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FAR 16.505(b) FAIR OPPORTUNITY PROCESS APPLIES

ATTACHMENT 2

~~UNIT LEVEL BRIDGE TO UNIT COMMAND & CONTROL (UL/UC2)~~ASOC/TOC Command and Control Execution Application (WARHAWK)

STATEMENT OF OBJECTIVES (SOO)

27 April 2020~~15 April 2020~~~~15 April 2020~~~~9 October 2007~~~~20 September 2007~~

AFLCMC located at Hanscom AFB, MA requests information from industry to identify qualified, experienced, and interested sources for a software development contract. This RFI is for market research purposes only; this notice shall not be construed as commitment by the Government to issue either a competitive or a sole source award, nor does it restrict the Government to a particular acquisition approach. This notice is not a Request for Quotation (RFQ), a Request for Proposal (RFP), an Invitation for Bid (IFB), or any other commitment by AFLCMC to contract for items within this RFI. The Government will not reimburse any costs associated with responses to this RFI. With regard to industry responses, AFLCMC will not release to any firm, agency, or individual outside of the Government any information marked "PROPRIETARY" without written permission from the respondent.

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1. Overview ~~(Informational)~~

~~UL/UC2~~The Air Support Operations Center (ASOC)/Tactical Operations Center (TOC) Command and Control (C2) execution application titled WARHAWK is an ~~evolutionary/spiral~~agile S/W development program managed by the United States Air Force (USAF). It represents the ~~continuation of the existing~~follow-on system to replace the previously developed ~~c~~Close ~~a~~Air ~~s~~Support ~~s~~Systems (CASS) targeted for the ASOC and TOC. The ASOC's primary mission is to control air operations ~~f~~forward ~~o~~of the ~~F~~Forward ~~l~~Line of ~~o~~Own ~~t~~Troops (FLOT) and short of the F~~f~~ire ~~s~~Support ~~c~~Coordination ~~l~~Line (FSCL). Normally collocated with the senior Army fires element, the ASOC is directly subordinate to the A~~a~~ir ~~o~~Operations ~~c~~Center (AOC) and is responsible for coordinating and directing air support for land forces at the tactical level.

~~Theater Battle Management Core Systems (TBMCS) Unit Level operations capabilities that have been deployed through TBMCS Unit Level Operations (TULO) Spiral 9.1. This Statement of Objectives (SOO) outlines the Government's objectives for executing contract actions to continue the development and incremental fielding of TULO in accordance with the July 2001 ORD. In the future the system will evolve towards the future net-centric, decoupled Unit Command and Control (UC2) system. The interim system that is the focus of this RFP is referred to as UL/UC2.~~ This document is intended to be a part of a formal Delivery Order R~~r~~equest ~~f~~For ~~p~~Proposal (DO RFP). Each contractor responding to this RFP shall use the objectives in this SOO and MIL-HDBK-245D as guides in preparing their proposed Contractor Statement of Work (CSOW).

~~1.1.Background (Informational)~~

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~~The TBMCS effort is an ACAT IAC program, a Major Automated Information System (MAIS) Component program with the United States Air Force serving as the Executive Agent. TBMCS currently comprises three related yet distinct functional/software areas: TBMCS Force Level (TBMCS-FL), TBMCS Unit Level Intelligence (TULI) and TBMCS Unit Level Operations (TULO). This RFP seeks vendors to provide design, development and integration for the continued development of TBMCS Unit Level Operations that will be referred to as UL/UC2.~~

~~TBMCS-FL provides automated command and control (C2) and decision support tools in support of joint and coalition operations. It is used to build the Air Battle Plan, and publish and disseminate orders to execute the air campaign. TULI comprises software that allows units to download intelligence data, refine targeting parameters, select ordnance aboard aircraft and directly support mission planning and routing.~~

~~TULO is a suite of tools deployed within fixed and expeditionary bases for Command and Control (C2) at the wing and squadron level. These tools provide the following key capabilities:~~

- ~~Work with the Air Operations Center (AOC) to receive tasking for Air Missions and monitor and provide feedback of mission execution and effectiveness.~~
- ~~Provide Wing and Base Commanders with decision quality information in near real-time about their higher headquarters directed tasking and the status of their installation's vital capabilities and the tools to conduct command and control activities on their installation.~~
- ~~Collaborate with the AOC in real time on tasking and resource status~~
- ~~Provide Wing and Base Commanders access to resource information, and~~

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- Create a flying schedule to support Wing and Base Operations based on either locally generated or AOC-directed Air Missions

UL/UC2 (the continuation of TBMCS Unit Level Operations) is the object of this RFP. UL/UC2 will continue to improve the TULO tool suite to meet warfighter needs. The effort will include design, development, test, certification, installation, integration, and sustainment for both NIPR and SIPR environments.

2. Mission Objective (Informational)

Develop an enterprise software solution for battlefield data communications, targeting, and battlespace awareness to support Tactical Air Control Party (TACP), Tactical Operation Center (TOC), and Air Support Operation Center (ASOC) digitally-aided Command and Control (C2) and Close Air Support (CAS) operations.

The solution shall implement a Modular Open Systems Approach (MOSA) by designing the solution with highly cohesive, loosely coupled, and severable modules that utilize standards based interfaces and can be competed separately and acquired from independent vendors. The immediate focus of this effort is the ASOC portion of the enterprise solution.The objective of UL/UC2 is to assist the warfighter at wings and bases to manage available data/information and to provide timely and complete battlespace awareness for effective operational decision-making. UL/UC2 will interface with a number of external systems to provide ready access to a broad range of information relevant to the warfighter at the unit level in both NIPR and SIPR environments.

3. Specific UL/UC2 Overall Program Objectives

3.1. UL/UC2Program Objectives

3.1.1. Maintain existing TULO capabilities.
3.1.2. Assist in the transition plan for the Air Force Installation Command System (AFICS) being developed by the JEFX-08 Unit Level (ULC2) Capability Development Team.
3.1.3.3.1.1. Meet as many of the prioritized requirements andthe capabilities listed in the UL/UC2WARHAWK System Capabilities Document (SCD)

3.1.4.3.1.2. Solicit Continuous User Feedback - The development process should include continuous customer feedback as well as monthly review meetings at the Pope AAF User Engagement Site (UES) to solicit User Feedback during the development process. The goal of this new software development effort is to avoid past failures and help TACP/JTAC (Joint Terminal Attack Controller) operators do their job instead of changing the way they do their job. The pilot site mimics an active ASOC with ASOC systems and personnel to help facilitate by receiving active user feedback to create a truly agile procurement and will help mitigate problems ahead of fielding.

3.1.3. Implement an Agile development process.
) and the attached Required Functionality Table as possible staying within UL/UC2's funding and schedule constraints.

XXX CONTRACT ORDER
FAR 16.505(b) FAIR OPPORTUNITY PROCESS APPLIES
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3.1.4. Plan the ~~UL/UC2~~ development ~~for~~ as a single ~~Delivery Order~~ DO with separate Contract Line Item Numbers (CLIN~~s~~) for each ~~of the Increments described below.~~12-month development period~~s~~. Software~~S/W~~ release should be planned as quarterly events. ~~The goal is to complete and field UL/UC2 Increment 1 within the first 12 months and a second Increment within the second 12 months. The plan should address a minimum of 2 Increments through 31 December 2009.~~ As part of the plan, ~~p~~Please ~~see attached notional~~develop an Integrated Master Schedule (IMS) that includes all significant events and milestones. There are two (2) possible approaches:

3.1.4.1. Continue development using one (1) or a combination of your own and third party products.

3.1.4.2. Continue development using the product developed as part of the CASS 2.0 Risk Reduction effort.

~~for additional details. The reason for starting increments with service packs that may not be fielded, as shown in the notional IMS, is to help start the more extensive testing security analysis required for some requirements; for example, infrastructure changes can require a lot of testing as they can affect many capabilities within the system. In other words, requirements that require extensive testing (as would be determined by a RALOT) should be scheduled for the earlier service packs to help parallelize development and testing. Contractors are free to propose other approaches to achieving the maximum number of warfighter requirements per release as possible.~~

~~Although only two incremental deliveries are planned for fielding the Government will reserve the right to field any additional spiral, service pack, or patch delivery should the added capabilities be needed by the warfighters. The plan should additionally cover a minimum of 1 service pack and 2 patch releases (prior to the fielding of Increment 1) to the existing TULO baseline (as an option) and 1 service pack and 2 patch releases (prior to the fielding of Increment 2) to Increment 1 over the course of the period of performance of this Delivery Order. Please see attached notional IMS for additional details.~~

3.1.5. Provide the support required to sustain and maintain the ~~UL/UC2 mission~~ applications as they are developed, integrated and fielded.

~~3.2.Provide the support required to sustain and maintain the existing TBMCS UL mission application baseline. The TBMCS UL sustainment tasks should be proposed as a separate option.~~

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~~3.3.Related Activities~~

~~The JEFX 08 ULC2 CDT activities may influence the future direction of UL/UC2 (see section 3.1.2 above).~~

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~~4.Specific Objectives~~

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~~3.4. Contract Objectives~~

~~3.6.0. Propose, for Government approval, the most comprehensive and cost-effective Contract Data Requirement List (CDRL) tailored to the proposed design solution, to include items meeting the documentation requirements of TBMCS UL sustainment, items providing insight into the development of UL/UC2, and items supporting the~~

~~creation of an Integrated Support Plan (ISP). The Government provided CDRL should be used as a baseline for the contractor provided CDRL. In addition the Contractor shall provide a proposed CDRL for Government approval of deliveries that supports the contractor developed SOW. Rationale should be provided for any of the Government provided CDRL items that have been omitted, modified, or are provided as part of the Data Accession List (DAL).~~

~~3.7.0. Propose an approach that is commensurate with yearly incremental funding and one which supports incremental deliveries per the RFP attachment 1 CLIN structure.~~

~~3.9.~~3.2. ~~Engineering and Test~~Development Process Objectives

~~3.9.1.~~ S/W Development Objectives~~.~~ -- Propose an approach that delivers monthly Program Increment releases and quarterly Operational ~~S/W~~software releases. Propose an approach that ~~refines the high-level requirements provided as part of this RFP package. The Contractor shall~~ facilitates monthly requirements analysis sessions with users to develop detailed ~~system~~ derived ~~S/W~~software requirements ~~(i.e. use cases)~~ based on the Government provided high-level requirements provided in the ~~System Capability Document (~~SCD~~)~~ and this RFP. A detailed process for requirements management should be included as part of this approach.

~~3.9.2.~~ Propose an approach that sustains, maintains, and improves upon the WARHAWK application baseline. In order to expedite future expansion and minimize sustainment costs the following ~~S/W~~software development methods and design tenets shall be followed:

3.2.1.

3.2.1.1. Development Methods.

3.2.1.1.1. Agile Development Principles - Follow the four (4) Core Values and 12 Principles of the Agile Manifesto to improve the frequency of ~~S/W~~software delivery, better adapt to changing requirements, and improve customer satisfaction. Working software is the primary measure of progress.

3.2.1.1.2. Continuous User Feedback - The development process shall include continuous customer feedback as well as monthly review meetings at the Pope AAF UES to solicit User Feedback during the development and requirements analysis processes.

3.2.1.1.2.1. The UES is a remote site at Ft Bragg NC ~~that is located in 818th OS~~. ~~S.~~ The UES provides the TACP-MOD office an analysis of new software and hardware from operators in the field. The UES requests TACP operators from different Divisions to give a perspective on how the software/hardware should aid TACPs in the future fight. The TACP community gets to evaluate what the Program Management Office (-PMO) and Major Command (-MAJCOM) is possibly fielding~~,~~; this allows operators a firsthand look to have changes made before it is disseminated across the community. The UES gives a voice to the operators~~,~~; feedback from the operator is taken and sent directly to the TACP-MOD office to reach out to the company and direct needed changes.

~~3.9.2.1.1.~~ Test Driven Development - All automated test code and test cases shall be developed before any functionality code.

~~3.9.2.1.2.~~3.2.1.1.3.

3.2.1.2. Design Tenets

3.2.1.2.1. Extensibility - The ~~S/W~~software components shall be designed for extensibility. Future enhancements should not include modifications, only extensions.

3.2.1.2.2. Cohesion (LCOM) - High cohesion shall be the goal. High cohesion promotes modularity and encapsulation. Each component should do one thing and do it well.

3.2.1.2.3. Coupling (CBO) - High CBO is undesirable. Excessive coupling between object classes is detrimental to modular design and prevents reuse. Design should be to the interface not the component.

3.2.1.2.4. Cyclomatic Complexity (CC) - Low cyclomatic complexity shall be the goal. Historically high CC correlates to a high bad fix probability.

3.2.1.2.5. Code Coverage - Complete unit test coverage shall be the goal. Proper code coverage can improve test quality and help refactor code more easily. There should be multiple test cases for each ~~S/W~~software path.

~~3.9.2.1.3.~~3.2.1.2.6. Static Code Analysis - Identify serious vulnerabilities that could lead to system failures, poor reliability, system breaches, or unsafe conditions.

3.2.1.3. Quality Assurance. The developer shall use an automated Continuous Integration/Continuous Delivery (CI/CD) pipeline such as Jenkins to build and test all developed ~~S/W~~software at each commit. For each commit of the developed ~~S/W~~software:

3.2.1.3.1. The CI/CD pipeline shall perform all unit tests.

3.2.1.3.1.1. Unit tests shall include negative tests to validate proper handling of error conditions.

3.2.1.3.1.2. Unit tests guarantee the functionality of classes and methods and shall not rely on the availability of external systems such as Application Programming Interfaces (API~~s~~) or databases.

3.2.1.3.1.3. The unit test code coverage shall be computed.

3.2.1.3.2. The CI/CD pipeline shall perform static code analysis using a tool such as SonarQube to analyze ~~S/W~~software design to identify bad practices and risks.

3.2.1.3.2.1. The CI/CD pipeline shall perform Static Analysis Security Testing (SAST) using a tool such as SonarQube to identify security vulnerabilities and risks and perform dependency checks.

3.2.1.3.2.2. A failure at any step in the CI/CD pipeline shall halt the pipeline execution for that ~~S/W~~software build.

3.2.1.3.3. CI/CD pipeline results and testing metrics, including those in S~~s~~ection 3.2.1.2, shall be monitored and captured in an automated fashion for all developed ~~S/W~~software.

3.2.1.3.4. The developer shall perform additional tests appropriate to the ~~S/W~~software for all operational ~~S/W~~software releases. Automation of these tests shall be implemented where feasible:

3.2.1.3.4.1. Integration tests with external systems such as databases or APIs shall be performed for any system with a reliance on external ~~S/W~~software.

3.2.1.3.4.2. User Interface (UI) functionality shall be verified for any ~~S/W~~software with a UI component.

3.2.1.3.4.3. Dynamic Analysis Security Testing (DAST) shall be performed on any ~~S/W~~software with an API or UI that can be accessed remotely.

3.2.1.3.5. Access to all reporting output or a digital copy of the reports shall be provided to the Government.

~~4.2.1.and other potential sources such as the JEFX 08 ULC2 CDT Value Stream Analysis results.~~

~~4.2.2.Propose an approach to requirements management that will manage the new requirements within the existing and evolving UL/UC2 baseline.~~

~~4.2.3.Propose an approach that meets as many of the requirements and capabilities of the System Capability Document (SCD) and Required Functionality Table but also maintains all of the existing TULO functionality. The approach should include multiple releases (See Notional IMS) for each Increment.~~

~~4.2.3.The requirements should be evaluated from highest to lowest priority (using priority column in Required Functionality Table) for inclusion in each incremental release. The priority column ranges from 0 to 100 where 100 indicates the highest priority requirements. The Existing Functionality Table lists the current capabilities of the fielded TULO baseline.~~

~~4.2.4.Provide example solution designs within the current TULO architecture to satisfy those requirements in a performant, flexible, extensible, and maintainable way. Include a list of assumptions as necessary. Examples should be provided for at least 2 high priority requirements of which one of them should be Requirement # 2.6 (from the RFT) - Consume CMD (TBMCS-FL compatible version) via Air Operations COI Air Mission Information Service (AMIS).~~

~~4.2.5.Avoid vendor-specific dependencies and maximize the interoperability of UL/UC2.~~

~~4.2.5.1.Where possible when satisfying UL/UC2 requirements reuse and/or provide software services and application programmer interfaces to facilitate the third-party development of additional applications, service providers, and new enterprise services and standards.~~

~~4.2.5.2.Wherever cost effective (i.e. wherever not cost effective to reuse existing code, infrastructure or design), propose technical designs for UL/UC2 requirements in a manner compliant with the emerging Technical Implementation Architecture (TIA) which includes adopting a net-centric, Service-Oriented Architecture (SOA) based approach.~~

~~4.2.5.2.~~

~~Propose an approach that analyzes the feasibility (cost, schedule, and technically) of integrating third party or GOTS products to satisfy UL/UC2 requirements. The solution should support the goals and requirements of section 6.2 of the System Capabilities Document. The modifications to both the third party/GOTS products and to the existing TULO/UL/UC2 baseline that may be required should be included in the feasibility analysis. The following list (but not limited to if other candidate products exist) of products limited to should be analyzed: Integrated Information Management System (IIMS); WEdge briefing tool; AFICS Task Management and Execution (TME); AFICS Alerter; AFICS collaboration tools and individual AFICS external interfaces.~~

4.2.6.Propose a process to ~~e~~insure ~~UL/UC2~~ security requirements are achieved for integration, certification, accreditation, and fielding including requirements for security, testing, and lifecycle support up to a system high of SIPRNet.

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3.2.2.

3.2.2.1. The c~~C~~ontractor shall support the Government in meeting the ~~Command and Control Platform Information Technology (~~C2 PIT~~)~~ Certification and Accreditation Process in development of the software program, as described below. The c~~C~~ontractor shall reference ~~Command and Control (C2) Platform Information Technology (PIT)~~C2 PIT Certification and Accreditation Process Guidelines, DoDD 8500.1 and AFPD 33-202 for Cybersecurity process guidance; and use DoDI 8500.2 as governing Cybersecurity requirements where applicable to the WARHAWK Software.

3.2.2.2. The ~~C~~contractor shall provide written confirmation that the software complies with the inherited DoDI 8500.2 Cybersecurity controls required for Mission Assurance Category (MAC) II/Confidentiality Level (CL): Classified submitted as part of the Cybersecurity Report.

3.2.2.3. The ~~C~~contractor shall run a (-DoD-approved source code evaluation tool on all developed/reused software to assure no malicious code or security issues are present. The c~~C~~ontractor shall protect and demonstrate/verify all COTS software and software of unknown pedigree (i.e., software from sources buried in the supply chain).

3.2.2.4. The ~~C~~contractor shall provide software architectural, software design, and software development process information in the Cybersecurity Report to support Cybersecurity compliance. (reference 1.d on https://www.esd.whs.mil/Portals/54/Documents/DD/issuances/dodi/850001_2014.pdf)

3.2.2.5. The c~~C~~ontractor shall provide in-person Cybersecurity technical support to the Government to support the WARHAWK application formal Cybersecurity test events including preparation for ~~Interim Authority to Test (~~ IATT~~)~~, ~~Interim Authority to Operate (~~IATO~~)~~, and ~~Authority to Operate (~~ATO~~)~~.

~~3.9.12.1.~~ The ~~C~~contractor shall support and participate in the Government Cybersecurity Working Group meetings as required. The c~~C~~ontractor shall provide responses to assigned action items for issues identified at the Cybersecurity Working Group meetings.

~~3.9.12.2.~~

~~3.9.12.3.~~3.2.2.6.

~~3.9.12.4. Propose an approach to meet Security Engineering and Technical Support, Certification and Accreditation including but not limited to Authority To Connect, Security Policy Compliance Assessment (SPCA) and System Security Engineering Working Group (SSEWG).~~

~~3.9.12.5. Propose a process to ensure UL/UC2 security requirements are achieved for integration, certification, accreditation, and fielding. This includes all system security engineering for testing, accreditation and lifecycle support. Support shall include but not be limited to Government In-Plant (GIP), Development Test (DT), Force Development Evaluation (FDE)/Security Test and Evaluation (ST&E) testing events. Direct security engineering support is required for all security documentation to include but limited to the SSAA or DIACAP equivalent and all appendices, SFUG, TFM and Ports and Protocol Matrix, etc, as directed by the government.~~

~~3.9.12.6. Perform security analysis and assessment of service pack changes by running the 'Gold Disks' and I-Retina tools and documenting the findings. Complete the associated the Security Readiness Checklists.~~

~~3.9.12.7.~~3.2.2.7. Perform analysis and risk mitigation assessments of Government ~~(I-Flight)~~ Security Test Reports and ~~92nd IOS~~ Penetration Evaluation Rreports.

~~3.9.13.0. Ensure that all software maintenance (i.e., Periodic maintenance releases and Service Packs) design, development, and integration work complies with Government-provided foreign disclosure guidelines.~~

~~3.9.14.0. Perform RELSCAN analysis and provide support, as needed, to ensure appropriate releasibility certifications are retained for the UL/UC2 baseline system and all relevant Patches, Service Packs and Releases.~~

~~3.9.15.~~3.2.3. Propose an approach for collaboration with the Ggovernment to plan, coordinate, and execute Government test activities, including ~~developing test programs~~ incorporating support from contractor and ~~gg~~overnmental development and operational test organizations. The proposed test program will identify testing techniques and procedures permitting an ~~Integrated Test Team (~~ITT~~)~~ approach through ~~contractor testing~~ ~~(~~CT~~)~~, ~~inviting Government witnesses,~~ ~~developmental testing (~~DT~~)~~, and ~~o~~Operational ~~t~~Testing ~~(~~(OT~~))~~. The contractor shall support Government testing during ~~GIP,~~ DT and/or OT, as required. ~~–~~ Propose your approach to collect and analyze data, and also how you plan to ~~provide reports for these tests. These requirements are to~~ reduce deficiencies found in testing, prevent rework, and avoid surprises in DT and OT.

~~3.9.15.1. Propose your ideal process with multiple touch points with the US Air Force Program Office identified Test Agencies, e.g., 46th TS, 605th TES, AFOTEC, DOT&E, AFC2ISR, etc., throughout the program.~~

~~3.9.15.2.~~3.2.3.1. ~~-~~Plan, develop, and conduct automated capability-based scenarios, and incorporate them in requirements verification and test at the appropriate level to ensure operationally-relevant contractor testing.

~~3.9.15.3.~~3.2.3.2. Propose participation as a member of the ~~Integrated Test Team (~~ITT~~)~~ and related Integrated Product Teams (IPT)~~s~~ as needed to include any necessary T&E Teams' Meetings/Reviews.

3.2.3.3. Provide program event ~~review/design~~ and review schedules permitting Government attendance and insight throughout the program.

~~3.9.15.4.~~3.2.3.4. S~~and s~~upport all Test Readiness Reviews (TRR) and Pre-TRRs with the Government serving as the chair of the reviews in accordance with AFI63-119.

~~3.9.15.5.~~3.2.3.5. Develop integrated test plans and procedures working with the ITT to verify the installation, product, software, modification, etc., meets performance requirements ~~provided in the system specification~~derived as part of the detailed requirements development process, to include pre-modification (setting baseline) and post-modification testing, first article testing, regression testing, penetration testing, and acceptance testing. These tests should be automated where ~~-~~ever possible. Collect and analyze data, and provide reports for these tests.

~~3.9.15.6.~~3.2.3.6. During test execution, the contractor will assist the Responsible Test Organization (RTO), and Operational Test & Evaluation organization (e.g. AFOTEC, 605th TES, MAJCOM) test team members in identifying and documenting deficiencies in accordance with the deficiency report process

outlined in T.O. 00-35D-54, USAF Deficiency Reporting, Investigation, and Resolution (DRI&R); dated 1 November 2011. The RTO will use the 605 TES TDCS to manage and track TPRs during all operational evaluations.~~Configuration and Data Management Plan and TO 00-35D-54 based TBMCS Deficiency Reporting (DR) System Plan.~~ The contractor's Discrepancy Review (DR) system shall be a standalone system but provide at least a structured export of the data (e.g. comma-separated) to the Gg~~g~~overnment for import into the Gg~~g~~overnment's DR system upon request. ~~, including TO 00-35D-54 compliant processes and methodologies, and portability of data into government information management systems.~~

~~3.9.15.7.~~3.2.3.7. Determine and identify equipment, test, data, and instrumentation requirements required for Gg~~g~~overnment support and Gg~~g~~overnment ~~f~~Furnished ~~p~~Property (GFP), if any, required to conduct contractor testing ~~controlled by the Government Configuration Board~~.

~~Support any Increment, Spiral, Service Pack or Patch regression testing as needed.~~

~~3.9.15.8. Propose robust engineering, quality and test processes (ISO 9000/9001 or equivalent) including studies and analysis, modeling and simulation, system integration, installed system test per AFI 99-103 which implements AFPD 99-1 to support incremental refinement of the Concept of Operations (CONOPS) and end-to-end performance analysis.~~

~~3.9.16.~~3.2.4. Propose Configuration Management (CM) process to establish and maintain Configuration Management for ~~UL/UC2~~the fielded systems to include i~~I~~ncrementa~~l~~ deliveries~~s~~ ~~, Spirals, software Service Packs,~~ and associated p~~P~~atches.

3.2.4.1. The ~~C~~contractor shall implement ~~configuration management~~ CM processes, procedures and systems to ensure that all configurations are properly planned, identified, documented, maintained, and controlled. The ~~C~~contractor should use MIL-HDBK-61A and ANSI/EIA-649B as guidance.

3.2.4.2. For each operational software release, the ~~C~~contractor shall establish its functional baseline based on the derived detailed requirements established during the sprint development cycles and shall provide written certification, to the Government, that the functional requirements have been met during the testing activities.

~~3.9.16.~~

~~3.9.16.2. For each increment, spiral, service pack or patch release the contractor shall provide written certification, to the Government, that the functional requirements have been met during formal testing activities.~~

~~3.9.16.3.~~3.2.4.3. The contractor shall provide all supporting ~~configuration management~~ CM documentation for each increment, ~~spiral,~~ S~~s~~ervice ~~p~~Pack (SP) or patch release to include hardware and software baseline~~-~~(s) per Government requirement. All associated configuration control documentation shall be provided to the Government in support of all system level testing, certification and accreditation.

~~3.9.16.4.~~3.2.4.4. C~~C~~ontractor shall support and participate in all ~~Configuration Control Boards,~~ IPT meetings, Technical Interchange Meetings (TIM) relating to configuration control, as required by the Government.

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~~3.9.17. Propose an Interface Control Working Group (ICWG) process. The contractor shall chair all required Interface Control Working Groups (ICWG) meetings with associate contractors, necessary to maintain internal and external interfaces. The contractor shall continue to hold ICWGs when impact to existing interfaces are being considered under this development contract.~~

3.2.5. Propose a Performance Analysis process. The contractor shall determine and quantify performance for all ~~UL/UC2~~WARHAWK fielded configurations to include limiting factors and optimum configurations. The performance analysis methodology shall evolve throughout the performance of this contract. Results of performance analyses shall be presented and updated at periodic ~~PMRs and TIMs~~~~technical interchange meetings~~TIMs. The contractor shall develop alternatives to increase performance within existing hardware constraints (e.g., configuration changes).
~~When directed by the Government, the contractor shall incorporate the results of the performance analyses into existing UL/UC2 system baseline to provide increased system efficiency and performance.~~

~~3.9.18.~~3.2.6. Propose a detailed Government Furnished Equipment /Government Furnished Information (GFE/GFI) list that will be required to support the ~~UL/UC2~~WARHAWK development, integration, test, and sustainment efforts.

~~3.10.~~3.3. Program/Technical Management Objectives

~~3.10.1.~~3.3.1. Propose a standardized program management process that provides Government visibility and open communications for cost, schedule and performance issues.

~~3.10.2. At a minimum, conform to the Capability Maturity Model Integration (CMMI) level 3 compliant processes, procedures, and practices in all aspects of UL/UC2 development and make all processes available for Government review and comment. Provide any information about sub-contractors and their processes including CMMI ratings. Provide details on all CMMI assessments including the type of assessment, who conducted the assessment, when the assessment was conducted, the scope of the assessment, and how involved the actual organization that would perform UL/UC2 work was. In short, we want confidence that at least CMMI level 3 compliant processes will be followed by the *combined* UL/UC2 team.~~

~~3.10.3.~~3.3.2. Propose a risk management process that identifies the critical technical, program, cost, and schedule risks, assesses the likelihood and impact of risks, prioritizes risks, demonstrates how risks will be mitigated and monitors and manages the risk mitigation process.

~~3.10.4.~~3.3.3. Identify critical decision points in the technical design, development, and risk-mitigation processes and the cost-performance trade-offs to be made at those points to support the designation of measurable milestones in the ~~UL/UC2~~ development process.

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~~3.10.5.~~3.3.4. Identify ~~technical interchange meetings~~TIMs for the definition and improvement of the internal ~~UL/UC2~~ design and interoperation with other programs and systems.

~~3.10.6.~~3.3.5. Identify technical and programmatic reviews ~~, with specific entrance and exit criteria,~~ to provide Gg~~g~~overnment visibility into the development process and to meet ~~UL/UC2~~ integration requirements.

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3.3.6. Propose the process for identifying, accepting, tracking, and processing deficiency reports and baseline change requests.

~~3.10.7.~~
~~3.10.8. Propose an approach for processing engineering changes into the baseline.~~
~~3.10.9. Propose a comprehensive requirements traceability matrix for each spiral.~~

~~3.10.10.~~3.3.7. Provide for a Difference Briefing detailing all of the new, modified or removed capabilities and system infrastructure that is updated with each increment, spiral, ~~service pack~~ SP and/or patch.

~~3.10.11.~~3.3.8. Propose a process for ~~g~~Government approval of the system design for each Increment. Successful completion of this process will be Government approval to proceed into the next phase of development. This process can be done for a set of requirements/capabilities at a time and does not need to force the contractor into a waterfall software development process.

~~3.10.12.~~3.3.9. Create a detailed Integrated Master Plan and Schedule that includes key milestones for the ~~UL/UC2~~ development effort. ~~Please provide tasks below the service pack level to help us understand your process.~~ Show ~~when requirements analysis, design, development, integration,~~the sprint development cycles,~~-~~ program increment demonstrations, operational ~~S/W~~software releases~~-~~ contractor system level testing, G~~g~~overnment testing, documentation ~~authoring~~creation, training material~~s~~ ~~authoring~~creation, and the Software Development Kit (SDK) or ~~Software Development Folder (SDF)Application Programming Interface (~~API~~)~~ updating~~, and certification~~ would be ~~done and at what level (e.g., requirement, use case, software component, service pack, spiral, etc.) of granularity the work would be scheduled at.~~completed.

3.3.10. Propose an approach for detailed cost reporting that provides the ~~g~~Government information to labor category level within the Work Breakdown Structure (WBS). Travel and ODC's shall be listed separately.

~~This report shall be formatted and delivered to the Government as specified in the CDRL Data Item Description.~~

~~3.10.13.~~3.3.11. Propose an approach to communicate and coordinate with ~~UL/UC2~~the Government Program Offices on all aspects of development, integration, deliverables, sustainment, training, testing, and fielding.

~~4.3.15. If so directed, support defined communities of interest (COIs) relevant to UL/UC2 and its requirements.~~

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~~3.11.~~ Fielding/Sustainment Objectives:

~~3.12.~~

~~3.13.~~3.4. ~~Identify the support strategy and tasks required to maintain the existing TBMCS UL and UL/UC2 mission application baselines. The TBMCS UL sustainment tasks should be proposed as a separate option than the UL/UC2 sustainment tasks.~~ Outline a sustainment strategy throughout the lifecycles of WARHAWK ~~both TBMCS UL and UL/UC2~~ to meet its mission requirements by establishing user support systems such as user and system administration training, a tier ~~2~~ 3 help desk, ~~and user newsgroupsworkgroups (~~UES~~),~~ and software maintenance~~; Baseline Change Requests and enhancement request tracking for the UL/UC2 baselines; and coordination with legacy systems on the development and release of capabilities~~.

~~3.13.1.~~ ~~TBD~~ Training/Subject Matter Expert (SME) Field Support ~~-~~– Propose a modern training approach ~~The Contractor shall develop technical materials and provide familiarization for the baselines delivered as part of this SOO, including their embedded 3rd party applications, per AFI 36-2201 and in accordance with the following tasks:~~

~~3.13.2. Difference Orientation/Training~~

~~3.13.3.~~3.4.1. ~~Complete the familiarization material development in support of TTT-like difference orientation. The primary goal of training shall be to~~that focuses on enhanc~~ing~~e user/operator/sys~~tem administrator ad~~ proficiency. The Offerors should propose a cost effective approach that utilizes their existing Software and Systems Engineering ~~subject matter experts~~SMEs as much as possible.

~~3.13.5.0.0. Prepare new, expanded, or modified SME materials, as specified by the Government. Update and maintain a TBMCS UL orientation package for Operator/User, and System Administrator personnel.~~

~~3.13.7.0.0. Training shall be accomplished via documentation, hands on, hardware and visual instruction. The contractor shall ensure the training material is available hardcopy when conducting MTTs and TTTs as well as softcopy files available for wing/unit follow on training use.~~

~~3.13.9.0.0. Gather orientation event metrics using critiques and event reports.~~
~~3.13.10.0.0. MAJCOM Difference Orientation/Training~~
~~3.13.11.0.0.0. Deploy personnel and provide 4 TTT like orientation events:~~
~~• One (1) to HQ PACAF, Hickam AFB~~
~~• One (1) to HQ USAFE, Ramstein Air Base~~
~~• Two (2) to ACC locations: one to an East Coast location and one to a West Coast location.~~
~~3.13.15.0.0.0. Provide system and functional Difference Orientation/Training to audiences composed of one System Administrator and one Wing/Unit Trainer from each installation location; one Help Desk technician from each Help Desk; one 344TS instructor, and one Training Manager from each MAJCOM.~~
~~3.13.16.0.0. DT/FDE Difference Orientation/Training~~
~~3.13.17.0.0. Deploy personnel to DT/FDE and provide operator and system administrator delta training.~~
~~3.13.18.0.0. Provide system and functional Difference Orientation/Training to audiences composed of System Administrators and Operational Users.~~
~~3.13.19.0. New Installation training~~
~~3.13.20.0.0. The primary goal of training shall be to instruct user/operator/sys ad proficiency.~~
~~3.13.21.0.0. Prepare new, expanded, or modified training materials, as specified by the 350th ELSG.~~
~~3.13.22.0.0. Deploy personnel to the new base installations and provide 2 MTT training events per Year. The initial training concept is to provide two weeks of System Administrator and Operational training at all new installations.~~

~~3.13.23.~~3.4.2. Create/Update all User, ~~LoadSUM~~System Installation, and System Administration documentation as required by system modifications, field requests or test event redlines. The Documentation should support all of the System configurations defined in the ~~System Capability Document~~SCD.

3.4.3. Tier III Help Desk - The c~~C~~ontractor shall provide ~~TBMCS UL~~ Tier III ~~-~~Help Desk with five (~~7~~ 5) days a week/~~twenty four~~8~~-~~-hour support to the ~~Tier I TBMCS or UL/UC2~~TACP-M Help Desk ~~at Crane, IN~~. This shall include technical expertise and assistance on questions/issues related to ~~TBMCS UL and UL/UC2 fielded~~the WARHAWK application ~~systems~~ to a system high of SIPRNET. The ~~C~~contractor shall maintain the problem report tracking system and processes that ~~were~~ are

established as part of the ~~TBMCS~~ WARHAWK program. The c~~C~~ontractor shall track and record all contacts/resolutions using the ~~Remedy~~ software/hardware utilized by TACP-M Help Desk and assist with the writing, tracking, and/or analysis of Software Problem Reports (SPRs) and Baseline Change Requests (BCRs). The Offerors should propose a cost effective approach that utilizes their existing Software and Systems Engineering ~~subject matter experts~~SMEs as much as possible.

~~3.13.24.0. The Contractor shall provide 24 x 7 technical support. The Contractor shall support 24 x 7 operations through:~~

~~3.13.25.0.0. Manned Help Desk operations Monday through Friday from 0800-1700 EST, and~~

~~3.13.26.0.0. A paging system used for all after hour and weekend calls.~~

~~3.13.27.0. The Contractor shall provide a standard call back response time for customer calls based upon Tier 1 assigned Help Desk ticket priority:~~

- ~~Critical- 2 hours (24 x 7).~~
- ~~Serious- 2 hours (24 x 7).~~
- ~~High- 24 hours.~~
- ~~Medium- 48 hours.~~
- ~~Low- 48 hours.~~

~~3.13.33.0. The Contractor shall begin the steps necessary for resolving a Help Desk ticket within the defined response time (critical – low).~~

~~3.13.34.~~3.4.4. Commercial Off-the-shelf (COTS) Software Management - The contractor shall manage COTS maintenance for all necessary COTS software licenses and maintenance agreements for ~~TBMCS~~ the ~~UL or UL/UC2~~WARHAWK operational and support sites. This should include all currently fielded locations as well as future locations to be identified by the program office. ~~The Government will provide initial system licenses for each work station located at operational and support sites.~~ The sustainment contractor shall be responsible for license management, data rights, and warranties associated with ~~TBMCS UL or UL/UC2~~the fielded systems.

~~3.13.35.~~3.4.5. Software duplication and distribution - The c~~C~~ontractor will be responsible for ~~TBMCS UL or UL/UC2~~ s~~S~~oftware r~~R~~eproduction and distribution of all Sprint releases, Program Increment releases,~~.~~ ~~Service Packs~~ SPs, ~~or Patch Reproduction,~~ and Operational ~~S/W~~software releases to the Program Office, System Integrator (Crane), ~~User Engagement Site~~UES, ~~Development Testing~~DT, and ~~Operation Testing~~OT ~~Fielding (Distribution) for all TBMCS UL or UL/UC2~~ locations. The System Integrator will be responsible for ~~S/W~~software distribution to the operational locations.

~~3.13.36. Propose a System Engineering process. The contractor shall perform a wide range of system engineering to ensure that individual components of TBMCS UL or UL/UC2 modified as a result of service packs and patches, satisfy system performance requirements. The contractor's system engineering effort shall consider all aspects of sustainment such as performance, quality factors, life-cycle cost, program schedule, risk, data processing reserves and growth, system flexibility, expandability, system security, releasability, interoperability, configurability, portability, and supportability. The contractor shall present the products of the engineering effort at design reviews and technical interchange meetings as required.~~

~~3.13.37.0. The System Engineering process should cover (but not be limited to) the requirements documented in section 4.2 of this SOO.~~

~~3.13.38.0. Security Technical Support should cover (but not be limited to) the requirements documented in section 4.2.6 of this SOO.~~

~~3.13.39.~~ Software Maintenance. The contractor shall provide technical support for software maintenance activities associated with each software ~~service pack~~ SP and patch released. The contractor shall conduct analyses to define each ~~service pack~~ SP and patch required to sustain fielded systems. The content of each Government approved ~~service pack~~ SP and patch will reflect emerging requirements, feedback from demonstration and testing activities, operational use and changes in technology balanced against resource constraints and risk. ~~The supported systems include TBMCS-UL, UL/UC2 and TDX or C2 pre-and post- guard servers.~~

~~3.13.40.~~3.4.6. ~~The contractor will maintain a list of all prioritized Software Problem Reports (SPRs) and BCRs. When a SPR is identified by the Government (user or ESC Program Office) as urgent, the contractor shall take all actions necessary to first, identify a work around and second, issue a service pack or patch that will rectify the SPR. The contractor shall issue the service pack or patch to the operational sites at the earliest possible opportunity, as directed by the Government. An urgent SPR is defined as an existing problem associated with the system that prevents the user from accomplishing mission objectives and cannot be resolved through the implementation of a work around. For SPRs approved by the Government as routine, the contractor shall incorporate the SPR fixes in the next available software pack, as approved by the Government. A routine SPR is defined as an existing problem that does not adversely affect the user's ability to accomplish mission objectives and can be overcome by the selection and implementation of a work around.~~

~~3.13.40.1.1. Standard Desktop Configuration (SDC) Maintenance - The Contractor shall determine feasibility and identify, plan and implement the necessary changes to TULO or UL/UC2 fielded client software to make it compatible with the USAF Standard Desktop Configuration (SDC) client versions delivered to the contractor as GFE/GFI through the period of performance of this SOO. Two new SDC images (one XP and one Vista) will be delivered to the contractor approximately once every two to three months. The contractor will have up to 30 days to deliver a schedule to produce the necessary fielding instrument(s) (patch or service pack) to enable TULO or UL/UC2 to operate on these clients. The effort shall include the following activities:~~

~~3.13.40.1.2. c~~Completion of the ~~implementation and fielding of a patch and/or documentation update as required to facilitate TULO or UL/UC2 client operation on the assigned SDC versions, up to a maximum of four versions at any one time.~~

~~3.13.40.1.3. The contractor shall re-host UL/UC2 software to a different operating environment, as directed by the Government.~~

~~3.13.40.1.4. Support & maintain all external interfaces and 3rd party information services integrated into the current UL/UC2 baseline.~~

~~3.13.41. Propose an approach for processing immediate sustainment changes into the baseline.~~

XXX CONTRACT ORDER
FAR 16.505(b) FAIR OPPORTUNITY PROCESS APPLIES
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~~FAR 16.505(b) FAIR OPPORTUNITY PROCESS APPLIES~~

~~3.13.42. Propose a UL/UC2 quick response field support capability to augment the baseline fielding teams.~~

~~3.13.43.~~

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