

**STATEMENT OF WORK PEO-STRI-13-W092**

**UH-72A SYNTHETIC FLIGHT TRAINING SYSTEM (SFTS)**

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## List of Acronyms

AC	Active Component
Ao	Operational Availability
A2TP	Acceptance/Accreditation Test Procedure
AVCATT	Aviation Combined Arms Tactical Trainer
CM2	SE Core Common Moving Models
CAP	Corrective Action Plan
CONUS	Continental United States
COR	Contracting Officer Representative
CP	Copilot
CTD	Contractor Test Director
DIACAP	Department of Defense Information Assurance Certification and Accreditation Process
DOD	Department of Defense
DR	Deficiency Report
DRB	Deficiency Review Board
GFI	Government Furnished Information
GTD	Government Test Director
IA	Information Assurance
IAW	In Accordance With
ICS	Interim Contractor Support
IIMC	Inadvertent Instrument Meteorological Conditions
IMS	Integrated Master Schedule
IMC	Instrument Meteorological Conditions
IOS	Instructor/Operator Station
IPPD	Integrated Product and Process Development (IPPD)
IPPM	Integrated Product and Process Management (IPPM)
IPT	Integrated Product Team
IUID	Item Unique Identification
LPD	Logistics Product Data
MTTR	Mean Time to Repair
NEC	National Electrical Code
NVD	Night Vision Devices
OFP	Operational Flight Program
OneSAF	One Semi-Automated Forces
PCO	Procuring Contracting Officer
PDD	Product Definition Data

PQT	Production Qualification Test
RC	Reserve Component
SE	Synthetic Environment
SFTS	Synthetic Flight Training System
SME	Subject Matter Expert
SOW	Statement of Work
TIM	Technical Interchange Meeting
TDB	Terrain Databases
TP	Test Procedures
TRR	Test Readiness Review
VMC	Visual Meteorological Conditions

# STATEMENT OF WORK

For

## UH-72A SYNTHETIC FLIGHT TRAINING SYSTEM (SFTS)

### 1. SCOPE

This Statement of Work (SOW) defines the effort required for designing, developing, integrating, testing, managing, documenting, and delivering the UH-72A Synthetic Flight Training System (SFTS).

#### 1.1 Background And Concept of Operation

The US Army National Guard has a requirement for up to eight UH-72A SFTS. The UH-72A SFTS will provide a high fidelity flight simulation environment for training UH-72A pilot and copilot individual and crew tasks in accordance with (IAW) the aviator task list provided in Appendix A of the UH-72A SFTS specification (PRF-PT-00611, 14 March 2014).

The SFTS will support institutional, organizational and sustainment training for Active Component (AC) and Reserve Component (RC) aviation units. It will provide a unique training capability to help commanders achieve and sustain unit proficiency and readiness. It will provide the capability for aviation units to train and sustain the performance of selected critical tasks and will allow UH-72A qualified aviators to maintain proficiency in high risk tasks (e.g. Inadvertent Instrument Meteorological Conditions (IIMC), emergency procedures, and extreme environmental conditions). The SFTS shall, at a minimum, meet FAA Level 6 Flight Training Device requirements in accordance with the Code of Federal Regulations (CFR) Title 14 Part 60. The process for obtaining the actual written FAA certification is not required; however the requirements for such certification must be met and demonstrated prior to acceptance.

The SFTS shall be delivered in a configuration in which the final product is contained within a tractor trailer as described in the UH-72A SFTS specification, and is capable of being delivered to various locations throughout the Continental United States (CONUS).

### 2. APPLICABLE DOCUMENTS

The following documents form a part of this SOW to the extent specified herein. In the event of a conflict between documents referenced herein and the contents of this SOW, the contents of the SOW shall be the governing requirement.

#### 2.1 PEO STRI

PRF-PT-00611 UH-72A SFTS Specification, 14 March 2014

PEO STRI BAM Program Executive Office for Simulation, Training, and Instrumentation  
Basic Accreditation Manual, Version 6.0, 30 September 2011

## 2.2 Department of Defense Standards

MIL-STD-130 Identification Marking of U.S. Military Property  
MIL-STD-31000 Technical Data Packages  
MIL-STD-40051-2B Preparation of Digital Technical Information for Page-Based Technical  
Manuals (TMs).  
GEIA-HB-0007-A Handbook, Logistics Product Data  
GEIA-STD-0007-A Specification, Logistics Data Products

Copies available on the WWW at URL: <https://assist.dla.mil/quicksearch/> and  
<http://www.geia.org>

## 2.3 Department of Defense Directives

DODD 8570.01 Information Assurance (IA) Training, Certification, and Workforce  
Management

Copies available on the WWW at URL: <http://www.dtic.mil/whs/directives/>

## 2.4 Department of Defense Instructions

DODI 8500.02 Information Assurance Implementation  
DODI 8510.01 DOD Information Assurance Certification and Accreditation Process  
(DIACAP)  
DoDI 8582.01 Security of Unclassified DoD Information on Non-DoD Information  
Systems

Copies available on the WWW at URL: <http://www.dtic.mil/whs/directives/>

## 2.5 Other Government Documents, Drawings, and Publications

AR 380-5 Information Security Program

Copies available on the WWW at URL [http://www.apd.army.mil/pdffiles/r380\\_5.pdf](http://www.apd.army.mil/pdffiles/r380_5.pdf)

AR 25-2 Army Information Assurance

Copies available on the WWW at URL [http://www.apd.army.mil/pdffiles/r25\\_2.pdf](http://www.apd.army.mil/pdffiles/r25_2.pdf) DA

PAM 25-1-2 Information Technology Contingency Planning, 16 November 2006

Copies available on the WWW at URL [http://www.apd.army.mil/pdffiles/p25\\_1\\_2.pdf](http://www.apd.army.mil/pdffiles/p25_1_2.pdf)

TC 3-04.21 Aircrew Training Manual, Light Utility Helicopter, UH-72A, 04  
November 2013

## 3. REQUIREMENTS

The Contractor shall design, build, integrate, test, manage, document, and deliver a system that meets the UH-72A SFTS requirements as defined in this SOW and the UH-72A SFTS Specification, PRF-PT-00611.

The Contractor shall provide all effort, resources, facilities, equipment, and personnel necessary to complete the tasks in this SOW. The Contractor shall perform all activities to integrate and assemble the hardware and software to achieve a fully functional UH-72A SFTS system, with all support systems, which performs and operates IAW the system specification. The Contractor shall verify the complete integration of the hardware and software of each hardware and software subsystem and the overall system through the application of formalized test procedures.

### 3.1 System Design

Any required system level design shall be performed to meet the requirements of this SOW and the UH-72A SFTS system specification. All designs shall be based on performance, industry standards, long term availability, and supportability. The design shall define the necessary hardware and software required for the UH-72A SFTS.

**(DI-IPSC-81441A) Software Product Specification (SPS)**

**(DI-IPSC-81442A) Software Version Description (SVD)**

The Government will provide the most current versions of the following items at the intervals identified with each item of Government Furnished Information (GFI). These products shall be integrated into the system design and updated and modified as required IAW the requirements of Specification PRF-PT-00611:

- Aviation Combined Arms Tactical Trainer (AVCATT) version of One Semi-Automated Forces (OneSAF) (Provided no later than Preliminary Design Review (PDR)).
- SE Core Terrain Databases (Provided NLT PDR).
- SE Core Common Moving Models (CM2) (Provided NLT PDR).
- SE Core Gateway Software (Provided NLT PDR).
- UH-72A Flight Model Software (Provided NLT Critical Design Review (CDR)).
- UH-72A Engine Model Software (Provided NLT CDR).

### 3.2 System Definition

The UH-72A SFTS shall consist of an UH-72A simulator with an Instructor Operator Station. The UH-72A SFTS shall include all hardware and software elements needed to provide visual simulation systems that (a) provide external visual scenes of fidelity to support all aviator training tasks listed in Appendix A of the UH-72A SFTS system specification and (b) replicate UH-72A cockpit sensor displays. The UH-72A SFTS shall deliver motion cues of fidelity level to support UH-72A pilot and co-pilot mission training.

The UH-72A SFTS will provide the ability for UH-72A pilot and CP personnel to complete training under simulated day/visual meteorological conditions (VMC); instrument meteorological conditions (IMC); degraded visual environment conditions; and night conditions, to include the use of night vision devices (NVDs).

Each UH-72A SFTS pilot and CP position shall simulate the operation and performance of the UH-72A helicopter. This shall include (but not be limited to) these elements: pre-start, engine start ground checks, taxi, take-off, flight within the flight envelope, landing, the mission equipment package, and engine shut-down.

The UH-72A SFTS shall include all functional interdependencies for the various systems comprising the UH-72A aircraft. Required malfunctions are described in the UH-72A SFTS system specification. UH-72A aircraft performance tolerances shall apply for the UH-72A SFTS.

The UH-72A SFTS IOS shall be capable of graphically analyzing and reviewing data collected during the training session. Current or completed training data shall be sufficient to recreate the visual scenes, aural cues, and crew voice communications experienced during training sessions. The IOS shall play back (play, pause, step, skip), Zoom in/out, freeze and have a print capability. Visual content shall be synchronized with audio content on the crew /IOS intercom system. The IOS shall allow the instructor to program location, ambient light conditions, aircraft weight and balance, weather conditions, special effects, and aircraft malfunctions before and dynamically during the training period.

The UH-72A SFTS shall be capable of system growth for potential integration and functional simulation of Mission Equipment Packages.

The UH-72A SFTS shall be delivered in a configuration in which the final product is contained within a tractor trailer as described in the UH-72A SFTS specification, and is capable of being delivered to various locations throughout the Continental United States (CONUS).

### 3.2.1 Hardware Design

The Contractor shall integrate and assemble the system hardware that satisfies the requirements stated in the UH-72A SFTS system specification.

### 3.2.2 Software Design

The Contractor shall integrate and assemble the system software that satisfies the requirements stated in the UH-72A SFTS system specification. The Contractor shall design software, develop executable code, perform unit testing, and integrate software components (with each other and with hardware components) to meet system requirements as stated in the System/Subsystem Specification (SSS) and all Technical/Operator's manuals cited in this SOW. Software design includes not only design to requirements, but selection of existing software products including open source software to meet system requirements, and iterating the requirements to allow use of existing products when indicated by cost as an independent variable (CAIV) or schedule as an independent variable (SAIV) trades.

The Contractor shall develop the system software and firmware using its organizational software development practices that are compliant with at least Level 3 of the Software Engineering Institute's Capability Maturity Model for Software (CMMI). The Contractor shall provide evidence that the software development practices are compliant with CMMI Level 3 or higher. The design process shall incorporate features that promote assessment of open source software products, ease of operation, IA, ease of software maintenance, ease of future updates and

modifications, data void work around, and also any smart designs that can justify a reduction in the amount of documentation. Computer programs and computer data system shall be fully integrated in accordance with the system specification. The Contractor shall conduct market surveillance and market investigations in order to maximize the use of open source software, commercial software and non-developmental software. The Contractor shall maintain a software Controlled Development Environment (CDE) that complies with the NIST SP 800-53 Revision 3. The Contractor shall employ well-defined security policy models, structured, disciplined, and rigorous hardware and software development techniques, and sound system/security engineering principles.

### 3.2.3 Hardware and Software Integration

The Contractor shall perform all activities to integrate all existing, modified, and new software with the UH-72A SFTS hardware to achieve a fully functional system that performs IAW the UH-72A SFTS specification. The Contractor shall verify the complete integration of the hardware and software of each hardware and software subsystem and the overall system through the utilization of formalized test procedures.

## **(DI-NDTI-80603A) Test Procedure**

### 3.2.4 Production Planning

The Contractor shall perform production planning to ensure a smooth, timely, and cost effective production of the UH-72A SFTS. Planning tasks shall include those actions required to ensure the manufacturing processes have been proven, and production facilities, equipment, capability, and capacity are in place to support the required delivery schedule.

### 3.2.5 System Site Delivery

The Contractor shall plan, coordinate, and perform system fielding at each of the Government designated Home Station fielding locations. These locations will house the SFTSs while they are not in use at training sites. When an SFTS is delivered to a fielding location, the Contractor will conduct an acceptance test event with the Government in accordance with the procedures outlined in this document.

#### 3.2.5.1 Site Survey

The Contractor shall conduct a survey of the Home Station fielding location at least four months prior to the commencement of SFTS system installation. The purpose of the survey is to coordinate arrangements for system installation at a location and provide information on any modifications required at the location in order to meet the requirements for hosting the system as outlined in the System Specification. The Contractor shall document the results of the survey in a Trainer Facilities Report (TFR) for each location at which a SFTS is to be fielded.

Planned Home Station fielding locations are listed in the schedule below:

1. Eastern ARNG Aviation Training Site, Ft. Indiantown Gap, PA
2. Western ARNG Aviation Training Site, Marana, AZ
3. 1-134 Security & Support Battalion, Grand Island, NE

4. 2-151 Security & Support Battalion, Eastover, SC
5. 1-112 Security & Support Battalion, Bismarck, ND
6. 1-114 Security & Support Battalion, North Little Rock, AR
7. 3-140 Security & Support Battalion, Los Alamitos, CA
8. 1-224 Security & Support Battalion, Aberdeen Proving Ground, MD

**(DI-FACR-80966) Trainer Facilities Report (TFR)**

3.2.6 Item Unique Identification (IUID)

The Contractor shall coordinate with the government to determine items requiring IUID, including embedded subassemblies, components and parts, and identify the Item Unique ID (IUID) to be used for each item. The Contractor shall provide IUID, or a Department of Defense (DoD) recognized IUID equivalent, for all identified items that are delivered. IUID marking design for each item shall be both machine readable and human readable IAW MIL-STD-130. The Contractor shall enter the IUID data into the national IUID registry.

**(DI-MGMT-81858) Unique Identification (IUID) Marking and Verification Report**

3.2.7 Product Definition Data

During the systems engineering and design phase, the Contractor shall develop, produce, and maintain Product Definition Data (PDD) that accurately depicts the final product. The PDD is the technical description of items adequate for production, engineering, and logistics support. The PDD shall disclose complete design, logistics, manufacturing requirements, and the means of measuring compliance with the requirements. Piece part information (drawings, computer aided design files and meta data) and associated lists shall provide the necessary design, engineering, manufacturing, and quality assurance requirements information necessary to enable the procurement or manufacture of an interchangeable item that duplicates the physical and performance characteristics of the original product without additional engineering design effort. The Contractor shall maintain and update the PDD to incorporate any changes to the hardware and software baselines.

**(DI-SESS-81003D) Commercial Drawings and Associated List**

**(DI-SESS-81000D) Product Drawings and Associated List**

**(DI-IPSC-81431A) System/Subsystem Specification (SSS)**

**(DI-IPSC-81441A) Software Product Specification (SPS)**

**(DI-IPSC-81442A) Software Version Description (SVD)**

3.2.8 Government Purpose Rights and Licenses

The UH-72A SFTS shall utilize an architecture and design that provides the Government with Government Purpose Rights (GPR), at a minimum.

Software (executable, source code, and software support information), technical data, and products shall be provided with Government Purpose Rights (GPR) in accordance with applicable clauses contained in the Defense Federal Acquisition Regulation Supplement (DFARS). This includes software, technical data, and products developed by a subcontractor to

support this effort. Any licensed COTS software and technical data shall be provided with a transferable license that allows distribution and use for any DoD purpose by any DoD contractor at no additional cost.

The ONLY exception to this would be in the case of the tactical aircraft OFP. The preferred solution is use of the real OFP; however an emulated solution is also acceptable. An emulated solution shall require GPR. If the design is based on the real aircraft OFP code the preferred solution is with GPR; however a limited or licensed approach will be accepted only if the conditions allow for distribution, use, and modification of executable and source code to any 3rd party for any DOD purpose at no additional cost in perpetuity.

### 3.3 Integrated Product and Process Management

The Contractor shall establish and maintain a management technique that simultaneously integrates all essential acquisition activities through the use of multidisciplinary teams. The Contractor shall utilize systems engineering tools and overlay a management concept that encourages the use of Integrated Product Teams (IPTs). The Contractor's Integrated Product and Process Development (IPPD) process shall interact with PEO STRI as the Integrated Product and Process Manager (IPPM) which involves establishing performance requirements, monitoring and managing total program progress and evaluating product quality.

#### 3.3.1 Software Defect Management

The Contractor shall document each defect detected in software products. The Contractor shall record software defects in a deficiency report (DR) tracking and reporting tool. The Contractor shall provide the Government with information about the software defect and the Contractor's plan and schedule for resolving DRs.

### 3.4 Supportability Analysis and Logistics Management Information

The Contractor shall conduct repair level analyses; develop diagnostic, preventative maintenance and repair procedures; conduct facilities analyses; refine hardware and software maintenance and support concepts; and identify support resource requirements including required spares and support equipment for the UH-72A SFTS. The Contractor shall develop a listing of which items should be repaired with the associated cost. The analysis should include a consideration of the following:

- All input data and their corresponding value and source of the data.
- Operational scenario modeled, assumptions made, constraints assumed, and non-economic factors imposed.
- Maintenance alternatives considered.
- Analytical method and models used to perform the economic evaluations.
- Discussion of the sensitivity evaluation performed and results obtained.

**(DI-SESS-81758A) Logistics Product Data**  
**(DI-SESS-81759) Logistics Product Data Summaries**

#### 3.4.1 Logistics Management

The Contractor shall ensure the operational and maintenance supportability of the system through planning, implementation, and verification of materials and services to meet the operational requirements. Readiness, availability and supportability should be the primary design factors.

### 3.5 Technical Publications

#### 3.5.1 Commercial Off-the-Shelf (COTS) Manuals

The Contractor shall provide operational and maintenance manual(s) for all Commercial Off-The-Shelf (COTS) equipment. MIL-PRF-32216 will be used in the evaluation of submitted COTS manuals. The Contractor shall provide an index of all the COTS manuals for identification and inventory purposes.

#### **(DI-TMSS-80527C) Commercial Off-The-Shelf (COTS) Manuals and Associated Supplemental Data**

#### 3.5.2 Operator User Manual

The Contractor shall deliver an operator user manual that describes the setup, configuration, and operational use of the UH-72A SFTS.

#### **MIL STD 40051-2 Operator Manual**

#### 3.5.3 Maintenance Manual

The Contractor shall deliver a maintenance manual that describes installation, fault isolation, and maintenance procedures for the UH-72A SFTS.

#### **MIL STD 40051-2 Maintenance Manual**

#### 3.5.4 Publications In-Process Reviews

The Contractor shall host and co-chair Publication In-Process reviews (IPRs) to ensure the technical publications are being prepared in accordance with the requirements of this Statement of Work. Each publication IPR should be scheduled to coincide with system level program reviews defined in the integrated master plan. The Contractor shall act on decisions and discrepancies resulting from each Publication IPR. Each review should include a review of incorporated corrections or comments from previous Publication IPRs. If any IPT member identifies previous Publication IPR comments that are not included in the technical publications, the Publication IPR will be considered incomplete.

#### 3.5.5 Publications Validation

Validation shall be accomplished on all technical publications, changes, supplemental data, and revisions thereto. Publications will be validated prior to start of system testing. A technical publication will be approved upon validation or verification that the following conditions have been fulfilled:

- An Engineering technical review has been completed;
- Information, illustrations, and parts lists reflect correct configurations of the system and equipment, to include all engineering changes;
- Procedural instructions are readily understandable by the intended user and adequate to perform all operations and maintenance functions;
- All procedures have been performed to assure accuracy and performance requirements;
- Adequacy of data is checked to ensure that it supports the approved maintenance and support plan;
- Hardware of the proper configuration is available for the validation and verification effort; and
- All safety hazards identified in the safety assessment report are resolved and identified within the text as cautions or warnings necessary to protect the equipment or personnel as appropriate.

### 3.5.6 Publications Verification

The Contractor shall assist PEO STRI IPT members with verifying that the Technical Manuals (TMs) are accurate. The IPT may choose to perform verification concurrently with the validation effort. Correction of deficiencies and changes resulting from training, testing, and reviews shall be incorporated into the TMs. The Contractor shall provide system equipment, technical and engineering support and facilities as required to aid in the performance of verification effort. The Contractor shall incorporate all comments from compliance-reviews, technical accuracy reviews and verification reviews into final submission of TMs.

### 3.5.7 Training Services

The Contractor shall develop and provide operator and maintainer training through a combination of classroom presentations, written instructions, and hands-on operation. The Contractor shall develop all training courseware including program of instruction, lesson plans, and practical exercises. Pilots and CPs will be expected to provide their own Government issued helmets, NVGs, and other equipment (as required) during completion of the UH-72A SFTS training.

#### 3.5.7.1 Operator Training

The Contractor shall conduct and document the completion of the operator course. This course shall be conducted on-site after delivery of each UH-72A SFTS. The course shall provide comprehensive training for operators in the concepts, knowledge, and skills needed for UH-72A SFTS operation. The course shall provide familiarization with UH-72A SFTS operations and emphasize the utilization of the IOS, its functions, and controls. The course shall address the physical and functional descriptions and operation of the equipment including features, advantages, and configurations.

#### **(DI-ILSS-80872A) Training Materials Operator Training Course**

### 3.5.7.2 Maintenance Training

The Contractor shall conduct and document the completion of the maintainer course for follow-on contractor maintenance personnel. This course shall be conducted on-site 30 days prior to completion of the ICS period. The course shall provide comprehensive training in the concepts, knowledge, and skills required to maintain the UH-72A SFTS. This course shall consist of instruction in troubleshooting and maintenance, diagnostics to fault isolation, calibration, adjustments, remove and replace procedures, use of built-in test, and repair that is beyond operator level maintenance. After completion of the course, all personnel should be capable of operating, maintaining, and troubleshooting the UH-72A SFTS to the board replacement level.

### **(DI-ILSS-80872A) Training Materials Maintenance Training Course**

### 3.5.8 Packaging, Handling, Storage, and Transportability (PHS&T)

The Contractor shall package, handle, store, and transport the UH-72A SFTS and related components IAW the UH-72A SFTS specification requirements and best commercial practices.

### 3.5.9 Quality Engineering

The Contractor shall establish measurement points that will provide maximum visibility into new and prior processes to ensure contractual requirements are being met. The Contractor shall select the proper methods to analyze these processes to continuously improve the system. Metrics shall be developed to assist management visibility into an adequate process control system. The Contractor shall utilize a discrepancy tracking system with the ability to produce complete permanent records of all discrepancy or database listing. The Contractor shall establish a suspense system to ensure timeliness of analysis and corrective action for deficiencies and risk reduction items. The Contractor shall make this system accessible to the Government so that Government representatives can easily access this system and review the status of all data contained within the system.

The Contractor shall use process controls and continuous process improvement to achieve quality hardware and software. The Contractor shall update, maintain, and execute a Quality Program to achieve these ends. Quality Management System shall be IAW ISO 9001:2000, AS9100 (Series) or equivalent. The Contractor shall, upon request by the Procuring Contracting Officer (PCO), the Contracting Officer Representative (COR), or as part of regularly scheduled program reviews, present Quality status related to overall quality system status, procedure/process changes or initiatives, or areas of concern/quality issues. At the Governments discretion, the PM may conduct a quality audit to validate compliance to AS 9100/ISO 9001 or the equivalent commercial standard being used and compliance to contract requirements. The Government must give the Contractor thirty (30) days written notice or appropriate lead-time of their intent to conduct this quality audit. The frequency of these audits will be no more than once a year unless program problems or hardware issues dictate that additional audits are required.

### 3.5.9.1 Deficiency Reports

The Contractor shall follow an established DR corrective action process to ensure timeliness of analysis and corrective action of each testing deficiency. The Contractor shall establish a process to receive test deficiencies from any IPT member and accomplish data entry. Upon closeout of a deficiency, the Contractor's process shall notify the Government designated test director that the deficiency has been closed and the corrective action taken to correct the deficiency. The Contractor is not responsible for correcting existing deficiencies with Government provided software unless correction of that deficiency is required to meet this SOW and Specification PRF-PT-00611. The Contractor shall make this system accessible to the Government so that Government representatives can easily access this system and review the status of all data contained within the system.

### 3.5.10 Information Assurance (IA)

The Contractor shall ensure that UH-72A SFTS effort is managed IAW the Department of Defense Information Assurance Certification and Accreditation Process (DIACAP). The Contractor shall work with the Government to ensure the latest IA security requirements are incorporated prior to fielding.

The UH-72A SFTS shall be able to support UNCLASSIFIED operations. The Contractor shall establish configuration management of the product baseline, implement operational system security control measures and support IA certification testing. The Contractor shall identify and use IA approved solutions to include IA approved hardware, operating systems, network devices, and software.

Products that perform information assurance functions are considered IA or IA-enabled IT products and shall be selected from the DoD Unified Capabilities (UC) Approved Product List (APL) and configured in accordance with DoD-approved security configuration guidelines. These include databases which must comply with the DISA database Security Technical Implementation Guide (STIG).

### 3.5.11 Reviews And Meetings

#### 3.5.11.1 Start of Work Meeting

The Contractor shall participate in a formal Start of Work Meeting (SWM) at the Contractor's facility within 30 days after contract award to demonstrate an understanding of the program requirements. The Contractor shall have all necessary personnel for the program in attendance. This meeting is designed to be an official discussion of the program. The Contractor shall record the meeting minutes and distribute them to the Government after the conference. These minutes shall document all action items to include the personnel for completing the items and the suspenses for each item.

#### 3.5.11.2 Technical Reviews and Meetings

The Contractor shall conduct reviews, to include a System Requirements Review (SRR), a PDR, and a CDR as well as Technical Interchange Meetings (TIMs). The location of the SRR, the

PDR, the CDR, and the TIMs shall be mutually agreed upon. The reviews and meetings shall address:

- a) System requirements and allocations to ensure that requirements are unambiguous, consistent, complete, feasible, verifiable, and traceable to top-level system requirements.
- b) Design maturity based on technical development goals, accomplishments, and empirical analysis and test data supporting progress to date.
- c) Current risks associated with UH-72A SFTS development.
- d) Determine any corrective actions needed based on progress and risk.

TIMs shall be conducted as required and/or by the request of the Government. TIMs shall be conducted for the purpose of assessing engineering issues, manufacturing issues, or potential changes that would affect production of the UH-72A SFTS. The Contractor shall document the results of these reviews, including any resulting action items.

### **(DI-ADM-81250A) Conference Minutes**

#### **3.6 Program Management**

The Contractor shall organize, coordinate, and control all program activities to ensure compliance with the contract requirements and the timely delivery of the required product. The Contractor shall provide the necessary program management, systems engineering, design engineering, materials, services, equipment, facilities, testing, technical, logistics, manufacturing, and clerical support for the efforts described in this SOW. The Contractor shall monitor the progress of all the work performed under the contract.

### **(DI-MGMT-80227) Contractor's Progress, Status and Management Report**

#### **3.6.1 Work Scheduling**

The Contractor shall develop, implement, control, and maintain an Integrated Master Schedule (IMS) that presents their plans and schedules to meet the requirements of this contract. The Contractor shall document the planning and scheduling effort, related Government responsibilities, and the interaction for the efforts required for development and delivery of the training products. Contract deliverables, subcontractor schedules, and dates that the Contractor needs support from the Government Subject Matter Experts (SMEs) shall be integrated into the Contractor's IMS. The Contractor shall construct the IMS to ensure that these milestones are met and to ensure deliveries as required by the contract. (The Data Item Description referenced below is only applicable to the IMS submission).

### **(DI-MGMT-81861) Integrated Program Management Report (IPMR)**

#### **3.6.2 Risk Management**

The Contractor shall conduct risk management to systematically control the uncertainty in the project's ability to meet cost, schedule, and performance objectives. The Contractor shall conduct that part of risk management that directly impacts the production effort and involves risk-management preparation, risk identification, risk assessment, risk-handling option assessment, risk analysis, risk mitigation, and risk control. The Contractor shall use their

internal risk management tools to perform risk management. The Contractor shall provide Government insight into their tools, assessment, mitigation, and control techniques. The Contractor shall document risk management as part of the Contractor Progress, Status, and Management Report.

### 3.6.3 Configuration Management

The Contractor shall use an automated internal configuration management process to monitor, update, and control all configuration documentation, physical media, and physical parts representing or comprising the system hardware and software configuration items (CIs). The Contractor shall implement an automated configuration management function to perform configuration control, configuration identification, audits, and status accounting in a system-engineering environment.

The Contractor shall have a process in place to coordinate all GFI software modifications and deliveries with the Government IPT. All changes to the GFI software shall be approved by the Government to ensure those changes are in sync and compatible with other efforts also using and modifying that same GFI software.

The Contractor shall have a management process in place to coordinate all software baseline activities with the Governmental led IPT. It should account for multiple on-going developmental efforts being performed by other contractors.

This effort is NOT based on a frozen GFI software baseline at the time of contract award. The process shall account for multiple baseline drops to and from the AVCATT and SE Core programs. The process continues until a final Software Baseline is developed, tested, and accepted by the Government in a fielded system and software release.

### 3.6.4 Configuration Validation/Verification

The Contractor shall validate the system configuration information to ensure that requirement attributes are met and accurately documented. This will be accomplished through validation of the system drawings with the system to ensure that the system functions to meet contract requirements and the physical configuration of the system is accurately reflected in the drawings. The Contractor shall assist the Government during its functional and physical configuration audits of the system.

### 3.7 Acceptance/Accreditation Testing

Acceptance/Accreditation test procedures (TP) will be developed by the contractor and approved by the Government. Acceptance/Accreditation test instructions are provided in Appendix A.

## **(DI-NDTI-80603A) Test Procedure**

### 3.8 Safety

The Contractor shall develop and implement tasks and activities to identify, evaluate, and eliminate or control hazards throughout the systems life cycle. The Contractor shall ensure the safety of the system's design, operation, transportation, maintenance, support, and disposal. The Contractor shall identify hazards, assess the risk, track hazards, mitigate hazards, verify

corrective actions have been implemented, and verify hazards have been eliminated or reduced to acceptable risk levels. A hazard risk index including hazard severity and hazard probability levels shall be developed for all hazards. The Contractor shall comply with applicable Occupational Safety and Health Administration (OSHA) standards.

### **(DI-SAFT-80102B) Safety Assessment Report (SAR)**

#### **3.9 Interim Contractor Support (ICS)**

The Contractor shall provide Interim Contractor Support (ICS). Following the delivery of the UH-72A SFTS, ICS shall be initiated and provided to include operation and maintenance for the first delivered system. This support shall include sufficient support personnel to support the usage schedule described in paragraph 3.9.1. The work location for these personnel shall be the physical location of each UH-72A SFTS.

When the device travels to other locations, the ICS team shall travel with it to support the operation and maintenance of the device. The work and support schedule will adjust to reflect the requirements listed in section 3.9.1 of this document.

The Contractor shall be responsible for moving the SFTS from the Eastern ARNG and Western ARNG Aviation Training Sites (EAATS and WAATS) to satellite locations in order to support training. The schedule for movement to these locations will be determined based on geographic proximity to the EAATS and WAATS sites, training needs of the customer, and availability of support. The Contractor shall deliver onsite training at each satellite location. Moves shall be accomplished on a cost reimbursable basis. Current estimate for moves to satellite locations is up to twelve moves per year for each of the six battalion headquarters and two aviation training site locations, for a total of up to 96 moves per year if all options are exercised. For cost estimating purposes, move radii shall be a maximum of 150 miles.

The contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services under this contract for the UH-72A SFTS, ICS via a secure data collection site. The contractor is required to completely fill in all required data fields using the following web address: <http://www.ecmra.mil/>. Reporting inputs will be for labor executed during the period of performance during each Government Fiscal Year (FY) which runs October 1 through 30 September. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year. Contractors can find User Guides, Frequently Asked Questions and may direct questions to the help desk at <http://www.ecmra.mil/>.

#### **3.9.1 Usage and Availability**

The UH-72A SFTSs will be utilized for up to fourteen (14) consecutive hours per day, four (4) days per week for forty-eight (48) weeks per year for individual and crew aviation simulation training. The following forty-four (44) hour “sample schedule” reflects the type of usage and movement the trailerized SFTS shall support:

- Tuesday: Prepare the SFTS for movement.
- Wednesday: Transport the SFTS to training location.
- Thursday: Prepare the SFTS for training.

- Friday: Support eight (8) hours of training.
- Saturday: Support fourteen (14) hours of training.
- Sunday: Support fourteen (14) hours of training.
- Monday: Support eight (8) hours of training.

The UH-72A SFTS shall be able to achieve a 90% Operational Availability (Ao) rate for an expected yearly scheduled mission time of 2112 hrs (i.e., forty-four (44) hrs per week, forty-eight (48) weeks per year). The UH-72A SFTS shall be considered to be available when the UH-72A crew station, the IOS, and all associated subsystems are operational and training can proceed.

### 3.9.2 ICS to Follow-On Contractor Transition

When directed by the Government, the Contractor shall develop a transition plan which shall address providing support to the Government and the follow-on contractor. This is to ensure an orderly transition and minimize any impact on operational readiness of the UH-72A SFTSs. The Contractor shall propose the transition period.

The Contractor shall continue to provide ICS until the Government-directed transition date, and provide the new contractor access to all sites and to all technical documentation and publications on a not-to-interfere with operation and maintenance basis. The Contractor shall correct all system deficiencies and replace all inventory deficits prior to transitioning to the follow-on contractor. The Contractor shall conduct a joint audit of any Government furnished property provided during the contract with representatives of the Government and the LCCS contractor, noting all changes, modifications, and repairs in process.

## **DI-MISC-80711A, Scientific and Technical Reports      Contractor Transition Plan**

### 3.10 Concurrency Upgrades

Upon Government request, the Contractor shall plan and propose concurrency and technology upgrades to ensure that all Training Devices are current and relevant to the current equipment layout, to provide replacement or upgrade of training system components, for enhancement of training effectiveness, and to reduce life cycle support costs.

## **Appendix A: Government Acceptance/Accreditation Testing**

Government acceptance shall occur after successful completion of all test procedures and successful completion of acceptance/accreditation testing conducted by PEO STRI and the U.S. Army Aviation Center of Excellence (USAACE) Directorate of Simulation (DOS). A DD250 shall be signed upon demonstration that the tested system meets all requirements contained in this SOW and Specification to include the integration of all software developed under this effort.

Acceptance testing will only occur with the initial delivery of each SFTS. Accreditation testing will only occur on the first device delivered as long as subsequent SFTSs are of the exact configuration as the first device.

Acceptance/Accreditation Test Procedures (TPs) shall be developed by the Contractor and approved by the Government. The Contractor shall participate in Government acceptance/accreditation testing conducted by PEO STRI and ) Directorate of Simulation (DOS). The Contractor shall conduct a Test Readiness Review (TRR) prior to the start of acceptance/accreditation testing.

The emphasis of testing is to ensure that all training tasks can be performed to standard with no negative habit transfer. Contractor In-plant testing shall also include any engineering tests the Contractor deems appropriate to demonstrate performance of the system, e.g. operational availability, mean time between failure, latency, lumens, etc.

The Contractor shall follow established test and evaluation processes to include the execution of TPs. The Contractor shall develop test procedures for their SFTS solution to include step-by-step testing operations to be performed on the system undergoing testing. This may also include proposing specific studies or providing reference material that supports their SFTS solution for various of the system elements to be evaluated, e.g., motion cueing.

The Contractor TP shall identify the particular system elements to be tested, the test equipment and support required, the test conditions to be imposed, the parameters to be measured, and the pass and fail criteria against which the test results will be measured.

The UH-72A SFTS Acceptance/Accreditation Testing comprises two (2) phases. The first phase is Contractor in-plant testing. The second phase is the Government's formal execution of the acceptance/accreditation TPs. Exit criteria for one phase of testing must be accomplished before entrance into the next phase of testing.

### Contractor In-Plant Testing

The objective of Contractor in-plant testing is to provide early identification of deficiencies as captured by deficiency reports (DRs). It also has the objective to verify the adequacy of the planned acceptance/accreditation testing procedures and ensure that no important or essential steps have been left out or need to be improved or modified. The emphasis is to ensure that all training tasks can be performed to standard with no negative habit transfer. The Government will witness this testing and have the right to introduce DRs.

During Contractor in-plant testing, Contractor representatives will be supported, as required, by the Contractor's engineering personnel and/or aircraft SMEs. Government representatives will be invited to observe the in-plant testing. At least two (2) week's notice shall be provided by the Contractor for any required Government SME support for this testing.

All deficiencies produced during TP completion shall be captured and entered into a web-based deficiency management and tracking reporting tool accessible by the Government. DRs will be assigned priorities by the Contractor.

All deficiencies noted by Government SMEs during Contractor in-plant testing will be captured as TP DRs. The Contractor will have the authority to close all TP DRs. In the event that a DR generated by a Government SME is closed, the Contractor shall notify the Government regarding its closure status and resolution.

### 1.1 Formal UH-72A SFTS Accreditation Testing

This phase of testing will focus on the UH-72A SFTS System Specification requirements, also with emphasis on training tasks to standard with no negative habit transfer. This testing shall be conducted by the Government with support from Contractor personnel using the approved TPs. A TRR will be held prior to the start of Government Acceptance/Accreditation testing to identify the status of the UH-72A SFTS under test and to verify that test entrance criteria have been met.

The Government Test Director (GTD) or the GTD's appointed representative, and Government SMEs, shall execute the TPs. The Contractor shall support the accreditation testing with Contractor representatives and Contractor SMEs, as required. This support shall include (but is not limited to) the following activities:

- Operate and maintain the SFTS,
- Conduct hotwashes,
- Record DRs,
- Publish minutes, and
- Provide informal instruction to Government testers as required.

During the conduct of the TPs, deficiencies shall be generated, as appropriate, and captured in the DR reporting system. DRs shall be assigned priorities by a Deficiency Review Board (DRB) which shall comprise Contractor and Government personnel.

#### 1.1.1 Accreditation Testing Entrance Criteria

Entrance criteria for the UH-72A SFTS Accreditation Testing includes the following items:

- All existing DRs have been documented and corrective action plan (CAPs) for their resolution have been developed and reviewed with the Government as part of TRR;
- UH-72A SFTS Contractor testing has been completed and satisfied;
- All priority 1 and 2 DRs have been closed or approved, to include proceeding with any associated CAPs;
- All priority 3 DRs have been closed or have Government approved solution and resolution schedule.

- All priority 4 and 5 DRs have been documented and reviewed as part of the TRR.

The Contractor shall maintain configuration management the DRs.

#### 1.1.2 Accreditation Testing Exit Criteria

The UH-72A SFTS Accreditation Testing shall be complete when the following exit criteria have been satisfied:

- All TP sections have been run successfully signifying the system meets the specification requirements.
- All DRs have been documented and CAPs have been developed.
- All priority 1 and 2 DRs have been closed or approved to proceed with CAPs.
- All priority 3 DRs have been closed or have Government approved solution and resolution schedule.
- All priority 4 and 5 DRs have been documented.

#### 1.1.3 Test Discrepancy Priorities

The Contractor shall assign level of effort to DRs based on the priority codes assigned by the testing team, IAW the ground rules established by the IPT. The following priorities shall be assigned, with the Government reserving the right to make the final determination of the priority of any test deficiency:

##### **Priority Description**

1. Safety item or system failure.
2. Training impact that prevents a task from being trained.
3. Training impact with a Government approved proposed solution and resolution schedule.
4. Defect that does not impact training.
5. Any other effect (e.g., documentation error, future enhancement).