

ACITS-3 FORM

PART I – TASK ORDER INFORMATION

Contract No: NNA13AB88C		Contract Title: ACITS 3 NASA AMES		
Date: 9/22/2015		Task Title: TH Aeronautics Simulation Research, Development, and Support		
Task Order No.: T23	Task Mod No.: Original	Service Request No.:	Customer Code: NASA/Ames	SOW Reference: C.3.1.5
Task Requester Email: (b) (6)		Name: Trent Thrush		Phone: (b) (6)
Financial Manager Email: (b) (6)		Name: Edith Peters		Phone: (b) (6)
Computer Security Officer Email: (b) (6)		Name: Jeffrey McCandless		Phone: (b) (6)
		Name:		Phone:
		Name:		Phone:
Task previously covered by another contract other than predecessor to incumbent? (If YES, provide in SOW)				YES
Does the task require access to government databases? (If YES, indicate in SOW)				NO
SECTION 508, ELECTRONIC AND INFORMATION TECHNOLOGY ACCESSIBILITY COMPLIANCE (EITAC)				
Does the task include EIT items? (Please review the EITAC documentation)				NO
<p>Upon receipt of this task order request, the contractor shall review the task requirement(s) and inform the Government, as part of its task order/modification response, any discrepancies between standards initially cited and those the contractor proposes to deliver to the Government. Examples of discrepancies include ODCs for which some other standard might be or become applicable and, as a result, require citation in the task order, as well as any cited standards that the contractor believes is not applicable (provide rationale). Note: If, by mistake, the task, including and ODC of the task, should not meet an applicable standard not cited by the requester, it is the requester, not the contractor who is a fault; and the requester must find a way (e.g., by modifying the task request) to bring the task into compliance. In such cases the requester shall complete the required agency forms (or equivalent) before the task order/modification is approved.</p>				
GOVERNMENT FURNISHED EQUIPMENT (GFE)				
<p>Government will provide all appropriate equipment and software necessary for the performance of this task unless otherwise noted in this task order. The contractor, in accordance with the contract can acquire equipment not presently available as GFE. Equipment identified as task unique will be expensed to the task in accordance with ASRC Federal Accounting policy, and will be defined as GFE in the Government inventory. All other equipment purchases will be depreciated and become contractor property. The contractor shall follow agency rules regarding assignment of government owned equipment and other government supplied equipment. The contractor shall provide information, such as, Property Assignments, Property Location and Unused Equipment, upon request.</p>				
AFFIRMATIVE PROCUREMENT (See http://www.epa.gov/cpg/products.htm)				
<p>The item(s) being purchased are NOT on any of the EPA's Comprehensive Procurement Guideline lists. - AND -</p> <p>They meet the minimum recycled/recovered content.</p>				
COTR SIGNATURE:		CO SIGNATURE:		

ACITS-3 FORM (Continued)

PART 2 - TASK ORDER PLAN PROPOSAL				
Contract No: NNA13AB88C	Contract Title: ACITS 3 NASA AMES			
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Categories	Current Request	Prior Cumulative Estimate Without Current Request	Total Cumulative Task Estimate	
Onsite Hours	(b) (4)			
Offsite Hours				
Total Hours				
Onsite Labor				
Offsite Labor				
Subtotal ARTS Labor				
Teammate/Subcontractor Labor				
Subtotal Teammate/Sub Labor				
Total Labor				
Materials				
Equipment				
Travel				
Training				
Miscellaneous				
Other Direct Costs Subtotal				
Total Cost				
PMO				
Fee				
Total Price				

ACITS-3 FORM (Continued)

PART 3 - APPROVAL SUMMARY				
Contract No: NNA13AB88C		Contract Title: ACITS 3 NASA AMES		
Date: 9/22/2015		Task Title: TH Aeronautics Simulation Research, Development, and Support		
Task Order No.: T23		Task Mod No.: 0	Service Request No.:	Customer Code: NASA/Ames
				SOW Reference: C.3.1.5
Approved By	Name	Date	Email	Phone
1. COTR Thrush	Kirsten Nagel	9/28/2015	(b) (6)	(b) (6)
2. CO Thrush	Anjennette Contreras-Rodriguez	9/28/2015		

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# of P&H Cost Plus Fixed Fee			Funding Level: Subtask Level Funding	
Task Background:				

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Task Order No.: T23	Task Mod No.: 0	Service Request No.:	Customer Code: NASA/Ames	SOW Reference: C.3.1.5

Task Order Description:

This task encompasses support for three aeronautical research projects:

- Human Centered Systems Laboratory (HCSL) Support
- Flight Deck Display Research Laboratory (FDDRL) Support
- UAS Integration
- Airspace Operations Laboratory (AOL) Support

A. HUMAN CENTERED SYSTEMS LABORATORY SUPPORT

This project supports NASA's Aeronautics Research Mission Directorate (ARMD) programs and other NASA or FAA programs. Support will include the planning and conducting of simulation studies, the analysis and summarization of the data collected during the studies and the preparation of presentation materials to describe the results of the studies. Also included in the task are the design, development and support of hardware systems and computer programs required to conduct said studies, and to provide aeronautical flight simulation expertise and pilot domain expertise.

Specific requirements include:

1. Software Support includes: all phases of software development, maintenance of existing baseline (legacy or extant) software, integration developed/modified software, user support, and documentation. Included is enhancement of out-the-window graphics databases, Route Traffic Manager (RTM) simulation software, upgrade of FMS software, and the new SARDA-integration project to include closed loop studies.
2. Hardware support includes: design, installation and integration of audio and video equipment, custom fabrication of research hardware, and support for any other hardware associated with the above laboratories (HUD, joysticks, etc.) ATC displays, VDRs etc. Hardware engineering support includes design, integration and testing for the any upgrades of the ATAS flight simulator.
3. Experiment support includes: assistance with pre-experiment specification, scenario development, domain expertise (pilot) for scenario evaluation, and support during actual experimental runs (as required by experimental schedule).
4. Data Analysis support includes: pre-experiment consultation, evaluation of data collection methods, verification of data collection methodology by means of pre-experiment sampling, data reduction, data analysis, and assistance with technical problems (as required by experimental schedule).

B. FLIGHT DECK DISPLAY RESEARCH LABORATORY SUPPORT

This project supports the Flight Deck Display Research (FDDRL) Laboratory under the Human

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Task Order Description (Continued):

Systems Integration Division, Code TH, at NASA Ames Research Center.

Specific requirements include:

1. Provide support for the development of:
 - The cockpit situational display (CSD) part-task simulator.
 - Air-Ground simulation experiments
 - Statistical analysis of data collected from the above experiments.
2. Support the development of weather related research.
3. Support integration of the SPO flight deck tools into the Laboratory's 777 simulator and desktop simulators
4. Develop enhanced SPO ground stations to support controlling multiple a/c
5. Support enhancement and extension of existing FDDRL weather-related capabilities:
 - Integrate predicted weather displays and tools into baseline CSD
 - Enhance the existing Weather Scenario Generator with new capabilities, including wind data, synthesizing predicted radar, and importing/exporting MACS weather files.
 - Extend a 3D interactive weather scenario editor to allow visualization and manipulation of location, orientation and values of weather products.
6. Develop implementation of UAS ground station based on MUSIM, and integrate it into the FDDRL's simulation infrastructure. Additional requirements are to implement the extension of FDDRL's distributed simulation environment to include the UAS laboratory at NASA Dryden.
7. Extend distributed simulation architecture to support SPO research
8. Support Airspace Operations and Safety Program
 - Safe Autonomous Systems Operation Project
 - Unmanned Traffic Management Project

C. UAS INTEGRATION SUPPORT

This project will provide support for the UAS Integration into the NAS. Specific requirements include: software development/integration/enhancement/testing, hardware integration, and data collection for simulation experiments.

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General Scope of Work: D. AIRSPACE OPERATIONS LABORATORY SUPPORT This project will provide support for the Airspace Operations Laboratory (AOL) under the Human Systems Integration Division, Code TH, at NASA Ames Research Center. Specific requirements include: provide software development, integration, enhancement, and testing, hardware integration, data collection and database management for the development of: <ul style="list-style-type: none">• Airspace Operations Laboratory (AOL)• Enhancements to the Multi-Aircraft Control Simulator (MACS)• Air-Ground simulation experiments• Statistical analysis of data collected from the above experiments• Aircraft Modeling in MACS• Route construction/analysis and fast-time aircraft simulation• Systems engineering (support of servers, software developer tools, libraries, applications, systems builds and configurations)• Develop and provide enhancements to the MACS 4-D trajectory planner and guidance system• Provide general support for AOL experiments as needed• STARS integration with Ames simulation software• Provide ATC domain expertise and pilot domain expertise• Provide enhancements to the Aeronautical Data link and Radar Simulator (ADRS)• Develop and provide enhancements for UAS Traffic Management (UTM) systems and simulation capabilities• Develop UTM user interface systems for desktop applications and mobile devices• Provide Laboratory Management for all AOL labs and computer systems Additionally, increased software engineering is required for the AOL lab expansion.				

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Specific Deliverables and Deliverable Dates				
No.	Type of Deliverable	Description of Deliverable	Date Required	
1.	Performance	HCSL: Provide ongoing laboratory support for hardware and software – facility will be available and equipped for 90% of the time that research studies are scheduled		
2.	Performance	HCSL: Provide new development, modification, and support of Generic Data Reduction Program to meet requirements		
3.	Performance	HCSL: Integrate new hardware into simulation (examples: video, eye tracker)		
4.	Performance	AOL: Provide ongoing software support to maintain the AOL laboratory – facility will be available and equipped for 90% of the time that research studies are scheduled		
5.	Performance	AOL: Delivery of technical enhancements and testing of MACS software to meet requirements as set by the Task Requester		
6.	Performance	AOL: Delivery of technical enhancements and testing of UTM software to meet requirements as set by the Task Requester		
7.	Performance	HCSL: Provide new development, modification, and support of enhancements to the new CLT databases to meet requirements		
8.	Performance	FDDRL: Develop and deliver enhancements and extensions to the existing weather-related capabilities. Requirements as provided by the Task Requester		
9.	Performance	UTML: Develop and deliver enhancements to UTM as received by the Task Requester		

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Travel, Training, and Materials Requirements				
No.	Type of Requirement	Description	Date Required	
1.	Material	Simulation equipment to maintain or upgrade flight simulation capabilities (aircraft chairs, cockpit displays, etc)		
2.	Travel	Task related travel to support requirements		
3.	Travel	Task related training to enhance skills and utilize new technologies into the task		
4.	Material	Upgrades to software tools such as new compilers and Microsoft office and Adobe products are needed. Purchase of statistical packages such as Matlab, SPSS and Datadesk. Purchase of Mathematical Programming Optimizer such as CPLEX. Purchase of web developme		
5.	Material	Materials as required for the simulation capabilities (to include computers, displays/monitors, monitor sands, servers, server racks, disks, projectors, USB hard drives, large and regular format printers, external raid enclosures, and any peripheral device		

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Work Breakdown Structure (WBS) Charge Points				
Charge Point	Title			
001	Human Centered Systems Laboratory Support (Foyle)			
002	Flight Deck Display Research Laboratory Support (Johnson)			
003	UAS Integration (Johnson/Shively)			
004	Airspace Operations Laboratory Support (Prevot/Lee/N Smith)			

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IT Security Requirements:

a. Are this task's activities covered under an organizational IT Security Plan?: NO

b. Does this task support applications that have been designated as a "Special Management Attention" application?: NO
If yes, please describe:

c. Is specialized security training required?: NO
If yes, specialized training requirements are described as follows:

d. Is a security clearance needed for any personnel on this task?: NO
If yes, what level of clearance is required?:

e. IT Security Deliverables associated with this task:

- IT Risk Assessment: NO
- IT Security Plan: NO
- IT Contingency Plan: NO
- IT Security Vulnerability Test Results: NO
- Results of Periodic IT Security Reviews: NO
- Other Documentation as Follows: Report of Status of IT Security Plan, Contingency Plan, and Risk Assessment of Critical Services: NO
- Other Documentation:

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IT Security Requirements (Continued):

- f. Periodic reviews of IT Security measures are necessary. What is the role of the contractor under this task in areas such as review of user accounts, account management, data backup and restoration, use of warning banner, use of encryption, vulnerability scanning, and security tools?**

All IT security measures for this task are provided by the TH Division Systems Group Task.

- g. In the event of an IT Security incident associated with systems and data under this Task, the Chief Information Security Official, the Security Operations Center (SOC), and the Task Requester are to be notified immediately by the contractor. In order to ensure full coordination, the following individuals also are to be notified:**

Title	Name	Phone
System Owner (Responsible for the applicable IT Security Plan)	Trent Thrush	(b) (6)
Organization's Computer Security Official	Jeffrey McCandless	
Alternate System Owner		