

2. AMENDMENT/MODIFICATION NO. M001	3. EFFECTIVE DATE See Block	4. REQUISITION/PURCHASE REQ. NO. HR-13-131 FAIMIS#: 131355	5. PROJECT NO.(if applicable)
6. ISSUED BY U.S. Nuclear Regulatory Commission Div. of Contracts Attn: Erika Eam, 301-492-3492 Mail Stop: TWB-01-B10M Washington, DC 20555	CODE 3100	7. ADMINISTERED BY (If other than Item 6) U.S. Nuclear Regulatory Commission Div. of Contracts Mail Stop: TWB-01-B10M Washington, DC 20555	CODE 3100

8. NAME AND ADDRESS OF CONTRACTOR (No. street, county, State and ZIP Code)  MANAGEMENT SYSTEMS, LLC  PO Box 261  113 JONES HOLLOW RD  MARLBOROUGH CT 06447-1142	(X)	9A. AMENDMENT OF SOLICITATION NO.
		9B. DATED (SEE ITEM 11)
		10A. MODIFICATION OF CONTRACT/ORDER NO. NRC-HQ-12-C-38-0060
	X	10B DATED (SEE ITEM 13) 04-30-2012

**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 ACKNOWLEDGMENT 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) B&R#: 2013-84-11-N-157; Job Code: R8453; BOC: 251F  
Appr No.: 31X0200; DUNS#: 030102953; NAICS Code: 611430  
Amount Obligated: 539,300.00

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

(X)	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:
X	D. OTHER (Specify type of modification and authority) 52.243-1 Changes-Fixed Price (Aug 1987) 52.243-2 Changes-Cost-Reimbursement (Aug 1987)

**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 include an Optional Contract Line Item. This modification hereby exercises that optional line item under the base period.  
Please see the attached for detailed information.

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

15A. NAME AND TITLE OF SIGNER (Type or print) Michael D. Quinn, Principal <i>Michael D Quinn</i>	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Erika Eam Contracting Officer <i>Erika Eam</i>
15B. CONTRACTOR/OFFEROR <i>Michael D Quinn</i> (Signature of person authorized to sign)	15C. DATE SIGNED 2/24/13
15B. UNITED STATES OF AMERICA BY <i>Erika Eam</i> (Signature of Contracting Officer)	15C. DATE SIGNED 2/25/2013

Accordingly, the following changes are as follows:

1. Standard Form 1449, Block 26 TOTAL AWARD AMOUNT, delete in its entirety and replace with the following:  
"647,859.00"

2. Section B:

a. B.2 CONSIDERATION AND OBLIGATION – INDEFINITE QUANTITY CONTRACT (AUG 2011), delete in its entirety and replace with the following:

"(a) The estimated total quantity of his contact for the services under this contract is \$647,859, which includes a firm fixed price amount of \$543,359 and a cost reimbursement amount of \$104,500.

(b) The firm fixed price authorized for the base period is \$143,505.

(c) This contract is subject to the minimum and maximum ordering requirements set forth in the contract.

(d) The amount presently obligated with respect to this contract is \$132,705. The obligated amount shall, at no time, exceed the order ceiling as specified in paragraph (a) above. Any work undertaken by the Contractor in excess of the obligated amount specified above is done so at the Contractor's sole risk and may not be reimbursed by the Government."

b. Section B.3 CONSIDERATION AND OBLIGATION—COST REIMBURSEMENT – NO FEE (AUG 2011); delete in its entirety and replace with the following:

"(a) The total estimated cost to the Government for full performance under this contract is \$104,500. The amount authorized for the base period is \$24,500 for travel costs.

(b) The amount obligated by the Government with respect to this contract is \$21,595"

c. Section B.5 PRICE/COST SCHEDULE, delete in its entirety and replace with the following:

"BASE YEAR: (PERIOD OF PERFORMANCE: 4/30/2012 – 4/29/2013)

CLIN	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
001	Course Development		Each		
002	Course Presentation		Each		
003	Kick-Off Meeting*		Lot		
004	Travel*		Lot		
<b>TOTAL PRICE FOR BASE YEAR</b>					<b>\$128,705.00</b>
OPTIONAL LINE ITEMS					
005	G-203 Course Development		Each		
006	G-203 Course Delivery		Each		
007	G-203 Travel*		Lot		
<b>TOTAL PRICE FOR BASE PLUS OPTIONAL LINE ITEM</b>					<b>\$168,005.00</b>

Note: The government will pay up to the rates specified in the Government Federal Travel Regulations (FTR) for travel destinations. Lodging and Airfare will be made by the contractor and will be reimbursed for actual costs only, with backup documentation and receipts attached to the invoice.

**OPTION YEAR 1: (PERIOD OF PERFORMANCE: 4/30/2013 – 4/29/2014)**

CLIN	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
002	Course Presentation		Each		
004	Travel*		Lot		
<b>TOTAL PRICE FOR BASE YEAR</b>					<b>\$117,092.00</b>

**OPTION YEAR 2: (PERIOD OF PERFORMANCE: 4/30/2014 – 4/29/2015)**

CLIN	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
002	Course Presentation		Each		
004	Travel*		Lot		
<b>TOTAL PRICE FOR BASE YEAR</b>					<b>\$119,921.42</b>

**OPTION YEAR 3: (PERIOD OF PERFORMANCE: 4/30/2015 – 4/29/2016)**

CLIN	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
002	Course Presentation		Each		
004	Travel*		Lot		
<b>TOTAL PRICE FOR BASE YEAR</b>					<b>\$119,921.42</b>

**OPTION YEAR 4: (PERIOD OF PERFORMANCE: 4/30/2016 – 4/29/2017)**

CLIN	DESCRIPTION	ESTIMATED QUANTITY	UNIT	UNIT PRICE	TOTAL PRICE
002	Course Presentation		Each		
004	Travel*		Lot		
<b>TOTAL PRICE FOR BASE YEAR</b>					<b>\$122,919.07</b>

**GRAND TOTAL - \$647,859**

d. Section B.6 STATEMENT OF WORK, please add the following in its entirety:

**"TASK 3 - Root Cause Report Evaluation for Special Inspections (G-203), Development and Delivery**

*Root Cause Report Evaluation for this Special Inspection training shall be no more than twelve (12) hours in duration, and shall be presented in a combination of lectures and workshops. The contractor may assume that students taking this course will have completed a basic root cause analysis course as a prerequisite and will be familiar with basic root cause techniques. This training shall cover advanced root cause topical areas with a focus on evaluating rather than performing root cause analyses. Among the topical areas that shall be covered as part of this training are extent of condition and extent of cause reviews, root cause depth, and common organizational and management issues. The students shall be provided with examples as appropriate to emphasize the importance of the Root Cause Report evaluation process and demonstrate how it has been effectively employed in relevant situations.*

The contractor shall accomplish the training using one or more of the following methods: direct instruction, hands-on activities, problem solving, group discussions or any other method(s) deemed appropriate by the contractor and approved by the NRC Contracting Officer's Representative (COR).

The desired outcome of this training is for the students to acquire sufficient and applicable understanding of the use of analytical techniques as necessary to ensure that the root cause(s) of issues have been adequately identified and that appropriate and effective corrective actions have been taken to prevent recurrence and protect the health and safety of occupationally and non-occupationally exposed workers and members of the public.

Successful accomplishment of the desired outcome shall be determined by evaluating:

- student performance during classroom exercises,
- the course evaluations performed by the students, and
- course observations by the NRC COR or designee, as specified in section C.6.

As part of this training, case studies (e.g., sample root cause reports or previously performed root cause reports) shall be provided to re-enforce the concepts covered in class. The students will be expected to work in teams to evaluate the adequacy of the root cause reports provided with each student providing input to the evaluation of the root cause reports. Methods of documenting the adequacy of the root cause reports will be provided, including the review of applicable portions of actual NRC supplemental inspections (e.g., 95002 and 95003 inspection reports).

Upon completion of the training provided, the students shall possess the necessary knowledge and skills to be able to evaluate the adequacy of a root cause report generated by someone else and possess the ability to document such a review as specified in the governing inspection procedure.

Materials to be developed and provided by contractor in support of training:

- a. Student materials including learning objectives, textual materials, presentations and visual aids. Any textual material (excluding Microsoft PowerPoint presentations) shall be formatted as described in HRTD Operating Procedure 0408 "Training Material Style Guide" (copy to be provided).
- b. Instructor's guide including detailed lesson plans for presenting the course.
- c. Selection of applicable portions of actual NRC supplemental inspection reports which document the review and conclusions of licensee root cause report using NRC IP 95002 and 95003.

At the conclusion of this training, students shall be able to perform functions such as those specified in NRC IPs 95001, 95002 and 95003 (see <http://www.nrc.gov/reading-rm/doc-collections/insp-manual/inspection-procedure/index.html>), including documenting the results of these inspections as specified by the governing IP.

The following objectives should be used as guide:

**Terminal Objectives:**

The lectures and exercises must prepare the student who has completed root cause evaluation, refresher training to demonstrate the skills necessary to perform the following:

- a. Determine if the problem was evaluated by the licensee using an appropriate systematic method(s) to identify root cause(s) and contributing cause(s).
- b. Determine if the root cause evaluation was conducted by the licensee to a level of detail commensurate with the significance of the problem.

- c. Determine if the root cause evaluation included a consideration of prior occurrences of the problem and knowledge of prior operating experience.
- d. Determine if the root cause evaluation addresses the extent of condition and the extent of cause of the problem.
- e. Determine if safety culture components caused or significantly contributed to the problem.
- f. Determine if the corrective action(s) specified for each root/contributing cause is appropriate or that there is an evaluation that no actions are necessary.
- g. Determine if the corrective actions have been appropriately prioritized with consideration of the risk significance and regulatory compliance.
- h. Determine if the schedule established for implementing and completing the corrective actions appropriately reflects the item's risk significance and regulatory compliance.
- i. Determine if the quantitative or qualitative measures of success have been developed for determining the effectiveness of the corrective actions to prevent recurrence.

**Enabling Objectives:            PROBLEM IDENTIFICATION**

- a. Assess when and by whom the problem was identified to determine if the licensee could have identified the problem at a precursor level.
- b. Assess if the licensee evaluated whether or not there were prior opportunities for correction.

**Enabling Objectives:            ROOT CAUSE, EXTENT OF CONDITION AND EXTENT OF CAUSE EVALUATION**

- a. Understand the strengths and weaknesses of different root cause methodologies in sufficient detail to assess the adequacy of the methods selected by the licensee.
  - b. Understand when it is appropriate to use multi-disciplinary teams and/or different and complimentary methods to determine root cause. For example, correctly identify the methods appropriate for hardware versus human performance.
  - c. Understand how to ensure if the root cause evaluation has been conducted to an appropriate depth and has fully identified the root, contributory, programmatic causes associated with a problem and that any relationships that may exist among the different causes are identified.
  - d. Understand how to ensure that other root and contributing causes were not ruled out inappropriately due to assumptions made as a part of the analysis.
  - e. Understand how to ensure that the evaluation considered indications of higher level problems with a process or system.
  - f. Understand the characteristics of corrective actions to ensure they are targeted to prevent the same or similar problems from recurring.
  - g. Understand how a review for extent of condition would differ from a review for the extent of cause.
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**Enabling Objective: CORRECTIVE ACTIONS**

- a. Understand how to discriminate between measures of success and effectiveness and measures of completeness.

*Root Cause Report Evaluation for this Special Inspection training shall be no more than twelve (12) hours in duration, and shall be presented in a combination of lectures and workshops. The students shall be expected to work in teams to investigate each case study, applying the methods and techniques discussed during the lecture portions of the course and produce a final report. Each student on each team is expected to contribute to the final report and present a portion of the final briefing.*

The Root Cause Report Evaluation for Special Inspections course shall be attended by NRC inspectors having commercial reactor-related inspection responsibilities. The students should be divided as much as possible into teams that balance their knowledge, skills and abilities (i.e., evenly spread the staff amongst the teams).

**GENERAL INFORMATION**

The nominal number of students for the one (1) day G-203 course shall be 25. Since additional slots may be required, the contractor shall also specify the cost for each additional student above 25 to a maximum of 30."

3. Section C, ADDENDMU TO FAR 52.212-4 CONTRACT TERMS AND CONDITIONS—COMMERICAL ITEMS, C.3 52.216-19 ORDER LIMITATION (OCT 1995), delete in its entirety and replace with the following:

"(a) Minimum order. When the Government requires supplies or services covered by this contract in an amount of less than \$500.00, the Government is not obligated to purchase, nor is the Contractor obligated to furnish, those supplies or services under the contract.

(b) Maximum order. The Contractor is not obligated to honor--

(1) Any order for a single item in excess of \$16,000.00;

(2) Any order for a combination of items in excess of \$647,856; or

(3) A series of orders from the same ordering office within 60 days that together call for quantities exceeding the limitation in paragraph (b)(1) or (2) of this section.

(c) If this is a requirements contract (i.e., includes the Requirements clause at subsection 52.216-21 of the Federal Acquisition Regulation (FAR)), the Government is not required to order a part of any one requirement from the Contractor if that requirement exceeds the maximum-order limitations in paragraph (b) of this section.

(d) Notwithstanding paragraphs (b) and (c) of this section, the Contractor shall honor any order exceeding the maximum order limitations in paragraph (b), unless that order (or orders) is returned to the ordering office within 30 days after issuance, with written notice stating the Contractor's intent not to ship the item (or items) called for and the reasons. Upon receiving this notice, the Government may acquire the supplies or services from another source."

ALL OTHER TERMS AND CONDITIONS REMAIN THE SAME

**[END OF M001]**