

The Contractor shall define and continually update an integrated management control system for performance of the efforts associated with this contract. This system shall be documented and maintained in the Contractor's IMS. To accomplish this subtask, the Contractor shall refer to the DoD Integrated Master Plan and Integrated Master Schedule Preparation and Use Guide (Version 9, 21 October 2005). Within the IMS, the Contractor shall describe the planned events and milestones, exit criteria, and activities, which shall directly relate to specific accomplishments. The Contractor shall provide the following deliverable:

CDRL A009: Integrated Master Schedule (IMS)

5.2 Preliminary Design Review and JEM Milestone B Support (RDT&E)

The Contractor shall provide technical support and software updates to the JEM Incr 2 System Allocated Baseline to assist the Government in achieving a successful PDR and Milestone B decision.

5.2.1 Technical Support

Upon the date of the Government's down-select decision and after the awarding of the option period, the Contractor shall provide technical support in the form of subject-matter expertise as required to assist the Government achieve a successful PDR and Milestone (MS) B decision. As requested, the Contractor shall provide input to associated briefs and other event-related documentation:

CDRL A002: Briefing Materials

5.2.2 Software and Documentation Updates

To support PDR and MS B preparation, the Contractor shall update, improve, or revise existing software and technical documentation associated with the Contractor's previously delivered JEM Incr 2 System Allocated Baseline. As requested, the Contractor shall update, improve, or revise the following deliverables:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

CDRL A011: Software Requirements Specification (SRS)

CDRL A012: Software Design Description (SDD)

CDRL A013: Software Version Description (SVD)

CDRL A014: Interface Design Document (IDD)

CDRL A015: Software Programmer's Guide (SPG)

CDRL A016: System Administrator Manual (SAM)

CDRL A017: Software User Manual (SUM)

CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

CDRL A026: Preliminary Verification and Validation Report (PV&V Report)

5.3 Software Development and Technical Documentation (RDT&E)

5.3.1 JEM Incr 2 Initial Production Baseline Software Requirements

Following a successful MS B decision, the Contractor shall develop and deliver JEM Incr 2 Initial Production Baseline software, whereby:

- a) Software components are CCMI compliant

- i. As part of the CCMI component deliveries, Contractor shall confirm that the tests results are consistent with the referent models and if not, provide an explanation for the differences
- b) Software components can run within the CATT
- c) Software complies with the NR-KPP as defined in CJCSI 6212.01F
- d) Software complies with current active communication and software standards, as defined in the JEM StdV-1 and the DoD IT Standards Registry (DISR Online)
- e) Software that provides a scalable web application, in which the software:
 - i. Allows for a user to be authenticated
 - ii. Allows for models to be run concurrently
- f) Software provides a desktop solution with similar capabilities as the web application
- g) The software contains CBRN modeling web service methods, in order to:
 - i. Support information sharing among the CBRN communities
 - ii. Represent the interests of the COI to other domains and COIs
 - iii. Support backward compatibility with JWARN Block 1 and JWARN Incr 1
- h) Software provides equivalent (or greater) functionality as JEM Incr 1
- i) The Contractor shall provide software to import or translate JEM Incr 1 problem sets
- j) Decouple SCIPUFF Transport and Dispersion and SWIM
- k) Use and extend the following Incr 2 blueprints from CATT in order to facilitate integration activities:
 - i. Agent Material
 - ii. Chemical/Biological Incident Release
 - iii. Meteorological Processor
 - iv. Meteorological Source
 - v. Output Generator
 - vi. Transport and Dispersion
 - vii. Secondary Evaporation
 - viii. Radiation Activity
 - ix. Isotope Properties
 - x. Munitions
 - xi. Explosive Warhead
 - xii. Effects
 - xiii. Effects Collator
 - xiv. Terrain
 - xv. Land Use
 - xvi. Population
 - xvii. Land Properties
- l) Create the following JEM Incr 1 blueprint and others, if necessary in order to facilitate integration activities:
 - i. Radiological/Nuclear Incident Release
- m) The software demonstrates the following Incr 1 CBRN agent material:
 - i. Integrate the Agent Material component. The functional referent will be from CATT
- n) The software demonstrates the following Incr 1 CBRN effects model:
 - i. Integrate the FxCODA capability. The functional referent will be from HPAC Maintenance Build Update v168
- o) The software demonstrates the following Incr 1 CBRN effects collator:
 - i. Integrate the Effects Collator component. The functional referent will be from CATT
- p) The software demonstrates the following Incr 1 CBRN incident source models:

- i. Integrate the Analytical Incident Source Model component. The functional referent will be from CATT
- ii. Integrate the Chemical Biological Facility Strike capability. The functional referent will be from HPAC Maintenance Build Update v168
- iii. Integrate the Chemical Biological Weapon Strike (VLS ISM) capability. The functional referent will be from VLS Drive
- iv. Integrate the Chemical Stored Weapon Incident capability. The functional referent will be from JEM Incr 1
- v. Integrate the HAR capability. The functional referent will be from JEM Incr 1
- vi. Integrate the Radiological Weapon capability. The functional referent will be from HPAC Maintenance Build Update v168
- vii. Integrate the Nuclear Technology weapon (NTwpm) capability. The functional referent will be from HPAC Maintenance Build Update v168
- viii. Integrate the Nuclear Weapon Incident capability. The functional referent will be from HPAC Maintenance Build Update v168
- ix. Integrate the Nuclear Facility capability. The functional referent will be from HPAC Maintenance Build Update v168
- q) The software demonstrates the following Incr 1 CBRN meteorological processors:
 - i. Integrate the SWIM capability. The functional referent will be from HPAC Maintenance Build Update v168
- r) The software demonstrates the following Incr 1 CBRN meteorological data sources:
 - i. Integrate the MDS capability. The functional referent will be from HPAC Maintenance Build Update v168.
 - ii. Integrate the SWIFT capability. The functional referent will be from HPAC Maintenance Build Update v168.
 - iii. Integrate the AFWA capability. The functional referent will be from JEM Increment 1.
 - iv. Integrate the METGM capability. The functional referent will be from CATT.
 - v. Integrate the historical weather capability. The functional referent will be from HPAC Maintenance Build Update v168.
- s) The software demonstrates the following Increment 1 CBRN munitions model:
 - i. Integrate the Munitions component. The functional referent will be from CATT.
- t) The software demonstrates the following Increment 1 CBRN output generator capability:
 - i. Integrate the Output Generator component. The functional referent will be from CATT.
- u) The software demonstrates the following Increment 1 CBRN transport and dispersion models:
 - i. Integrate the SCIPUFF capability. The functional referent will be from HPAC Maintenance Build Update v168.
 - 1) Use the CCMI population data source in SCIPUFF.
 - 2) Use the CCMI terrain data source in SCIPUFF.
- v) The software demonstrates the following Increment 1 CBRN secondary evaporation models:
 - i. Integrate the Secondary Evaporation capability. The functional referent will be from VLS Drive.
- w) The software demonstrates the following Increment 1 CBRN radiological transport models:
 - i. Integrate the Radiological Transport for HPAC RTH capability. The functional referent will be from HPAC Maintenance Build Update v168.
- x) Use and extend the following JEM Incr 2 blueprints from CATT in order to facilitate integration activities:
 - i. Urban
 - ii. Transport and Dispersion Controller

- y) Create other JEM Incr. 2 blueprints as necessary in order to facilitate integration activities.
- z) The software demonstrates the following Incr 2 CBRN explosive warhead:
 - i. Integrate the Explosive Warhead component. The functional referent will be from CATT.
- aa) The software demonstrates the following Increment 2 CBRN geographic data sources:
 - i. Integrate the Land Use component. The functional referent will be from CATT.
 - ii. Integrate the Population component. The functional referent will be from CATT.
 - iii. Integrate the Urban component. The functional referent will be from CATT.
 - iv. Integrate the Terrain component. The functional referent will be from CATT.
 - v. Integrate the Land Properties component. The functional referent will be from CATT.
- bb) The software demonstrates the following Increment 2 CBRN ISMs:
 - i. Integrate the Missile Intercept (MInt) capability. The functional referent will be from HPAC Maintenance Build Update v168.
- cc) The software demonstrates the following Increment 2 CBRN transport and dispersion models:
 - i. Integrate the UDM component. The functional referent will be from CATT.
 - 1) Use the CCMI population data source in Urban Dispersion Model.
 - 2) Use the CCMI terrain data source in Urban Dispersion Model.
- dd) The software demonstrates the following Increment 2 CBRN transport and dispersion controller:
 - i. Integrate the Transport and Dispersion Controller. The functional referent will be from CATT.
- ee) The software demonstrates different user interfaces for user levels: limited, significant, and expert
- ff) The software demonstrates the capability to allow users to share project files
- gg) The software demonstrates additional modeling capabilities, as further described by Technical Instruction (TI) to be issued after option award

5.3.2 Option Period – Software and Documentation Delivery Requirements

The Contractor shall deliver software in accordance with the *JPM IS Software Deliveries Process, SOP 31* (24 March 2010) to include delivery of Software Items and Technical Documentation described below. Software delivery shall include all components of the software, even if no changes have been made to specific components. The Contractor shall ensure that all software and documentation are delivered electronically if possible. If problems arise which prevent electronic delivery (e.g. network outages), or if the size of the software file(s) is too large thereby preventing a successful download, then deliveries should be made via a DVD(s).

As part of a Software Delivery, the Contractor shall create or update the following software and technical documentation:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

CDRL A011: Software Requirements Specification (SRS)

CDRL A012: Software Design Description (SDD)

CDRL A013: Software Version Description (SVD)

CDRL A014: Interface Design Document (IDD)

CDRL A015: Software Programmer's Guide (SPG)

CDRL A016: System Administrator Manual (SAM)

CDRL A017: Software User Manual (SUM)

CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

CDRL A025: Verification and Validation Report (V&V Report)

5.4 Configuration Management (RDT&E)

The Contractor shall implement a configuration management strategy for systems in development that is consistent with the JPM IS Standard Operating Procedures. The Contractor shall implement a mechanism for recording, tracking, and reporting the status of Configuration Items (CIs). Software transitioned from the S&T community will remain under configuration management control of JPM IS and JEM PMO. The Contractor shall participate in the JEM S&T Prototype Configuration Control Board (CCB).

5.5 Information Assurance (IA) Implementation (RDT&E)

The Contractor shall deliver software that is secure and accreditable. The Contractor shall ensure security requirements, as described in the JEM IA Strategy, are addressed in software design and development. The Contractor shall conduct security scans, document vulnerabilities, correct vulnerabilities, and document the resolution or mitigation of vulnerabilities. The Contractor shall support the Government's effort to accomplish JEM accreditation by assessing the validity of vulnerabilities identified during formal Government accreditation testing, recommending corrective actions to resolve or mitigate vulnerabilities, and estimating the level of effort and time required to resolve valid vulnerabilities.

5.5.1 Maintain IA Baseline Integrity

The Contractor shall ensure that the addition of software developed under this PWS does not compromise the security posture of the JEM software. Any Category 1 and Category 2 findings shall be considered a compromise of the security posture of the JEM software. Category definitions shall be governed by DoDI 8510.01, DIACAP.

5.5.2 IA Implementation Plan

The Contractor shall implement IA strategies and a validation plan consistent with JEM's IA Strategy.

5.5.3 IA Control Testing and Validation

The Contractor shall demonstrate compliance with the applicable IA controls through performance of a Contractor IA Self Assessment. The Contractor shall evaluate each software end-item against the applicable Security Technical Implementation Guides (STIGs) or checklists as provided in JEM's IA Strategy. Additionally, for STIGs or checklists that are supported by automated test tools, the Contractor shall deliver the test reports generated by the test tools as part of any software delivery:

CDRL A021: Information Assurance Test Tool Reports (IATTRs)

5.6 C2 Integration Services (RDT&E)

The Contractor shall perform on-going software upgrades and C2 integration services. As described in subsequent TIs, the contractor shall work with various JEM IPT working groups to analyze, discuss, evaluate, and resolve any software development issues with respect to the JEM model integration efforts. The Contractor's integration requirements include:

- a) Integration of JEM Net Centric and Web Services, including requirements defined in the Net Centric Operations and Warfare (NCOW) Reference Model (RM)
- b) Compliance with applicable Global Information Grid (GIG) Key Interface Profiles (KIPs)
- c) Compliance with applicable Net-centric Enterprise Solutions for Interoperability (NESI) guidelines
- d) Compliance with the CBRN COI Naming Style Guide
- e) Update of DoD Architecture Framework (DoDAF) products, as requested by the JEM PMO
- f) Gathering of system interface requirements, as requested by the JEM PMO
- g) Interoperability of JEM capability with Service C2 environments, such as Army Common Operating Environment (COE), Global Command and Control System (GCCS) Joint (J) / Maritime (M) / Army (A), Command Post of the Future (CPOF), Theater Battle Management Core System-Unit Level (TBMCS-UL), Navy Marine Corps Intranet (NMCI), and JTCW/C2PC

5.7 S&T Integration Services (RDT&E)

The Contractor shall perform on-going software upgrades and S&T integration services. As described in subsequent TIs, the contractor shall analyze, design, and develop the JEM architecture and software to include approved S&T components. The contractor shall work with working groups to analyze, discuss, evaluate, and resolve any software development issues with respect to the JEM S&T model integration efforts.

5.8 System Upgrade Support Services (RDT&E)

5.8.1 Fielded System Upgrade Support

The Contractor shall provide the fielded product upgrade support of the JEM software. Software upgrades shall be performed on the most recently fielded product baselines established by and approved by the Government. Additionally, the Contractor shall:

- 1) Review and provide input to Government-developed Change Requests
- 2) Develop Change Requests
- 3) Review and provide input to system configuration
- 4) Review and provide input to software load procedures
- 5) Review and provide input to production and installation drawings and documentation
- 6) Review and provide input to System problem resolution
- 7) Review and provide input to pre-installation check out procedure
- 8) Provide input to version configuration required for proper system operation, production testing and configuration management

5.8.2 Program Change Report (PCR) Process Support

The Contractor shall support the PCR Process consistent with *JPM IS PCR Change Control Process, SOP 10* (14 Sep 2009). Upon Government request, the Contractor shall analyze and provide estimated costs to implement Change Requests and Problem Reports.

As used herein, a Change Request is a feature that should be added to the JEM software, and is also known as a Change Proposal (CP) or request for enhancement. Change Requests consist of Engineering Change Proposals (ECPs) and Software Change Proposals (SCPs).

As used herein, a Problem Report is a behavior that violates a product or document specification, and is also known as a bug. Problem Reports consist of Software Trouble Reports (STRs) and Document Change Reports (DCPs).

5.8.3 Software Delivery

The Contractor shall provide software deliveries in accordance to subsequent Government-provided Technical Instructions (TIs). In delivering the software, the Contractor shall adhere to the *JPM IS Software Deliveries Process, SOP 31* (24 March 2010). Based on the Government's subsequent TI to the Contractor, the Contractor shall make a Formal In-Cycle Delivery or a Formal Out-of-Cycle Delivery.

5.8.3.1 Formal In-Cycle Deliveries

Upon Government TI, the Contractor shall make Formal In-Cycle Deliveries to include delivery of Software Items and Technical Documentation described below. Formal deliveries shall include all components of the software, even if no changes have been made to specific components. The Contractor shall ensure that all software and documentation are delivered electronically if possible. If problems arise which prevent electronic delivery (e.g. network outages), or if the size of the software file(s) is too large thereby preventing a successful download, then deliveries should be made via a DVD(s). As part of a Formal In-Cycle Delivery, the Contractor shall create and deliver the following software and technical documentation:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

Additionally, the Contractor shall provide updates to the following JEM technical documentation when required to maintain the accuracy of the document (i.e., where the delivered software update has a substantive impact on the technical meaning of the existing document, thereby requiring document revisions to maintain the document's technical clarity and relevancy):

CDRL A011: Software Requirements Specification (SRS)

CDRL A012: Software Design Description (SDD)

CDRL A013: Software Version Description (SVD)

CDRL A014: Interface Design Document (IDD)

CDRL A015: Software Programmer's Guide (SPG)

CDRL A016: System Administrator Manual (SAM)

CDRL A017: Software User Manual (SUM)

CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

CDRL A025: Verification and Validation Report (V&V Report)

5.8.3.2 Formal Out-of-Cycle Deliveries

Upon Government TI, the Contractor shall provide a software upgrade to fix a designated high priority 1 and 2 PCR(s) and technical documentation. Typically, a patch will include only those files that have been changed and can be installed over the top of an existing program, but this will depend on the nature of the patch and the detail instructions contained within subsequent Government-issued TIs. As part of a Formal Out-of-Cycle Delivery, the Contractor shall create and deliver the following software and technical documentation:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

Additionally, the Contractor shall provide updates to the following JEM technical documentation when required to maintain the accuracy of the document (i.e., where the delivered software update has a substantive impact on the technical meaning of the existing document, thereby requiring document revisions to maintain the document's technical clarity and relevancy):

CDRL A013: Software Version Description (SVD)

CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

CDRL A025: Verification and Validation Report (V&V Report)

5.8.4 Technical Publications and Training Materials

The Contractor shall provide support to develop or update classroom curriculum and training materials for systems in development. To accomplish this subtask, the Contractor shall provide the Government with updates to the System Administrator Manual (SAM) and Software User Manual (SUM) documenting the administrative, configuration, and user instruction for the JEM software delivered by the Contractor. The Contractor shall provide updates to the following deliverables:

CDRL A016: System Administrator Manual (SAM)

CDRL A017: Software User Manual (SUM)

5.9 System Test and Evaluation (RDT&E)

The Contractor shall conduct or support system test and evaluation as defined below.

5.9.1 On-Going Developmental Test and Evaluation Support

During the Contractor's Developmental Test (DT), the Contractor shall coordinate with Government personnel to allow for the observation of the Contractor's testing.

The Contractor shall support the Government with any on-going DT consistent with JEM's IMS. On-going DT events shall include a comprehensive evaluation to ensure the system meets all specifications and operational requirements as defined in the current Test and Evaluation Master Plan (TEMP). Upon Government request, the Contractor's on-going DT support may also include technical Subject Matter Expert (SME) support during test events, resolution of Software Trouble Report (STR) deficiencies, and systems operation and maintenance during DT events in order to achieve Government acceptance of the contractor's delivered product. Upon Government request, the Contractor shall provide onsite DT support at a Government system site location, as directed by the Government COR to ensure acceptability of the deliveries under this contract.

Any deficiencies identified by the Government during on-going DT shall be resolved by the Contractor in accordance with the *JPM IS PCR Change Control Process, SOP 10* (14 Sep 2009).

5.9.2 Follow-on Operational Test and Evaluation Support

The Contractor shall support the Government with Follow-on Operational Test & Evaluation (FOT&E). FOT&E support will include Contractor delivery of technical SME support, resolution of STR deficiencies, and onsite FOT&E support at a Government system site location as directed by the Government COR to ensure operability of the deliveries made under this order.

6. Option Periods – Performance Requirements for PROC

The following requirements apply to the contract option periods.

6.1 Program Management – Production, Installation, and Logistics Support (PROC)

The Contractor shall manage production, installation, and logistics support efforts to support delivery of JEM capability. The Contractor shall provide updates to the IMS as required and provide production status within routine reporting, as required by the Weekly Status Report and Quarterly Status Report CDRLs.

6.1.1 Routine Contractor Reporting

A) Weekly Status Report

On a weekly basis, the Contractor shall deliver a WSR that briefly discusses upcoming meetings, deliveries, travel, activities accomplished, plan for the next week, new issues, and current issues. The Contractor should highlight those items that are new additions over the previous week's WSR. The Contractor shall provide the following deliverable:

CDRL A006: Weekly Status Report (WSR)

B) Cost Control Report

On a monthly basis, the Contractor shall provide Cost Control Reports (CCRs) to: integrate cost and schedule performance data with technical performance measures; identify the magnitude and impact of actual and potential problem areas causing significant cost and schedule variances; and, provide valid, timely program status information and risks to the Program Office. The Contractor shall provide the following deliverable:

CDRL A007: Cost Control Report (CCR)

C) Software Resources Data Report

The Contractor shall provide a SRDR to describe the software product, developer, and actual as-developed software product size, development schedule, peak staff, and direct labor hours incurred. SRDR consists of an Initial Developer Report and Final Developer Reports, and shall be delivered by the Contractor in accordance with SRDR CDRL. The Contractor shall provide the following deliverable:

CDRL A008: Software Resources Data Reporting (SRDR)

D) Integrated Master Schedule Report

The Contractor shall define and continually update an integrated management control system for performance of the efforts associated with this contract. This system shall be documented and maintained in the Contractor's IMS. To accomplish this subtask, the Contractor shall refer to the DoD Integrated Master Plan and Integrated Master Schedule Preparation and Use Guide (Version 9, 21 October 2005). Within the IMS, the Contractor shall describe the planned events and milestones, exit criteria, and activities, which shall directly relate to specific accomplishments. The Contractor shall provide the following deliverable:

CDRL A009: Integrated Master Schedule (IMS)

6.2 Installation Support (PROC)

The Contractor shall support the Government with JEM installation planning, installation preparation, installation, and quality assurance checks at integration events. The Contractor shall attend integration events and provide technical support in the form of subject-matter experts.

6.2.1 Software Delivery

The Contractor shall provide software deliveries in accordance to subsequent Government-provided Technical Instructions (TIs). In delivering the software, the Contractor shall adhere to the *JPM IS Software Deliveries Process, SOP 31* (24 March 2010). Based on the Government's subsequent TI to the Contractor, the Contractor shall make a Formal In-Cycle Delivery or a Formal Out-of-Cycle Delivery.

6.2.1.1 Formal In-Cycle Deliveries

Upon Government TI, the Contractor shall make Formal In-Cycle Deliveries of initial upgrades and software builds to include delivery of Software Items and Technical Documentation described below. Formal deliveries shall include all components of the software, even if no changes have been made to specific components. The Contractor shall ensure that all software and documentation are delivered electronically if possible. If problems arise which prevent electronic delivery (e.g. network outages), or if the size of the software file(s) is too large thereby preventing a successful download, then deliveries should be made via a DVD(s). As part of a Formal In-Cycle Delivery, the Contractor shall create and deliver the following software and technical documentation:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

Additionally, the Contractor shall provide updates to the following JEM technical documentation when required to maintain the accuracy of the document (i.e., where the delivered software update has a substantive impact on the technical meaning of the existing document, thereby requiring document revisions to maintain the document's technical clarity and relevancy):

CDRL A011: Software Requirements Specification (SRS)

CDRL A012: Software Design Description (SDD)

CDRL A013: Software Version Description (SVD)

CDRL A014: Interface Design Document (IDD)

CDRL A015: Software Programmer's Guide (SPG)

CDRL A016: System Administrator Manual (SAM)

CDRL A017: Software User Manual (SUM)

CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

CDRL A025: Verification and Validation Report (V&V Report)

6.2.1.2 Formal Out-Cycle Deliveries

In support of delivering a software upgrade package and upon Government TI, the Contractor shall provide a software patch to improve and fix a designated high priority 1 and 2 PCR(s) and technical documentation. Typically, a patch will include only those files that support an upgrade that does not increase the performance envelope and can be installed over the top of an existing program, but this will depend on the nature of the patch and the detail instructions contained within subsequent Government-issued TIs. As part of a Formal Out-Cycle Delivery, the Contractor shall create and update the following software and technical documentation:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

Additionally, the Contractor shall provide updates to the following JEM technical documentation when required to maintain the accuracy of the document (i.e., where the delivered software update has a substantive impact on the technical meaning of the existing document, thereby requiring document revisions to maintain the document's technical clarity and relevancy):

CDRL A013: Software Version Description (SVD)

CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

CDRL A025: Verification and Validation Report (V&V Report)

6.2.2 Technical Publications and Training Materials

The Contractor shall deliver initial classroom curriculum and training materials. To accomplish this subtask, the Contractor shall provide the Government with updates to the SAM and SUM documenting

the administrative, configuration, and user instruction for the JEM software delivered by the Contractor. The Contractor shall provide the following deliverables:

CDRL A016: System Administrator Manual (SAM)

CDRL A017: Software User Manual (SUM)

7. Option Periods – Performance Requirements for O&M

The following requirements apply to the contract option periods.

7.1 Program Management – Sustainment Support (O&M)

The Contractor shall manage sustainment support efforts to ensure life cycle support for all fielded JEM systems. The Contractor shall provide updates to the IMS as required and provide sustainment status within routine reporting, as required by the Weekly Status Report and Quarterly Status Report CDRLs.

7.1.1 Routine Contractor Reporting

A) Weekly Status Report

On a weekly basis, the Contractor shall deliver a WSR that briefly discusses upcoming meetings, deliveries, travel, activities accomplished, plan for the next week, new issues, and current issues. The Contractor should highlight those items that are new additions over the previous week's WSR. The Contractor shall provide the following deliverable:

CDRL A006: Weekly Status Report (WSR)

B) Cost Control Report

On a monthly basis, the Contractor shall provide Cost Control Reports (CCRs) to: integrate cost and schedule performance data with technical performance measures; identify the magnitude and impact of actual and potential problem areas causing significant cost and schedule variances; and, provide valid, timely program status information and risks to the Program Office. The Contractor shall provide the following deliverable:

CDRL A007: Cost Control Report (CCR)

C) Software Resources Data Report

The Contractor shall provide a SRDR to describe the software product, developer, and actual as-developed software product size, development schedule, peak staff, and direct labor hours incurred. SRDR consists of an Initial Developer Report and Final Developer Reports, and shall be delivered by the Contractor in accordance with SRDR CDRL. The Contractor shall provide the following deliverable:

CDRL A008: Software Resources Data Reporting (SRDR)

D) Integrated Master Schedule Report

The Contractor shall define and continually update an integrated management control system for performance of the efforts associated with this contract. This system shall be documented and maintained in the Contractor's IMS. To accomplish this subtask, the Contractor shall refer to the DoD Integrated Master Plan and Integrated Master Schedule Preparation and Use Guide (Version 9, 21 October 2005). Within the IMS, the Contractor shall describe the planned events and milestones, exit

criteria, and activities, which shall directly relate to specific accomplishments. The Contractor shall provide the following deliverable:

CDRL A009: Integrated Master Schedule (IMS)

7.2 Configuration Management (O&M)

The Contractor shall implement a configuration management strategy for Joint and Service specific updates to the fielded JEM system that is consistent with the JPM IS Standard Operating Procedures. The Contractor shall implement a mechanism for recording, tracking, and reporting the status of Configuration Items (CIs) in order to ensure a stability and predictability as updates are developed, tested, and delivered to the government.

7.3 Fielded System Maintenance Support (O&M)

The Contractor shall provide the software maintenance support of the JEM software. Software maintenance shall be performed on the most recent product baseline established by and approved by the Government. Additionally, the Contractor shall:

- 1) Review and provide input to Government-developed Change Requests
- 2) Develop Change Requests
- 3) Review and provide input to system configuration
- 4) Review and provide input to software load procedures
- 5) Review and provide input to production and installation drawings and documentation
- 6) Review and provide input to System problem resolution
- 7) Review and provide input to pre-installation check out procedure
- 8) Provide input to version configuration required for proper system operation, production testing and configuration management

7.3.1 Software Delivery

The Contractor shall provide software deliveries in accordance to subsequent Government-provided Technical Instructions (TIs). In delivering the software, the Contractor shall adhere to the JPM IS Software Deliveries Process, SOP 31 (24 March 2010). Based on the Government's subsequent TI to the Contractor, the Contractor shall make a Formal In-Cycle Delivery or a Formal Out-of-Cycle Delivery.

7.3.1.1 Formal In-Cycle Deliveries

Upon Government TI, the Contractor shall make Formal In-Cycle Deliveries of maintenance builds to include delivery of Software Items and Technical Documentation described below. Formal deliveries shall include all components of the software, even if no changes have been made to specific components. The Contractor shall ensure that all software and documentation are delivered electronically if possible. If problems arise which prevent electronic delivery (e.g. network outages), or if the size of the software file(s) is too large thereby preventing a successful download, then deliveries should be made via a DVD(s). As part of a Formal In-Cycle Delivery, the Contractor shall create and update the following software and technical documentation:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

Additionally, the Contractor shall provide updates to the following JEM technical documentation when required to maintain the accuracy of the document (i.e., where the delivered software update has a substantive impact on the technical meaning of the existing document, thereby requiring document revisions to maintain the document's technical clarity and relevancy):

- CDRL A011: Software Requirements Specification (SRS)
- CDRL A012: Software Design Description (SDD)
- CDRL A013: Software Version Description (SVD)
- CDRL A014: Interface Design Document (IDD)
- CDRL A015: Software Programmer's Guide (SPG)
- CDRL A016: System Administrator Manual (SAM)
- CDRL A017: Software User Manual (SUM)
- CDRL A022: Engineering Notebook (EN)
- CDRL A024: CCMI Checklist
- CDRL A025: Verification and Validation Report (V&V Report)

7.3.1.2 Formal Out-Cycle Deliveries

In support of Joint and Service specific needs and upon Government TI, the Contractor shall provide a software patch to fix a designated high priority 1 and 2 PCR(s) and technical documentation. Typically, a patch will include only those files that have been changed that represent an upgrade to existing capability and can be installed over the top of an existing program, but this will depend on the nature of the patch and the detail instructions contained within subsequent Government-issued TIs.

As part of a Formal Out-Cycle Delivery, the Contractor shall create and update the following software and technical documentation:

- CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)
- CDRL A018: Software Test Description (STD)
- CDRL A020: Software Test Report (STR)

Additionally, the Contractor shall provide updates to the following JEM technical documentation when required to maintain the accuracy of the document (i.e., where the delivered software update has a substantive impact on the technical meaning of the existing document, thereby requiring document revisions to maintain the document's technical clarity and relevancy):

- CDRL A013: Software Version Description (SVD)
- CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

CDRL A025: Verification and Validation Report (V&V Report)

7.3.2 Help Desk Support

The Contractor shall provide technical Help Desk support to the Government. Available support shall include engineering, system administration, maintenance, and operational user assistance and direction to resolve real or perceived software problems. Support shall include access to include phone, email, and chat capabilities at the appropriate security levels. Support shall be available during normal business hours of 8 am – 4 pm Pacific Time and within 1-hour call back response during all other periods. The Contractor shall provide input to the Government-designated tracking system(s) for any actions taken. The Contractor shall record and document all assistance provided using Government approved tools and processes. While resolving a problem, the Contractor shall provide daily status updates to the Help Desk Manager. Upon problem resolution, the Contractor shall provide a final report to the Help Desk Manager within five (5) days of an assistance event.

7.3.3 Technical Publications and Training Materials

The Contractor shall provide support to develop or update classroom curriculum and training materials to accommodate specific software changes made to reflect Joint and Service maintenance updates. To accomplish this subtask, the Contractor shall provide the Government with updates to the SAM and SUM documenting the administrative, configuration, and user instruction for the JEM software delivered by the Contractor. The Contractor shall provide the following deliverables:

CDRL A016: System Administrator Manual (SAM)

CDRL A017: Software User Manual (SUM)

7.3.4 Maintain IA Baseline Integrity

The Contractor shall ensure that any upgrades or addition of software developed to support Joint and Service specific requirements under this PWS does not compromise the security posture of the JEM software. Any Category 1 and Category 2 findings shall be considered a compromise of the security posture of the JEM software. Category definitions shall be governed by DoDI 8510.01, DIACAP.

7.3.5 IA Implementation Plan

The Contractor shall implement IA strategies and a validation plan consistent with JEM's DIACAP Implementation Plan (DIP) in order to support integration of Joint and Service specific upgrades or additions to the JEM baseline software.

7.3.6 IA Control Testing and Validation

After upgrades or addition of software developed to support Joint and Service specific requirements under this PWS, the Contractor shall demonstrate compliance with the applicable IA controls through performance of a Contractor IA Self Assessment. The Contractor shall evaluate each software end-item against the applicable Security Technical Implementation Guides (STIGs) or checklists as provided in the DIP. Additionally, for STIGs or checklists that are supported by automated test tools, the Contractor shall deliver the test reports generated by the test tools as part of any software delivery:

CDRL A021: Information Assurance Test Tool Reports (IATTRs)

7.3.7 Follow-on Test and Evaluation Support

The Contractor shall support the Government with FOT&E resulting from Joint and Service updates to the existing JEM baseline. FOT&E support will include Contractor delivery of technical SME support, resolution of STR deficiencies, and onsite FOT&E support at a Government system site location as directed by the Government COR to ensure operability of the deliveries made under this order.

8. Option Periods – Performance Requirements for Foreign Military Sales

The following requirements apply to the contract option periods.

8.1 Program Management – Foreign Military Sales (FMS)

The Contractor shall define a software development approach appropriate for incorporation of development efforts to support the Foreign Military Sales (FMS) of the JEM software. The Contractor shall document this approach as an amendment to the baseline SDP consistent with the terms of this PWS and SDP CDRL. The Contractor shall perform all applicable work in accordance with the Contractor's Government-approved SDP. The Contractor shall provide services for the demonstration of JEM software and assist the Government with the planning and execution of demonstrations in support of FMS. The Contractor shall provide technical and engineering expertise to demonstrate the JEM system, system components and pre-release products as authorized by the COR.

8.2 Configuration Management (FMS)

The Contractor shall implement a configuration management strategy for FMS updates to the fielded JEM system that is consistent with the JPM IS Standard Operating Procedures. The Contractor shall implement a mechanism for recording, tracking, and reporting the status of Configuration Items (CIs) in order to ensure a stability and predictability as updates are developed, tested, and delivered to the government.

8.3 Fielded System FMS Support (FMS)

The Contractor shall provide the FMS software updates and maintenance support of the JEM software. Software maintenance shall be performed on the most recent product baseline established by and approved by the Government. Additionally, the Contractor shall:

- 1) Review and provide input to Government-developed Change Requests
- 2) Develop Change Requests
- 3) Review and provide input to system configuration
- 4) Review and provide input to software load procedures
- 5) Review and provide input to production and installation drawings and documentation
- 6) Review and provide input to System problem resolution
- 7) Review and provide input to pre-installation check out procedure
- 8) Provide input to version configuration required for proper system operation, production testing and configuration management

8.3.1 Software Delivery

The Contractor shall provide software deliveries in accordance to subsequent Government-provided Technical Instructions (TIs). In delivering the software, the Contractor shall adhere to the JPM IS Software Deliveries Process, SOP 31 (24 March 2010). Based on the Government's subsequent TI to the Contractor, the Contractor shall make a Formal In-Cycle Delivery or a Formal Out-of-Cycle Delivery.

8.3.1.1 Formal In-Cycle Deliveries

Upon Government TI, the Contractor shall make Formal In-Cycle Deliveries of FMS builds to include delivery of Software Items and Technical Documentation described below. Formal deliveries shall include all components of the software, even if no changes have been made to specific components. The Contractor shall ensure that all software and documentation are delivered electronically if possible. If problems arise which prevent electronic delivery (e.g. network outages), or if the size of the software file(s) is too large thereby preventing a successful download, then deliveries should be made via a DVD(s). As part of a Formal In-Cycle Delivery, the Contractor shall create and update the following software and technical documentation:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

Additionally, the Contractor shall provide updates to the following JEM technical documentation when required to maintain the accuracy of the document (i.e., where the delivered software update has a substantive impact on the technical meaning of the existing document, thereby requiring document revisions to maintain the document's technical clarity and relevancy):

CDRL A011: Software Requirements Specification (SRS)

CDRL A012: Software Design Description (SDD)

CDRL A013: Software Version Description (SVD)

CDRL A014: Interface Design Document (IDD)

CDRL A015: Software Programmer's Guide (SPG)

CDRL A016: System Administrator Manual (SAM)

CDRL A017: Software User Manual (SUM)

CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

CDRL A025: Verification and Validation Report (V&V Report)

8.3.1.2 Formal Out-Cycle Deliveries

In support of FMS customers and upon Government TI, the Contractor shall provide a software patch to fix a designated high priority 1 and 2 PCR(s) and technical documentation. Typically, a patch will include only those files that have been changed and can be installed over the top of an existing program, but this will depend on the nature of the patch and the detail instructions contained within subsequent Government-issued TIs. As part of a Formal Out-Cycle Delivery, the Contractor shall create and update the following software and technical documentation:

CDRL A010: Software Product Specification (SPS) (Software Code Deliverables)

CDRL A018: Software Test Description (STD)

CDRL A020: Software Test Report (STR)

Additionally, the Contractor shall provide updates to the following JEM technical documentation when required to maintain the accuracy of the document (i.e., where the delivered software update has a substantive impact on the technical meaning of the existing document, thereby requiring document revisions to maintain the document's technical clarity and relevancy):

CDRL A013: Software Version Description (SVD)

CDRL A022: Engineering Notebook (EN)

CDRL A024: CCMI Checklist

CDRL A025: Verification and Validation Report (V&V Report)

8.3.2 Help Desk Support

The Contractor shall provide technical Help Desk support to the Government for FMS customers on an as requested basis. Available support shall include engineering, system administration, maintenance, and operational user assistance and direction to resolve real or perceived software problems. Support shall include access to include phone, email, and chat capabilities at the appropriate security levels. Support shall be available during normal business hours of 8 am – 4 pm Pacific Time and within 1-hour call back response during all other periods. The Contractor shall provide input to the Government-designated tracking system(s) for any actions taken. The Contractor shall record and document all assistance provided using Government approved tools and processes. While resolving a problem, the Contractor shall provide daily status updates to the Help Desk Manager. Upon problem resolution, the Contractor shall provide a final report to the Help Desk Manager within five (5) days of an assistance event.

8.3.3 Maintain IA Baseline Integrity

The Contractor shall ensure that any upgrades or addition of software developed to support FMS under this PWS does not compromise the security posture of the JEM software. Any Category 1 and Category 2 findings shall be considered a compromise of the security posture of the JEM software. Category definitions shall be governed by DoDI 8510.01, DIACAP.

8.3.4 IA Implementation Plan

The Contractor shall implement IA strategies and a validation plan consistent with JEM's DIP in order to support upgrades integration of FMS upgrades or additions to the JEM baseline software.

8.3.5 IA Control Testing and Validation

After upgrades or addition of software developed to support FMS under this PWS, the Contractor shall demonstrate compliance with the applicable IA controls through performance of a Contractor IA Self Assessment. The Contractor shall evaluate each software end-item against the applicable Security Technical Implementation Guides (STIGs) or checklists as provided in the DIP. Additionally, for STIGs or checklists that are supported by automated test tools, the Contractor shall deliver the test reports generated by the test tools as part of any software delivery:

CDRL A021: Information Assurance Test Tool Reports (IATTRs)

8.3.6 Test and Evaluation Support

The Contractor shall support the Government with Test & Evaluation (T&E) resulting from FMS updates to the JEM baseline. T&E support will include Contractor delivery of technical SME support, resolution of STR deficiencies, and onsite T&E support at a Government system site location as directed by the Government COR to ensure operability of the deliveries made under this order.

9. Deliverables and Additional Contractor Requirements

9.1 Contractor Employee Identification

For all services provided by the Contractor under this PWS and associated Delivery Order, the Contractor's employees shall identify themselves as contractor personnel by introducing themselves or being introduced as contractor personnel and displaying and wearing distinguishing badges or other visible identification for meetings with Government personnel and when performing on Government site. Additionally, the Contractor's personnel shall appropriately identify themselves as contractor employees in telephone conversations, in email, and in formal and informal written correspondence.

9.2 Common Access Cards (CACs)

The Government will provide Common Access Cards (CACs) for the Contractor's key personnel aligned to this contract. The Contractor Program Manager (PM) or Facility Security Officer (FSO) is responsible for notifying the Government COR and the Trusted Agent (TA) when an employee who has been issued a Common Access Card (CAC) leaves the Company or transfers to another Program/Project. In the case of an employee who no longer works for the Company, the Company must collect the CAC and turn it over to the TA with-in 2 working days of the employee's departure. In the case of an employee still retained by the company transferring to another Program/Project with-in SPAWAR, the company will notify the COR and the TA with-in 2 working days so the TA can transfer the TA responsibilities to the new TA vice revoking and issuing a new CAC.

9.3 Deliverable Products

The Contractor shall provide deliverables in accordance with the CDRL requirements of this contract.

The Contractor shall provide soft copy distribution of data items as specified in the contract CDRLs. The deliverables outlined in this PWS are detailed in the accompanying CDRLs, and listed below:

CDRL #	Title	Acronym	Data Rights	PWS Section(s)
A001	Self-Assessment Report	SAR	N/A	4.5.1, 4.5.2
A002	Briefing Materials		N/A	4.5.1, 4.5.2, 5.1.2, 5.2.1
A003	Contract Work Breakdown Structure	CWBS	N/A	4.1.3, 5.1.3
A004	Systems Engineering Management Plan	SEMP	UR	4.1.4, 5.1.4
A005	Software Development Plan	SDP	UR	4.1.4, 5.1.4
A006	Weekly Status Report	WSR	N/A	4.1.5, 5.1.5, 6.1.1, 7.1.1
A007	Cost Control Report	CCR	N/A	4.1.5, 5.1.5, 6.1.1, 7.1.1
A008	Software Resources Data Reporting	SRDR	N/A	4.1.5, 5.1.5, 6.1.1, 7.1.1
A009	Integrated Master Schedule	IMS	N/A	4.1.5, 5.1.5, 6.1.1, 7.1.1
A010	Software Product Specification (Software Code Deliverables)	SPS	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A011	Software Requirements Specification	SRS	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A012	Software Design Description	SDD	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1

A013	Software Version Description	SVD	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A014	Interface Design Document	IDD	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A015	Software Programmer's Guide	SPG	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A016	System Administrator Manual	SAM	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A017	Software User Manual	SUM	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A018	Software Test Description	STD	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A019	Software Test Plan	STP	UR	4.1.4, 5.1.4
A020	Software Test Report	STR	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A021	Information Assurance A Test Tool Reports	IATTR	UR	4.4.3, 5.5.3, 7.3.6, 8.3.5
A022	Engineering Notebook	EN	UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A023	Trip Reports		N/A	11
A024	CCMI Checklist		UR	4.2.2, 5.2.2, 5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A025	Verification and Validation Report	V&V Report	UR	5.3.2, 5.8.3, 6.2.1, 7.3.1, 8.3.1
A026	Preliminary Verification and Validation Report	PV&V Report	UR	4.2.2, 5.2.2
A027	Conference Agenda		N/A	4.1.2
A028	Report, Record of Meeting/Minutes		N/A	4.1.1, 4.1.2

Unless otherwise directed, all deliverables under this PWS shall be delivered to the following address:

Joint Project Manager Information Systems Office (JPM IS)
4301 Pacific Highway, Building OT-1
San Diego, CA 92110-3127
Attn: JEM Increment 2 Contracting Officer Representative

10. References and GFI

10.1 Government Furnished Information

Upon request, the Government will provide the following items as GFI for the completion of this contract:

- 1) JEM Increment 1 source, object, and executables and all applicable and appropriate documentation.
- 2) JEM Increment 1 VV&A package
- 3) JEM Increment 2 Prototype Technical Data Package (TDP)

- 4) JEM Information Assurance (IA) Strategy
- 5) CCMI Components and Prototypes
- 6) 28 May 2004 JEM ORD
- 7) JEM Increment 1 Capability Production Document (CPD)
- 8) The JEM IMAR & additional supplemental reports
- 9) Current JWARN executables and applicable documentation
- 10) Current HPAC executables, source code and available documentation
- 11) Current VLSTRACK executables, source code and available documentation
- 12) JEM Security Classification Guide (or applicable security classification guidance)
- 13) GCCS-M/J/A/AF, JTCW, BCCS, CJMTK compliance materials and available documentation
- 14) Verification test case referents to maintain the V&V chain, as well as the Plume Comparator

10.2 Other Applicable References

DOCUMENT TITLE	Date
JPM IS Program Change Report (PCR) Change Control Process, SOP 10	14-Sep-2009
JPM IS Software Deliveries Process, SOP 31	24-March-2010
JPM IS Configuration Control Board (CCB) Operations Process, SOP 12	14-Sep-2009
JPM IS Operational Program Deliveries (OPD) Process, SOP 14	04-April-2006
JEM DIACAP Implementation Plan	17-May-2007
JEM Test and Evaluation Master Plan	26-Jan-2010
MIL-STD 40051B Preparation of Digital Technical Information for Interactive Electronic Technical Manuals (IETM's)	31-Jul-1996
DODAF DOD Architectural Framework v 2.02	1-Aug-2010
DoD Directive 4630.5 Interoperability and Supportability of Information Technology (IT) and National Security Systems (NSS)	5-May-04
DoD Directive 5000.1 The Defense Acquisition System	24-Nov-03
DoD Instruction 5000.2 Operation of the Defense Acquisition System	12-May-03
DoD Instruction 5200.40 DoD Information Security Certification and Accreditation Process (DITSCAP)	30-Dec-1997
DoD Net-Centric Data Strategy	9-May-03
DoD Directive 8100.2 Use of Commercial Wireless Devices, Services, and Technologies in the Department of Defense (DoD) Global Information Grid	14-Apr-04
DoD Directive 8500.1 Information Assurance (IA)	24-Oct-02
DoD Directive 8000.1 "Management of DoD Information Resources and Information Technology"	27-Feb-02
DoD Instruction 8500.2 Information Assurance Implementation	6-Feb-03
CJCSI 3170.01E Joint Capabilities Integration And Development System	11-May-05
CJCSM 3170.01B Operation of the Joint Capabilities Integration and Development System	11-May-05
CJCSI 8510.01A Joint Modeling and Simulation Management	26-Jan-04
MOSA A Modular Open Systems Approach to Acquisition, Version 2.0	Sep-04
Net-Centric Enterprise Solutions for Interoperability v. 3.2, http://nesipublic.spawar.navy.mil	26-Oct-2010
CBRN COI Naming Style Guide	11-Apr-05
Net-Centric Attributes List Office of the Assistant Secretary of Defense for Networks and Information Integration/ DOD CIO	Jun-04

DoD 8320.02-G Guidance for Implementing Net-Centric Data Sharing	12-Apr-06
JPEO-CBD Guidelines for M&S and VV&A: JPEO-CBD Guidelines for Modeling and Simulation (M&S) Verification, Validation, and Accreditation (VV&A)	2-May-05

11. Travel

The Contractor shall travel to Government facilities in San Diego, CA as required for the Contractor's performance under this PWS. For all required travel outside the San Diego area, the Contractor shall deliver Trip Reports in accordance with CDRL identified below. The Government estimates 10 required trips to the mid-Atlantic region (e.g., Washington D.C., Edgewood, MD) over the full period of performance of the contract (i.e., estimated 2 trips per contract year). Each trip is estimated to require one Contractor personnel and last 5 days in duration.

The Contractor shall provide the following deliverable:

CDRL A023: Contractor Trip Reports (CTRs)

12. Navy Marine Corps Intranet (NMCI)

The nature of this contract does not require the contractor to procure NMCI seats for personnel working at the contractor site.

13. Place of Performance

The places of performance for this contract are the following:

- 1) Contractor Facilities
- 2) Travel, as required by the section above

14. Period of Performance

The period of performance for this contract is five years (one base year and four option years).

15. Performance Standards

The contract Quality Assurance Surveillance Plan (QASP) will be used to monitor performance. Performance standards (unless otherwise specified):

- Performance – Deliverables fully coordinated among stakeholders; efforts enhance JEM Incr 2 development and integration objectives.
- Timeliness – Meets required deadlines or schedules assigned by the Government Requestor; documentation submitted to the Government Requestor in sufficient time for review and approval.
- Quality – Deliverables based on properly coordinated efforts; deliverables produced in the Government approved format; technically and factually correct; accurate, complete and free of grammatical, typographical and spelling errors; satisfies intended purpose.

16. Security

Most requirements of this PWS will be met at or below the SECRET level; however, some of the tasks require access to SECRET, TOP SECRET and Sensitive Compartmented Information (SCI) at Government and other designated Contractor facilities. The Contractor will also be required to attend meetings classified at the SECRET, TOP SECRET and SCI level. TS/SCI access may be required to enter command centers (e.g., STRATCOM), to gather user requirements, troubleshooting JEM implementation on Command and Control (C2) Systems and other specialized restricted networks. TS/SCI access may also include exposure to sensitive emerging threat information. Critical Nuclear Weapons Design Information (CNWDI) may be discussed and implemented in classified components of the JEM software. Two (2) personnel will require a TOP SECRET clearance with eligibility to access SCI, documentation, classified message traffic, attend meetings, and access to classified laboratories and the SCI Facility (SCIF) as required. The Contractor may be required to access SIPRNet at Government locations where work is being performed.

If foreign travel is required, all outgoing Country/Theater clearance message requests shall be submitted to the SSC Pacific foreign travel team, OTC2, Room 1656 for action. 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 35 days in advance of departure. Each Traveler must also submit a Personal Protection Plan and have a Level 1 Antiterrorism/Force Protection briefing within one year of departure and a country specific briefing within 90 days of departure.

The SSC Pacific NATO Control Officer/Alternate has reviewed the requirement supporting this contractual obligation and ...

All work is to be performed in accordance with DoD and Navy Operations Security (OPSEC) requirements and in accordance with the OPSEC attachment to the DD254.

17. Acronym List

ACRONYM	DEFINITION
AFWA	Air Force Weather Agency
BAA	Broad Agency Announcements
CA	California
CAC	Comon Access Card
CATT	CCMI Autogenerated Test Tool
CBDP	Chemical and Biological Defense Program
CBRN	Chemical, Biological, Radiological, and Nuclear
CCB	Configuration Control Board
CCMI	Common CBRN Model Interface
CDRL	Contract Data Requirement List
CJCSI	Chairman of the Joint Chiefs of Staff Instruction
CNWDI	Critical Nuclear Weapons Design Information
COE	Common Operating Environment
COI	Community of Interests
COP	Common Operational Picture
COR	Contracting Officer'S Representative
CP	Change Proposal
CPD	Capability Production Document
CPOF	Command Post of the Future
CCR	Cost Control Report
CWBS	Contract Work Breakdown Structure
DIACAP	Dod Information Assurance Certification and Accreditation Process
DIP	DIACAP Implementation Plan
DISR	DoD Information Technology Standards Registry
DITSCAP	Dod Information Technology Security Certification and Accreditation Process
DT	Developmental Test
DTRA	Defense Threat Reduction Agency
DVD	Digital Versatile Disc
EN	Engineering Notebook
FMS	Foreign Military Sales
FOT&E	Follow-On Operational Test & Evaluation
FSO	Facility Security Officer
GCCS	Global Command and Control System
GIG	Global Information Grid
HAR	High Altitude Release
HPAC	Hazard Prediction and Assessment Capability
IA	Information Assurance

IDD	Interface Design Document
IMS	Integrated Master Schedule
IPR	In Process Reviews
IPT	Integrated Product Team
ISM	Incident Source Models
IT	Information Technology
JEM	Joint Effects Model
JPEO-CBD	Joint Program Executive Office For Chemical and Biological Defense
JPM-IS	Joint Project Manager For Information Systems
JRO-CBRND	Joint Requirements Office For CBRN Defense
JSTO	Joint Science and Technology Office
JWARN	Joint Warning and Reporting Network
M&S	Modeling and Simulation
MDD	Materiel Development Decision
MDS	Meteorological Data Server
METGM	Meteorological Grid Format
MIL-HDBK	Military Handbook
MS	Milestone
NCOW	Net Centric Operations and Warfare
NESI	Net-Centric Enterprise Solutions For Interoperability
NMCI	Navy Marine Corps Intranet
NR-KPP	Net-Ready Key Performance Parameter
NSS	National Security Systems
OPD	Operational Program Deliveries
OPSEC	Operations Security
ORD	Operational Requirements Document
PAC	Post-Award Conference
PCO	Procurement Contracting Officer
PCR	Program Change Report
PDR	Preliminary Design Review
PM	Program Manager
PMO	Program Management Office
PV&V	Preliminary Verification and Validation
PWS	Performance Work Statement
QASP	Quality Assurance Surveillance Plan
RM	Reference Model
RTH	Radiological Transport For HPAC
S&T	Science and Technology
SAM	System Administrator Manual
SAR	Self-Assessment Report
SCI	Sensitive Compartmented Information

SCIF	SCI Facility
SCIPUFF	Sets Decouple Second-Order Closure Integrated Puff
SDD	Software Design Description
SDP	Software Development Plan
SEMP	Systems Engineering Management Plan
SME	Subject Matter Expert
SOP	Standard Operating Procedures
SPAWAR	Space and Naval Warfare
SPG	Software Programmer's Guide
SPS	Software Product Specification
SRDR	Software Resources Data Reporting
SRR	System Requirements Review
SRS	Software Requirements Specification
SSC	Systems Center
STD	Software Test Description
STP	Software Test Plan
STR	Software Test Report
STR	Software Trouble Report
SUM	Software User Manual
SVD	Software Version Description
SWIFT	Stationary Wind Fit and Turbulence
SWIM	SCIPUFF Weather Input Module
T&E	Test & Evaluation
TA	Trusted Agent
TBMCS-UL	Theater Battle Management Core System-Unit Level
TDP	Technical Data Package
TEMP	Test and Evaluation Master Plan
TI	Technical Instruction
TIM	Technical Interchange Meetings
TRL	Technology Readiness Level
UDM	Urban Dispersion Model
VLS	Vapor Liquid Solid
VV&A	Verification, Validation, and Accreditation
WMD	Weapons of Mass Destruction
WSR	Weekly Status Report