

2. AMENDMENT/MODIFICATION NO. M0007  
 3. EFFECTIVE DATE See Block 16C  
 4. REQUISITION/PURCHASE REQ. NO. RES-16-0160  
 5. PROJECT NO. (if applicable) V6215  
 6. ISSUED BY CODE NRCHQ  
 7. ADMINISTERED BY (if other than item 6) CODE NRCHQ

US NRC - HQ  
 ACQUISITION MANAGEMENT DIVISION  
 MAIL STOP TWFN-5E03  
 ATTN ROB ROBINSON 301-415-0728  
 WASHINGTON DC 20555-0001

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)  
 UNIVERSITY OF CENTRAL FLORIDA  
 ATTN TRACY CLARK  
 NA  
 ORLANDO FL 328168005

9A. AMENDMENT OF SOLICITATION NO. (x)  
 9B. DATED (SEE ITEM 11)  
 10A. MODIFICATION OF CONTRACT/ORDER NO. (x)  
 NRC-HQ-12-C-04-0058  
 NRC-HQ-60-14-T-0001  
 10B. DATED (SEE ITEM 13)  
 07/01/2014

CODE 150805653 FACILITY CODE

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers  is extended,  is not extended.  
 Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing items 8 and 15, and returning \_\_\_\_\_ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (if required)  
 Accounting Info : 2016-X0200-FEEBASED-60-60D002-11-6-213-1052-252A Net Increase: \$162,000.00

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS. IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

CHECK ONE  
 A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.  
 B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).  
 C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:  
 D. OTHER (Specify type of modification and authority)  
 X Pursuant to FAR 52.243-2 "Changes - Cost Reimbursement"

E. IMPORTANT: Contractor  is not,  is required to sign this document and return 1 copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)  
 The purpose of this modification is to A) complete a within scope change to the statement of work to add Task 7; B) increase the total contract ceiling in the amount by \$215,000 (from \$606,531.00 to \$821,531.00); C) increase the total amount obligated in the amount by \$162,000.00 (from \$543,732.00 to \$705,732.00); and D) extend the period of performance end date to 9/30/2017.

See attached pages for specific details regarding this modification.  
 Task Order Period of Performance: 7/1/2014-09/30/2017 (changed)  
 Total Obligated Amount: \$705,732.00 (Changed)  
 Total Task Order Ceiling: \$821,531.00 (Changed)

Except as provided herein, all terms and conditions of the document referenced in Item 9 A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print) Mindy Solivan, Team Manager  
 16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) SHARLENE M. MCCUBBIN  
 15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign) Mindy Solivan  
 15C. DATE SIGNED 06/21/2016  
 16B. UNITED STATES OF AMERICA (Signature of Contracting Officer) Sharlene M. McCubbin  
 16C. DATE SIGNED 6/21/2016

NSN 7540-01-152-8070 Previous edition unusable  
 Approved as to Form and Legality  
 STANDARD FORM 30 (REV. 10-83) Prescribed by GSA FAR (48 CFR) 53.243

Approved as to Form and Legality  
 [Signature] 6-21-16

1) The scope of work is hereby modified to add Task 7 in accordance with the attached modification to Statement of Work.

2) Section A.2, Clause NRCB030A CONSIDERATION AND OBLIGATION-COST REIMBURSEMENT -NO FEE ALTERNATE 1, is hereby deleted and replaced in its entirety.

**A.2 NRCB030A CONSIDERATION AND OBLIGATION—COST-REIMBURSEMENT - NO FEE ALTERNATE I**

(a) The total estimated cost to the Government for full performance under this contract is **\$821,531.00.**

(b) The amount presently obligated by the Government with respect to this contract is [REDACTED]

(c) It is estimated that the amount currently obligated will cover performance through March 1, 2017.

(d) This is an incrementally-funded contract and FAR 52.232-22 – “Limitation of Funds” applies.

3) Section A.3, COST SCHEDULE, is hereby deleted and replaced in its entirety.

**A.3 COST SCHEDULE**

Period of Performance: 7/1/2014 – 09/30/2017

CLIN	DESCRIPTION	EST QTY HOURS	COST
1	Labor	[REDACTED]	[REDACTED]
	Principal Investigator	[REDACTED]	[REDACTED]
	Assistant Research Professor	[REDACTED]	[REDACTED]
	Research Associate	[REDACTED]	[REDACTED]
	PhD Graduate Student	[REDACTED]	[REDACTED]
	Undergraduate Student	[REDACTED]	[REDACTED]
	Indirect Costs (46% of Direct Costs Less Equipment & Tuition Fee Waivers)	Not-To-Exceed	[REDACTED]
2	ODCs (Tuition Remission, Materials and Supplies)	Not-To-Exceed	[REDACTED]
3	Travel	Not-To-Exceed	[REDACTED]
	<b>Total Ceiling</b>		<b>\$821,531.00</b>

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4) Section NRCF032 TASK/DELIVER ORDER PERIOD OF PERFORMANCE, is hereby deleted and replaced in its entirety.

**A.6 NRCF032 TASK/DELIVERY ORDER PERIOD OF PERFORMANCE (SEP 2013)**

This order shall commence on 7/1/2014 and will expire on 9/30/2017.

All other terms and conditions remain the same.

**List of Attachments:**

1. Modification to Task Order Statement of Work

Modification to Statement of Work  
Contract Number: NRC-HQ-12-C-04-0058  
Task Order NRC-HQ-60-14-T-0001

COR: Niav Hughes  
Technical Monitor: Amy D'Agostino  
Contractor: University of Central Florida (UCF)

### **1. Project Title**

Systematic Human Performance Data Collection

### **2. Background**

The primary objective of this task order is to systematically collect human performance data for critical tasks in nuclear power plant (NPP) control rooms using the NRC-provided simulator. This objective has thus far been met with measurement and analysis of novice (i.e., university student) participants' performance on critical NPP tasks. It has since been determined that additional testing using an expert population is necessary to further expand upon and validate the initial results of work performed under this Task Order. The purpose of the current modification to Task Order 2 is to continue this same work by adding an additional task to perform the same data collection activity but expand the participant pool to include former NPP operators. Some modification to the training and participant materials to accommodate an expert participant population will be necessary. The primary location of the data collection shall be changed from UCF to the NRC White Flint Facility. It continues to be necessary to have the incumbent contractor perform all data collection and analysis activities due to their expertise and unique skills for the measurement of human performance and in accordance with the NRC's Human Research Subjects Policy described in a memo titled, "Protection of human research subjects at the NRC" (ML13056A119). Accordingly, Task 7 as described below is added to the Statement of Work for Task Order 2: NRC-HQ-12-C-04-0058 NRC-HQ-60-14-T-0001.

### **3. Purpose**

Add Task 7 to Task Order 2 to conduct a data validation study using former NPP operators as participants. The purpose of this task is to validate data collected under this base contract by running a similar, but amended as necessary, study to those conducted previously under Task Order 2 thus far, but using former NPP operators as the participant pool. The validation study will be conducted primarily at the NRC White Flint Facility, and if necessary, the UCF facility. This task includes but is not limited to working with the NRC staff to implement any necessary adjustments to the experimental design, any necessary pilot testing, protocol, and participant training, carrying-out the human performance data collection, performing a data analysis and providing a technical letter report reporting the methodology, analysis, results, and discussion insights. All materials will be developed based on input from the NRC and subject to NRC review and approval.

### **4. Specific tasks**

Contractors shall perform the following subtasks to achieve this purpose:

7a. Update as necessary training material, methodology, experimental protocol and conduct any necessary pilot testing to accommodate NPP operator population based on input from NRC.

Deliverables: Updated training materials, Methodology in form of Task Letter Report  
7b. Write a technical report that details the experimental methodology. The contractor shall then deliver a draft and final report for NRC review and comment; the contractor shall revise the report based on the feedback received from the NRC.

Deliverables: technical letter report

7c. Carry-out human performance data collection

The purpose of this subtask is to run experiments and collect data at the NRC White Flint location and, if necessary, at the UCF location.

Milestones:

Completion and reporting of pilot testing if determined to be necessary in light of research design needs. Determination will be made via discussions between COR and contractor;

Completion of Data Collection

7d. Data Analysis

The purpose of this subtask is to organize and analyze the data collected in subtask 7c. This subtask will involve compiling the data in usable format (SPSS or excel data files), creating a codebook to document the contents of the data files, analyzing the data and reporting the results. Contractors shall perform the following subtasks in order to achieve this purpose:

7d1: Compile data files in excel or SPSS format. The contractor shall provide copies of all data files to the NRC (files should not contain any unique identifiers for individual participants; e.g. name, student number, etc.). Content of data files are subject to NRC review and approval.

7d2: Create codebook specifying the structure, contents, and layout of the data files. The contractor will determine the exact content and format of the codebook based on discussion with and input from the NRC and subject to NRC approval.

## **5. Deliverables and Delivery Schedule**

Deliverables: Modify the existing training materials for the purpose of use with a former operator population while retaining the original materials for use with a novice population; Methodology as a Task Letter Report; Cleaned data files; Codebook; and Final Task Letter Report to NRC describing the final methodology, data analysis, results and discussion.

Deliverable schedule: TBD by conversations between NRC staff/COR and contractor.