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Description of document: Department of State (DOS) Contract to Study Detecting Nuclear Tests with Smart Phones 2014-2015

Requested date: 15-November-2014

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Posted date: 27-April-2026

Source of document: FOIA request
U.S. Department of State
Information Access Liaison Office, A/SKS/IAP/IAL
2201 C Street N.W., Suite B266
Washington, D.C. 20520-0000
Fax: (202) 485-1669
Email: FOIARequest@state.gov
[Department of State FOIA Act Public Access Portal](#)
[FOIA.gov](#)

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United States Department of State

Washington, D.C. 20520

April 16, 2026

F-2014-20201

Sent via email

This letter is in response to your November 15th, 2014, Freedom of Information Act (FOIA) request submitted to the U.S. Department of State (“the Department”). The Department assigned your request the case number referenced above. Please include this case number in all future communications concerning this request.

“All correspondence/records statement of work, the final report, interim reports, and all presentations to contract SAQMMA14M1816.”

The Department conducted a search and located 7 records, totaling 46 pages, responsive to your request. After careful review, the Department determined that 18 pages may be released in full. Additionally, enclosed are 20 pages which are appropriate for release with excisions made pursuant to Exemption (b)(4) of the FOIA U.S.C. § 552(b)(4), and 10 pages is appropriate for release with excisions made pursuant to Exemption 6 of the FOIA, 6 U.S.C. § 552(b)(6). All released material is enclosed.

This action closes your request in this office. For further assistance or to discuss any aspect of your request, please contact Stacy S at FOIA_Inquiry@state.gov. You may also contact our FOIA Public Liaison via email at FOIAStatus@state.gov or telephone at (202) 261-8484.

If you are not satisfied with the Department’s determination in response to your request, you may administratively appeal by writing to: Appeals Officer, Information Access Program Directorate (A/SKS/IAP), U.S. Department of State, 2201 C Street, NW, Washington, D.C. 20520, by emailing to FOIAAppeals@state.gov, or by faxing to (202) 485-1718. Your appeal must be

electronically submitted or postmarked within 90 calendar days of this correspondence and include a copy of this letter, clearly stating why you disagree with the determination set forth in this response.


Additionally, if you are not satisfied with the Department's determination, you may contact the Office of Government Information Services at the National Archives and Records Administration to inquire about the FOIA Mediation Services they offer. Their contact information is as follows: Office of Government Information Services, National Archives and Records Administration, 8601 Adelphi Road-OGIS, College Park, Maryland 20740-6001, email address: ogis@nara.gov; telephone: (202) 741-5770; toll free number: 1-877-684-6448.

Sincerely,

**Sarah A
Westenberg**

Sarah A. Westenberg

Supervisory Government Information Specialist
A/SKS/IAP/FCP-Charleston, South Carolina
Bureau of Administration

 Digitally signed by Sarah A
Westenberg
Date: 2026.04.16 11:44:31
-04'00'

Enclosure: As stated

ORDER FOR SUPPLIES OR SERVICES


RATING

IMPORTANT: Mark all packages and papers with contract and/or order numbers.

1. DATE OF ORDER 09/30/2014		2. CONTRACT NO. (if any)		6. SHIP TO:	
3. ORDER NO. SAQMMMA14M1816		4. REQUISITION/REFERENCE NO. 1033440021		a. NAME OF CONSIGNEE (b)(6)	
5. ISSUING OFFICE (Address correspondence to) OFFICE OF ACQUISITION MANAGEMENT (A/LM/AQM) PO BOX 9115, ROSSLYN STATION US DEPARTMENT OF STATE ARLINGTON, VA 22219				b. STREET ADDRESS ARMS CONTROL AND VERIFICATION (L/ACV) 2201 C STREET N.W., RM 5950 ATTN: AVC/FO - 198010	
CONTACT NAME: (b)(6)		PHONE: (b)(6)		c. CITY WASHINGTON	
		EMAIL: (b)(6)@state.gov		d. STATE DC	
		7. TO:		e. ZIP CODE 20520	
a. NAME OF CONTRACTOR (b)(6)		DUNS NUMBER 112935437		f. SHIP VIA	
b. COMPANY NAME ARRAY INFORMATION TECHNOLOGY, INC.		B. TYPE OF ORDER			
c. STREET ADDRESS 7474 GREENWAY CENTER DRIVE SUITE 600		<input checked="" type="checkbox"/> a. PURCHASE		<input type="checkbox"/> b. DELIVERY - Except for billing instructions on the reverse, this delivery order is subject to instructions contained on this side only of this form and is issued subject to the terms and conditions of the above-numbered contract.	
d. CITY GREENBELT		d. STATE MD		REFERENCE YOUR: Please furnish the following on the terms and conditions specified on both sides of this order and on the attached sheet, if any, including delivery as indicated.	
e. ZIP CODE 20770-3504		10. REQUISITIONING OFFICE ARMS CONTROL AND VERIFICATION (L/ACV) 2201 C STREET N.W., RM 5950 ATTN: AVC/FO - 198010 WASHINGTON, DC 20520			
9. ACCOUNTING AND APPROPRIATION DATA 1900 - 2014 - 19__401130003 - AVC - 1033 - 198120 - 2129 - 2502 \$149,678.00					
11. BUSINESS CLASSIFICATION (Check appropriate box(es)) <input type="checkbox"/> a. SMALL <input type="checkbox"/> b. OTHER THAN SMALL <input type="checkbox"/> c. DISADVANTAGED <input type="checkbox"/> d. WOMEN-OWNED <input type="checkbox"/> e. HUBZone <input type="checkbox"/> f. SERVICE-DISABLED VETERAN-OWNED <input type="checkbox"/> g. DISADVANTAGED SMALL BUSINESS (WOSB) ELIGIBLE UNDER THE WOMEN-OWNED SMALL BUSINESS PROGRAM <input type="checkbox"/> h. EDWOSB				12. F.O.B. POINT	
13. PLACE OF a. INSPECTION b. ACCEPTANCE		14. GOVERNMENT B/L NO.		15. DELIVER TO F.O.B. POINT ON OR BEFORE (Date) 09/30/2014	
16. DISCOUNT TERMS					

17. SCHEDULE (See reverse for Rejections)

SEE LINE ITEMS SECTION

SEE BILLING INSTRUCTIONS ON REVERSE	18. SHIPPING POINT		19. GROSS SHIPPING WEIGHT		20. INVOICE NO.		\$149,678.00	17(h) Tot. (Cont. pages)
	21. MAIL INVOICE TO:							
	a. NAME GLOBAL FIN. SVCS (RM/GFS/ADO/FM) CHARLESTON, SOUTH CAROLINA						\$149,678.00	17(i) GRAND TOTAL
	b. STREET ADDRESS (or P.O. Box) PO BOX 150008; Fax To: 1-866-483-3436 OFFICE OF CLAIMS (RM/GFS/F/C)							
c. CITY CHARLESTON		d. STATE SC		e. ZIP CODE 29415-5008				
22. UNITED STATES OF AMERICA BY (Signature) 						23. NAME (Typed) Edward J. Baran TITLE: CONTRACTING/ORDERING OFFICER		

Line Item Summary	Contract Number: SAQMMA14M1816	Order Number: F 2014 21201	Title: V Fund Array Information Technology 3658 14 "UNCLASSIFIED"	Total Funding: 3/31/2016 \$149,678.00	Date of Order: 09/30/2014
Line Item No.	Description	Quantity	Unit	Unit Price	Total Cost
001	BAA-2014-DOS-AVC-VTRDN BAA award for the white paper #AIT-1. Work shall be in accordance with AIT-1 white paper "Qualification of Seismic Detection Capabilities of iPhone Accelerometers for Nuclear Explosion Monitoring" and the attached Statement of Work (SOW). Doc Ref No: 1033440021 Taxes included: Delivery Date (Start to End) Date FOB: 09/05/2014 09/30/2014 to 09/29/2015 Destination Funding Information: 1. Accounting Ref: 1033440021 \$149,678.00	1.00	LT	\$149,678.00	\$149,678.00
	Government POC (b)(6) (b)(6) (b)(7) @state.gov				
Grand Total:					\$149,678.00

Identifier	Title	Date	Number of Pages
1	AQ/1033440021/Jih AVCVTT 3658 14.far	08/25/2014	
2	AQ/1033440021/Jih AVCVTT 3658 14 4 Tab 3. Whiet paper by Gritlo i.pdf	08/25/2014	
3	AQ/1033440021/Jih AVCVTT 3658 14 3 Tab 2. SOW iPhone 140726.pdf	08/25/2014	
4	AQ/1033440021/Jih AVCVTT 3658 14 1 AIT cover memo signed .pdf	08/25/2014	
5	AQ/1033440021/Jih AVCVTT 3658 14 2 Tab 1. AAS signed memo on Tranc.pdf	08/25/2014	

B-008 TRAVEL COSTS (Time-and-Materials/Labor-Hour)

- (a) Except as otherwise provided herein, the Contractor shall be reimbursed for its reasonable actual travel costs in accordance with its usual accounting practices consistent with FAR Subpart 31.2, specifically FAR 31.205-46. Travel must be directly related to and required for performance of this contract, and authorized in advance and in writing by the Contracting Officer's Representative (COR). In no event shall costs associated with employee commuting be reimbursable as a direct cost under this contract.
- (b) Travel costs shall not be burdened with any indirect costs unless specifically allowable in accordance with the Contractor's usual accounting practices consistent with FAR Subpart 31.2. In no event shall travel costs be burdened with fee/profit.
- (c) The Contractor shall include a breakout of all authorized travel expenses as an attachment to his invoices. Administrative support (coordination of travel arrangements, etc.) will be the responsibility of the Contractor.
- (d) Should any Contractor personnel be requested to perform in any area which has been determined by the Department of State to be a hazardous duty area, hazardous duty premium pay if and to the extent requested and allowed, will be payable at the same rate as would be given to Department of State direct-hire employees pursuant to Chapter 650 of the U.S. Department of State Standardized Regulations (Government Civilians, Foreign Areas).. Hazardous duty premium pay shall not be burdened with any indirect costs (e.g., overhead, G and A) or fee/profit.
- (e) When local travel between the Contractor employee's regular place of performance and other locations is specifically authorized by the COR, transportation expenses shall be allowable costs under this contract. For the purposes of this clause, local travel means travel within a 50 mile radius of the Contractor employee's regular place of performance and does not include daily commuting or associated costs.
- (f) For travel where use of a personal automobile has been specifically authorized by the COR, reimbursement shall be computed on the basis of actual miles traveled from starting point to destination. Other related miscellaneous expenses, such as tolls and parking fees, incurred in the performance of tasks authorized under this contract, will be reimbursed. Car rentals require advance approval by the COR and will be authorized only when consistent with good business practice. Allowable costs shall not exceed the actual cost of renting a compact automobile (a maximum of one for four Contractor personnel), unless extenuating circumstances (e.g., excess baggage) require other arrangements and subsequent COR approval is obtained.
- (g) The Government will reimburse the Contractor for Contractor employee's travel time to or from other authorized work locations; except that for labor categories which are exempt from the Fair Labor Standards Act (FLSA), a reimbursement will be allowed only for travel during the employee's regular working hours. The Contractor will not be reimbursed for time spent in stand down or temporary layovers for the convenience of the Contractor by FLSA exempt contractor employees except as authorized by the Federal Travel

Regulations.

(h) The Contractor shall be responsible for ensuring that all personnel who will be required to travel outside the United States have current and valid passports. The Contractor shall also be responsible for obtaining any visas required for travel to foreign countries under this contract. The Contractor shall make no direct labor charges for obtaining/maintaining passports and/or visas.

(end of clause)

01INV DEPARTMENT OF STATE INVOICE INSTRUCTIONS

Invoice submission is only via the Office of Claims' Commercial Claims Operations fax server, toll-free number: 866-483-3436, or DOSPayments@state.gov, unless otherwise indicated. Each invoice must be transmitted separately.

To constitute a proper invoice, the invoice must include the following information and/or attached documentation:

- (1) Name and Address of the Contractor
- (2) Dun and Bradstreet Universal Number System (DUNS)
- (3) Date of invoice
- (4) Unique Vendor Invoice Number - Our Financial System cannot accept the following characters: @ (at symbol), ~ (Tilde), & (Ampersand), ' (Apostrophe), " (Quotation) and spaces. Please do not include any of these characters as part of your invoice number.
- (5) Remittance Contact Information
- (6) Shipping Terms, Ship to Address
- (7) Payment Terms
- (8) Total Quantity of Items
- (9) Total Invoice Amount
- (10) Requisition Number, Contract Number and Order/Award Number, with modification number if applicable.
- (11) Order line item number and information (see below instructions)

The name and DUNS of the contractor on the invoice must match the information indicated on the order/award for proper payment.

IMPORTANT: For proper payment, the invoice must detail products and/or services delivered on a line item basis in direct accordance with the corresponding order/award/contract. Each line item must contain the following information:

- (1) Description of the services rendered for each line item**
- (2) Line Item Quantity**
- (3) Line Item Unit Price**
- (4) Total Line Item Invoicing Amount**
- (5) Delivery Date**
- (6) Contract Line Item Number (CLIN)**
- (7) Order/Award Line Item Number if invoicing against a task or delivery order or Blanket Purchase Agreement (BPA)**

Please note that many task or delivery orders against Department of State or GSA contracts or blanket purchase agreements may have a separate and unique line item number in addition to the umbrella Contract Line Item Number (CLIN). The order line item number as well as the umbrella award CLIN must be referenced at each invoice line item level in such cases.

All payment to domestic claims will be disbursed by electronic funds transfer EFT. Vendors who are registered in the Central Contractor Registration (CCR) should verify and re-confirm their financial information in the database prior to invoicing. Vendors who wish to request a waiver of CCR or payment

by check must submit their justification to their assigned contracting officer for consideration at least 30 days prior to billing. For vendors who are granted an EFT exception, the payment address on the invoice must match the remittance address in the vendor record cited in the award.

Additional correspondence should be addressed to:

Name:
U.S. Department of State
Global Financial Services
Attn: Office of Claims (RM/GFS/F/C)
Charleston Financial Service Center

Mailing Address:
Post Office Box 150008
Charleston, SC 29415-5008
Telephone Numbers:
Director's Secretary Voice 843-202-3761
Fax 843-746-0749
Official Office Hours: 8:00 am – 5:00 pm

To request Payment Status on a Past Due Invoice contact:
Office of Claims Customer Service
Email: commercialclaims@state.gov
Phone: 877-704-9473 Toll Free

Person to Contact: Supervisor, Vendor Claims
Email: GFS-ChiefVC@state.gov
(*End of clause*)

52.213-4 Terms and Conditions - Simplified Acquisitions (Other Than Commercial Items) (Jul 2014)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses that are incorporated by reference:

(1) The clauses listed below implement provisions of law or Executive order:

(i) 52.222-3, Convict Labor (June 2003) (E.O. 11755).

(ii) 52.222-21, Prohibition of Segregated Facilities (Feb 1999) (E.O. 11246).

(iii) 52.222-26, Equal Opportunity (Mar 2007) (E.O. 11246).

(iv) 52.222-50, Combating Trafficking in Persons (Feb 2009) (22 U.S.C. 7104(g)).

(v) 52.225-13, Restrictions on Certain Foreign Purchases (June 2008) (E.o.s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).

(vi) 52.233-3, Protest After Award (Aug 1996) (31 U.S.C. 3553).

(vii) 52.233-4, Applicable Law for Breach of Contract Claim (Oct 2004) (Pub. L. 108-77, 108-78 (19 U.S.C.

3805 note)).

(2) Listed below are additional clauses that apply:

(i) 52.232-1, Payments (Apr 1984).

(ii) 52.232-8, Discounts for Prompt Payment (Feb 2002).

(iii) 52.232-11, Extras (Apr 1984).

(iv) 52.232-25, Prompt Payment (Jul 2013).

(v) 52.232-39, Unenforceability of Unauthorized Obligations (Jun 2013).

(vi) 52.232-40, Providing Accelerated Payments to Small Business Subcontractors (Dec 2013)

(vii) 52.233-1, Disputes (May 2014).

(viii) 52.244-6, Subcontracts for Commercial Items (Jul 2014).

(ix) 52.253-1, Computer Generated Forms (Jan 1991).

(b) The Contractor shall comply with the following FAR clauses, incorporated by reference, unless the circumstances do not apply:

(1) The clauses listed below implement provisions of law or Executive order:

(i) 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards (Jul 2013) (Pub. L. 109-282) (31 U.S.C. 6101 note) (Applies to contracts valued at \$25,000 or more).

(ii) 52.222-19, Child Labor--Cooperation with Authorities and Remedies (Jan 2014) (E.O. 13126). (Applies to contracts for supplies exceeding the micro-purchase threshold.)

(iii) 52.222-20, Contracts for Materials, Supplies, Articles, and Equipment Exceeding \$15,000 (May 2014) (41 U.S.C. chapter 65) (Applies to supply contracts over \$15,000 in the United States, Puerto Rico, or the U.S. Virgin Islands).

(iv) 52.222-35, Equal Opportunity for Veterans (Jul 2014) (38 U.S.C. 4212) (applies to contracts of \$100,000 or more).

(v) 52.222-36, Equal Employment for Workers with Disabilities (Jul 2014) (29 U.S.C. 793). (Applies to contracts over \$15,000, unless the work is to be performed outside the United States by employees recruited outside the United States.) (For purposes of this clause, "United States" includes the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.)

(vi) 52.222-37, Employment Reports on Veterans (Jul 2014) (38 U.S.C. 4212) (applies to contracts of \$100,000 or more).

(vii) 52.222-41, Service Contract Labor Standards (May 2014) (41 U.S.C. chapter 67) (Applies to service contracts over \$2,500 that are subject to the Service Contract Labor Standards statute and will be performed in the United States, District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the

U.S. Virgin Islands, Johnston Island, Wake Island, or the outer Continental Shelf.)

(viii) 52.223-5, Pollution Prevention and Right-to-Know Information (May 2011) (E.O. 13423) (Applies to services performed on Federal facilities).

(ix) 52.223-15, Energy Efficiency in Energy-Consuming Products (Dec 2007) (42 U.S.C. 8259b) (Unless exempt pursuant to 23.204, applies to contracts when energy-consuming products listed in the ENERGY STAR® Program or Federal Energy Management Program (FEMP) will be--

(A) Delivered;

(B) Acquired by the Contractor for use in performing services at a Federally-controlled facility;

(C) Furnished by the Contractor for use by the Government; or

(D) Specified in the design of a building or work, or incorporated during its construction, renovation, or maintenance.)

(x) 52.225-1, Buy American-Supplies (May 2014) (41 U.S.C. chapter 67) (Applies to contracts for supplies, and to contracts for services involving the furnishing of supplies, for use in the United States or its outlying areas, if the value of the supply contract or supply portion of a service contract exceeds the micro-purchase threshold and the acquisition-

(A) Is set aside for small business concerns; or

(B) Cannot be set aside for small business concerns (see 19.5022), and does not exceed \$25,000).

(xi) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (May 2014) (42 U.S.C. 1792) (Applies to contracts greater than \$25,000 that provide for the provision, the service, or the sale of food in the United States.)

(xii) 52.232-33, Payment by Electronic Funds Transfer--System for Award Management (Jul 2013). (Applies when the payment will be made by electronic funds transfer (EFT) and the payment office uses the System for Award Management (SAM) database as its source of EFT information.)

(xiii) 52.232-34, Payment by Electronic Funds Transfer -- Other than System for Award Management (Jul 2013). (Applies when the payment will be made by EFT and the payment office does not use the SAM database as its source of EFT information.)

(xiv) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Feb 2006) (46 U.S.C. App. 1241). (Applies to supplies transported by ocean vessels (except for the types of subcontracts listed at 47.504(d).)

(2) Listed below are additional clauses that may apply:

(i) 52.209-6, Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (Aug 2013) (Applies to contracts over \$30,000).

(ii) 52.211-17, Delivery of Excess Quantities (Sept 1989) (Applies to fixed-price supplies).

(iii) 52.247-29, F.o.b. Origin (Feb 2006) (Applies to supplies if delivery is f.o.b. origin).

(iv) 52.247-34, F.o.b. Destination (Nov 1991) (Applies to supplies if delivery is f.o.b. destination).

(c) *FAR 52.252-2, Clauses Incorporated by Reference (Feb 1998)*. This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://farsite.hill.af.mil/vffara.htm>

(d) *Inspection/Acceptance*. The Contractor shall tender for acceptance only those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. The Government must exercise its postacceptance rights--

(1) Within a reasonable period of time after the defect was discovered or should have been discovered; and

(2) Before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(e) *Excusable delays*. The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence, such as acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(f) *Termination for the Government's convenience*. The Government reserves the right to terminate this contract, or any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges that the Contractor can demonstrate to the satisfaction of the Government, using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred that reasonably could have been avoided.

(g) *Termination for cause*. The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(h) *Warranty*. The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.

(End of clause)

52.243-4 Changes (June 2007)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Government-furnished property or services; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; Provided, that the Contractor gives the Contracting Officer written notice stating--

- (1) The date, circumstances, and source of the order; and
- (2) That the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and amount of the proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) of this clause.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(End of clause)

(b)(6)

From: (b)(6)
Sent: Wednesday, September 09, 2015 10:01 AM
To: (b)(6)
Cc: (b)(6)
Subject: RE: No cost extension SAQMMA14M1816 / BAA

(b)(6)

Understood. Please submit the requisition as soon as possible in order to get it processed in time.

Regards,

(b)(6)

~~SBU~~

This email is UNCLASSIFIED.

From: (b)(6)
Sent: Tuesday, September 08, 2015 11:58 PM
To: (b)(6)
Cc: (b)(6)
Subject: RE: No cost extension SAQMMA14M1816 / BAA

(b)(6)

This just came in. Kurdistan (northeastern Iraq) is a bit safer than central and south Iraq, as IRIS' threat is not reaching the key portion of Kurdistan yet. However, access to the sites in the field (mountainous region of Kurdistan) indeed needs to consider the weather factor. I'd recommend the NCE request be favorably considered.

I am on TDY. Plan to submit DS-87 upon return. Hope EX would accept...

Thanks.

V/R,

(b)(6)

~~SBU~~

This email is UNCLASSIFIED.

From: (b)(6) [arrayinfotech.com]
Sent: Monday, September 07, 2015 10:22 AM
To: (b)(6)
Cc: (b)(6)
Subject: No cost extension SAQMMA14M1816 / BAA

Dear (b)(6)

Attached, please find our request for a no-cost extension of period of performance for above referenced project.

Please don't hesitate to contact me with any questions you may have.

Regards,

(b)(6)

(b)(6)

Senior Geophysicist
Advanced Technology Division
Array Information Technology
2020 Cedar Street
Berkeley, CA 94709, USA
Phone: (b)(6)
Fax: (b)(6)
Mobile: (b)(6)
e-mail: (b)(6)@arrayinfotech.com

(b)(6)

Contract Specialist
A/LM/AQM/IP/IAB
US Department of State

September 4th, 2015

Re. Request for No-Cost Extension of Project DOS SAQMMA14M181

Dear (b)(6)

We would like to request a no-cost extension for the period of performance for above referenced project. The original performance period was 09/30/2014 to 09/29/2015. During our project we proposed to install iPhones in the vaults of the North Iraq Seismic Array (KSIRS) in northern Iraq next to the state-of-the-art STS-2 broadband seismometers for comparative studies. Due to inclement weather conditions and inaccessibility of the array site during the winter months, the deployment had to be postponed until the end of March and repeated in May, due to the malfunction of two iPhones during the first deployment period. Therefore, the analysis of the data started later than anticipated. Furthermore, funds from the project need to be saved for the preparation of a journal article for publication, for the Department of State Key Verification Assets Fund Program Review in April/May 2016 and for presentation of the results at next year's DOE Monitoring Research Review, which typically happens in July/August. Because the exact dates of either research review are not set yet, we suggest an extension of the performance period through 08/31/2016.

Regards,

(b)(6)

Senior Geophysicist

(b)(6) @arrayinfotech.com

Array Information Technology, Inc.

2020 Cedar Street • Berkeley • CA 94709

Tel: (b)(6) • Mobil: (b)(6) • Fax: (b)(6)

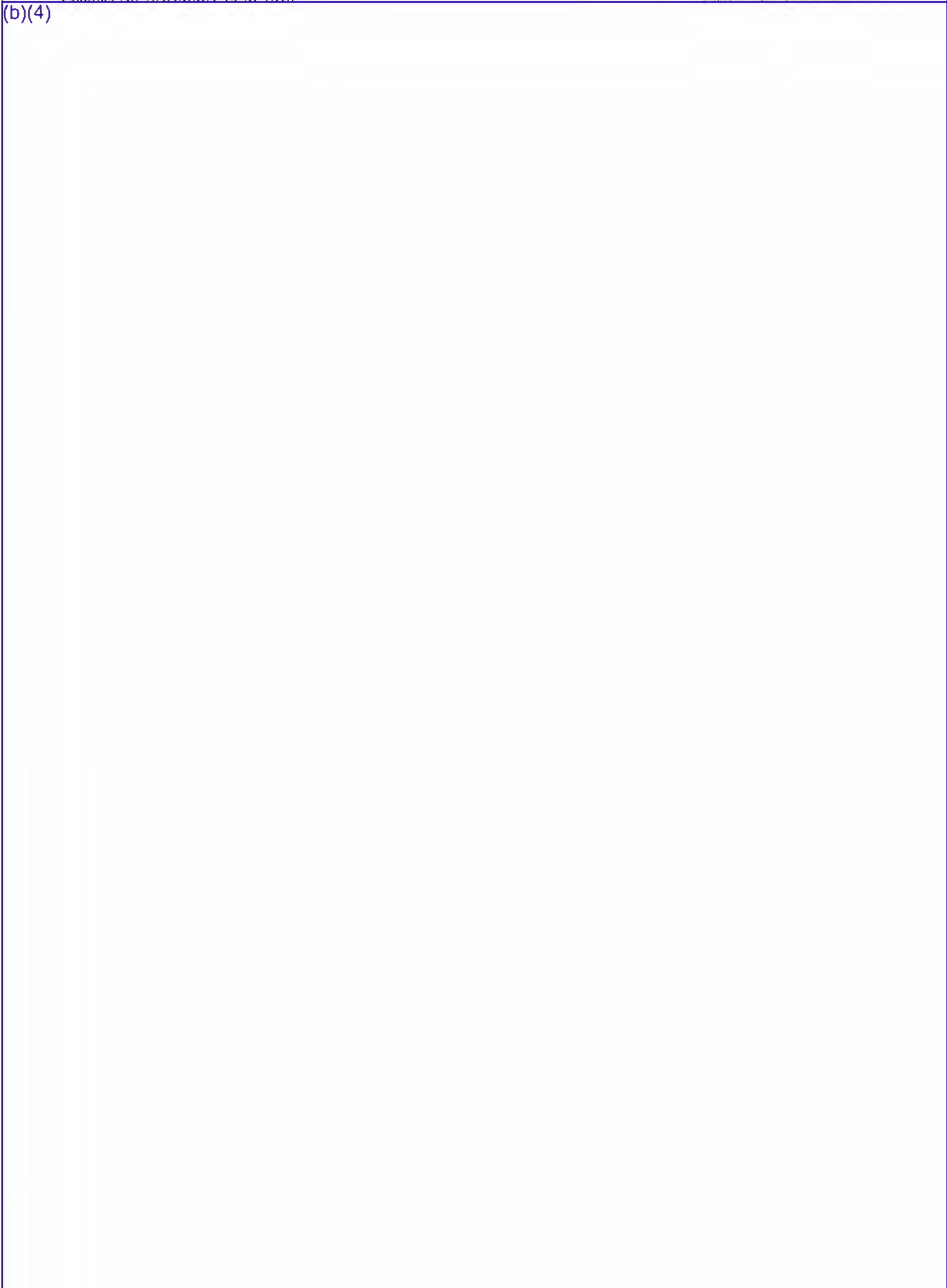
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AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE "UNCLASSIFIED" 3/31/2026	RATING
2. AMENDMENT/MODIFICATION NO. M001	3. EFFECTIVE DATE 09/28/2015	4. REQUISITION/PURCHASE REQ. NO. Lines	5. PROJECT NO. (If applicable)
6. ISSUED BY OFFICE OF ACQUISITION MANAGEMENT (A/LM/AQM) PO BOX 9115, ROSSLYN STATION US DEPARTMENT OF STATE ARLINGTON, VA 22219	CODE LMAQM NAME (b)(6) TEL. (b)(6) EMAIL (b)(6)@state.gov	7. ADMINISTERED BY (If other than Item 6)	CODE
8. NAME AND ADDRESS OF CONTRACTOR (No. street, country, state and ZIP Code) ARRAY INFORMATION TECHNOLOGY, INC. DBA: ARRAY 7474 GREENWAY CENTER DRIVE SUITE 600 GREENBELT, MD 20770-3504		(X)	9A. AMENDMENT OF SOLICITATION NO.
CONTACT: (b)(6) DUNS 112935437			9B. DATED (SEE ITEM 11)
CODE 112935437	FACILITY CODE 99100	X	10A. MODIFICATION OF CONTRACT/ORDER NO. SAQMMA14M1816
			10B. DATED (SEE ITEM 13) 09/30/2014

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)

See Line Item Detail

\$0.00

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:
X	D. OTHER (Specify type of modification and authority) 52.243-4

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

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this modification is to:

1. Extend the period of performance through 8/31/2016. This extension is made at no cost or until all funds under this purchase order are fully exhausted, whichever comes first.

All other terms and conditions remain the same.

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)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Edward J. Baran
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA By _____ (Signature of Contracting Officer)	16C. DATE SIGNED 09/29/2015

Line Item Summary	Contract Number: F-2014-21201 SAQMMA14M1816	Order Number: A-00000949036	Title: V Fund Array Information Technology UNCLASSIFIED	Total Funding Change: \$0.00	Date of Order: 09/28/2015
Line Item No.	Description	Quantity	Unit	Unit Price	Total Cost
BAA-2014-DOS-AVC-VTRDN					
001	BAA award for the white paper #AIT-1. Work shall be in accordance with AIT-1 white paper "Qualification of Seismic Detection Capabilites of iPhone Accelerometers for Nuclear Explosion Monitoring" and the attached Statement of Work (SOW). Doc Ref No: 1033440021 Taxes included: Delivery Date (Start to End) Date FOB: 09/05/2014 09/30/2014 to 08/31/2016 Destination Funding Information: 1. Accounting Ref: 1033440021 1900 - 2014 - 19___401130003 - AVC - 1033 - 198120 - 2129 - 2502 - 2014 Original Total: \$149,678.00 Change Total: \$0.00 \$149,678.00 2. Accounting Ref: 1033540052 1900 - 2015 - 19___501130003 - AVC - 1033 - 198010 - 2129 - 2503 Original Total: \$0.00 Change Total: \$0.00 \$0.00	1.00 0.00 1.00	LT	\$149,678.00 \$0.00 \$149,678.00	\$149,678.00 \$0.00 \$149,678.00
Government POC Rongsong Jih 202-647-8126 jihRS@state.gov					
				Previous Total:	\$149,678.00
				Modification Total:	\$0.00
				Grand Total:	\$149,678.00

Identifier	Title	Date	Number of Pages
1	AQ/1033440021/Jih AVCVTT 3658 14.far	08/25/2014	
2	AQ/1033440021/Jih AVCVTT 3658 14 4 Tab 3. Whiet paper by Gritto l.pdf	08/25/2014	
3	AQ/1033440021/Jih AVCVTT 3658 14 3 Tab 2. SOW iPhone 140726.pdf	08/25/2014	
4	AQ/1033440021/Jih AVCVTT 3658 14 1 AIT cover memo signed .pdf	08/25/2014	
5	AQ/1033440021/Jih AVCVTT 3658 14 2 Tab 1. AAS signed memo on Tranc.pdf	08/25/2014	

B-008 TRAVEL COSTS (Time-and-Materials/Labor-Hour)

- (a) Except as otherwise provided herein, the Contractor shall be reimbursed for its reasonable actual travel costs in accordance with its usual accounting practices consistent with FAR Subpart 31.2, specifically FAR 31.205-46. Travel must be directly related to and required for performance of this contract, and authorized in advance and in writing by the Contracting Officer's Representative (COR). In no event shall costs associated with employee commuting be reimbursable as a direct cost under this contract.
- (b) Travel costs shall not be burdened with any indirect costs unless specifically allowable in accordance with the Contractor's usual accounting practices consistent with FAR Subpart 31.2. In no event shall travel costs be burdened with fee/profit.
- (c) The Contractor shall include a breakout of all authorized travel expenses as an attachment to his invoices. Administrative support (coordination of travel arrangements, etc.) will be the responsibility of the Contractor.
- (d) Should any Contractor personnel be requested to perform in any area which has been determined by the Department of State to be a hazardous duty area, hazardous duty premium pay if and to the extent requested and allowed, will be payable at the same rate as would be given to Department of State direct-hire employees pursuant to Chapter 65 of the U.S. Department of State Standardized Regulations (Government Civilians, Foreign Areas).. Hazardous duty premium pay shall not be burdened with any indirect costs (e.g., overhead, G and A) or fee/profit.
- (e) When local travel between the Contractor employee's regular place of performance and other locations is specifically authorized by the COR, transportation expenses shall be allowable costs under this contract. For the purposes of this clause, local travel means

travel within a 50 mile radius of the Contractor employee's regular place of performance and does not include daily commuting or associated costs.

(f) For travel where use of a personal automobile has been specifically authorized by the COR, reimbursement shall be computed on the basis of actual miles traveled from starting point to destination. Other related miscellaneous expenses, such as tolls and parking fees, incurred in the performance of tasks authorized under this contract, will be reimbursed. Car rentals require advance approval by the COR and will be authorized only when consistent with good business practice. Allowable costs shall not exceed the actual cost of renting a compact automobile (a maximum of one for four Contractor personnel), unless extenuating circumstances (e.g., excess baggage) require other arrangements and subsequent COR approval is obtained.

(g) The Government will reimburse the Contractor for Contractor employee's travel time to or from other authorized work locations; except that for labor categories which are exempt from the Fair Labor Standards Act (FLSA), a reimbursement will be allowed only for travel during the employee's regular working hours. The Contractor will not be reimbursed for time spent in stand down or temporary layovers for the convenience of the Contractor by FLSA exempt contractor employees except as authorized by the Federal Travel Regulations.

(h) The Contractor shall be responsible for ensuring that all personnel who will be required to travel outside the United States have current and valid passports. The Contractor shall also be responsible for obtaining any visas required for travel to foreign countries under this contract. The Contractor shall make no direct labor charges for obtaining/maintaining passports and/or visas.

(end of clause)

01INV DEPARTMENT OF STATE INVOICE INSTRUCTIONS

Invoice submission is only via the Office of Claims' Commercial Claims Operations fax server, toll-free number: 866-483-3436, or DOSPayments@state.gov, unless otherwise indicated. Each invoice must be transmitted separately.

To constitute a proper invoice, the invoice must include the following information and/or attached documentation:

- (1) Name and Address of the Contractor
- (2) Dun and Bradstreet Universal Number System (DUNS)
- (3) Date of invoice
- (4) Unique Vendor Invoice Number - Our Financial System cannot accept the following characters: @ (at symbol), ~ (Tilde), & (Ampersand), ' (Apostrophe), " (Quotation) and spaces. Please do not include any of these characters as part of your invoice number.
- (5) Remittance Contact Information
- (6) Shipping Terms, Ship to Address
- (7) Payment Terms
- (8) Total Quantity of Items
- (9) Total Invoice Amount
- (10) Requisition Number, Contract Number and Order/Award Number, with modification number if applicable.
- (11) Order line item number and information (see below instructions)

The name and DUNS of the contractor on the invoice must match the information indicated on the order/award for proper payment.

IMPORTANT: For proper payment, the invoice must detail products and/or services delivered on a line item basis in direct accordance with the corresponding order/award/contract. Each line item must contain the following information:

- (1) Description of the services rendered for each line item
- (2) Line Item Quantity
- (3) Line Item Unit Price
- (4) Total Line Item Invoicing Amount
- (5) Delivery Date
- (6) Contract Line Item Number (CLIN)
- (7) Order/Award Line Item Number if invoicing against a task or delivery order or Blanket Purchase

Agreement (BPA)

Please note that many task or delivery orders against Department of State or GSA contracts or blanket purchase agreements may have a separate and unique line item number in addition to the umbrella Contract Line Item Number (CLIN). The order line item number as well as the umbrella award CLIN must be referenced at each invoice line item level in such cases.

All payment to domestic claims will be disbursed by electronic funds transfer EFT. Vendors who are registered in the Central Contractor Registration (CCR) should verify and re-confirm their financial information in the database prior to invoicing. Vendors who wish to request a waiver of CCR or payment by check must submit their justification to their assigned contracting officer for consideration at least 30 days prior to billing. For vendors who are granted an EFT exception, the payment address on the invoice must match the remittance address in the vendor record cited in the award.

Additional correspondence should be addressed to:

Name:
U.S. Department of State
Global Financial Services
Attn: Office of Claims (RM/GFS/F/C)
Charleston Financial Service Center

Mailing Address:
Post Office Box 150008
Charleston, SC 29415-5008
Telephone Numbers:
Director's Secretary Voice 843-202-3761
Fax 843-746-0749
Official Office Hours: 8:00 am – 5:00 pm

To request Payment Status on a Past Due Invoice contact:
Office of Claims Customer Service
Email: commercialclaims@state.gov
Phone: 877-7049473 Toll Free

Person to Contact: Supervisor, Vendor Claims
Email: GFS-ChiefVC@state.gov
(*End of clause*)

52.213-4 Terms and Conditions - Simplified Acquisitions (Other Than Commercial Items) (Jul 2014)

(a) The Contractor shall comply with the following Federal Acquisition Regulation (FAR) clauses that are incorporated by reference:

(1) The clauses listed below implement provisions of law or Executive order:

(i) 52.222-3, Convict Labor (June 2003) (E.O. 11755).

(ii) 52.222-21, Prohibition of Segregated Facilities (Feb 1999) (E.O. 11246).

- (iii) 52.222-26, Equal Opportunity (Mar 2007) (E.O. 11246).
- (iv) 52.222-50, Combating Trafficking in Persons (Feb 2009) (22 U.S.C. 7104(g)).
- (v) 52.225-13, Restrictions on Certain Foreign Purchases (June 2008) (E.o.s, proclamations, and statutes administered by the Office of Foreign Assets Control of the Department of the Treasury).
- (vi) 52.233-3, Protest After Award (Aug 1996) (31 U.S.C. 3553).
- (vii) 52.233-4, Applicable Law for Breach of Contract Claim (Oct 2004) (Pub. L. 108-77, 108-78 (19 U.S.C. 3805 note)).

(2) Listed below are additional clauses that apply:

- (i) 52.232-1, Payments (Apr 1984).
- (ii) 52.232-8, Discounts for Prompt Payment (Feb 2002).
- (iii) 52.232-11, Extras (Apr 1984).
- (iv) 52.232-25, Prompt Payment (Jul 2013).
- (v) 52.232-39, Unenforceability of Unauthorized Obligations (Jun 2013).
- (vi) 52.232-40, Providing Accelerated Payments to Small Business Subcontractors (Dec 2013)
- (vii) 52.233-1, Disputes (May 2014).
- (viii) 52.244-6, Subcontracts for Commercial Items (Jul 2014).
- (ix) 52.253-1, Computer Generated Forms (Jan 1991).

(b) The Contractor shall comply with the following FAR clauses, incorporated by reference, unless the circumstances do not apply:

(1) The clauses listed below implement provisions of law or Executive order:

- (i) 52.204-10, Reporting Executive Compensation and First-Tier Subcontract Awards (Jul 2013) (Pub. L. 109-282) (31 U.S.C. 6101 note) (Applies to contracts valued at \$25,000 or more).
- (ii) 52.222-19, Child Labor--Cooperation with Authorities and Remedies (Jan 2014) (E.O. 13126). (Applies to contracts for supplies exceeding the micro-purchase threshold.)
- (iii) 52.222-20, Contracts for Materials, Supplies, Articles, and Equipment Exceeding \$15,000 (May 2014) (41 U.S.C. chapter 65) (Applies to supply contracts over \$15,000 in the United States, Puerto Rico, or the U.S. Virgin Islands).
- (iv) 52.222-35, Equal Opportunity for Veterans (Jul 2014) (38 U.S.C. 4212) (applies to contracts of \$100,000 or more).
- (v) 52.222-36, Equal Employment for Workers with Disabilities (Jul 2014) (29 U.S.C. 793). (Applies to con-

tracts over \$15,000, unless the work is to be performed outside the United States by employees recruited outside the United States.) (For purposes of this clause, "United States" includes the 50 States, the District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, and Wake Island.)

(vi) 52.222-37, Employment Reports on Veterans (Jul 2014) (38 U.S.C. 4212) (applies to contracts of \$100,000 or more).

(vii) 52.222-41, Service Contract Labor Standards (May 2014) (41 U.S.C. chapter 67) (Applies to service contracts over \$2,500 that are subject to the Service Contract Labor Standards statute and will be performed in the United States, District of Columbia, Puerto Rico, the Northern Mariana Islands, American Samoa, Guam, the U.S. Virgin Islands, Johnston Island, Wake Island, or the outer Continental Shelf.)

(viii) 52.223-5, Pollution Prevention and Right-to-Know Information (May 2011) (E.O. 13423) (Applies to services performed on Federal facilities).

(ix) 52.223-15, Energy Efficiency in Energy-Consuming Products (Dec 2007) (42 U.S.C. 8259b) (Unless exempt pursuant to 23.204, applies to contracts when energy-consuming products listed in the ENERGY STAR® Program or Federal Energy Management Program (FEMP) will be--

(A) Delivered;

(B) Acquired by the Contractor for use in performing services at a Federally-controlled facility;

(C) Furnished by the Contractor for use by the Government; or

(D) Specified in the design of a building or work, or incorporated during its construction, renovation, or maintenance.)

(x) 52.225-1, Buy American-Supplies (May 2014) (41 U.S.C. chapter 67) (Applies to contracts for supplies, and to contracts for services involving the furnishing of supplies, for use in the United States or its outlying areas, if the value of the supply contract or supply portion of a service contract exceeds the micro-purchase threshold and the acquisition-

(A) Is set aside for small business concerns; or

(B) Cannot be set aside for small business concerns (see 19.502-2), and does not exceed \$25,000).

(xi) 52.226-6, Promoting Excess Food Donation to Nonprofit Organizations (May 2014) (42 U.S.C. 1792) (Applies to contracts greater than \$25,000 that provide for the provision, the service, or the sale of food in the United States.)

(xii) 52.232-33, Payment by Electronic Funds Transfer--System for Award Management (Jul 2013). (Applies when the payment will be made by electronic funds transfer (EFT) and the payment office uses the System for Award Management (SAM) database as its source of EFT information.)

(xiii) 52.232-34, Payment by Electronic Funds Transfer -- Other than System for Award Management (Jul 2013). (Applies when the payment will be made by EFT and the payment office does not use the SAM database as its source of EFT information.)

(xiv) 52.247-64, Preference for Privately Owned U.S.-Flag Commercial Vessels (Feb 2006) (46 U.S.C. App. 1241). (Applies to supplies transported by ocean vessels (except for the types of subcontracts listed at

47.504(d).)

(2) Listed below are additional clauses that may apply:

(i) 52.209-6, Protecting the Government's Interest When Subcontracting with Contractors Debarred, Suspended, or Proposed for Debarment (Aug 2013) (Applies to contracts over \$30,000).

(ii) 52.211-17, Delivery of Excess Quantities (Sept 1989) (Applies to fixed-price supplies).

(iii) 52.247-29, F.o.b. Origin (Feb 2006) (Applies to supplies if delivery is f.o.b. origin).

(iv) 52.247-34, F.o.b. Destination (Nov 1991) (Applies to supplies if delivery is f.o.b. destination).

(c) *FAR 52.252-2, Clauses Incorporated by Reference (Feb 1998)*. This contract incorporates one or more clauses by reference, with the same force and effect as if they were given in full text. Upon request, the Contracting Officer will make their full text available. Also, the full text of a clause may be accessed electronically at this/these address(es):

<http://farsite.hill.af.mil/vffara.htm>

(d) *Inspection/Acceptance*. The Contractor shall tender for acceptance only those items that conform to the requirements of this contract. The Government reserves the right to inspect or test any supplies or services that have been tendered for acceptance. The Government may require repair or replacement of nonconforming supplies or reperformance of nonconforming services at no increase in contract price. The Government must exercise its postacceptance rights--

(1) Within a reasonable period of time after the defect was discovered or should have been discovered; and

(2) Before any substantial change occurs in the condition of the item, unless the change is due to the defect in the item.

(e) *Excusable delays*. The Contractor shall be liable for default unless nonperformance is caused by an occurrence beyond the reasonable control of the Contractor and without its fault or negligence, such as acts of God or the public enemy, acts of the Government in either its sovereign or contractual capacity, fires, floods, epidemics, quarantine restrictions, strikes, unusually severe weather, and delays of common carriers. The Contractor shall notify the Contracting Officer in writing as soon as it is reasonably possible after the commencement of any excusable delay, setting forth the full particulars in connection therewith, shall remedy such occurrence with all reasonable dispatch, and shall promptly give written notice to the Contracting Officer of the cessation of such occurrence.

(f) *Termination for the Government's convenience*. The Government reserves the right to terminate this contract, or any part hereof, for its sole convenience. In the event of such termination, the Contractor shall immediately stop all work hereunder and shall immediately cause any and all of its suppliers and subcontractors to cease work. Subject to the terms of this contract, the Contractor shall be paid a percentage of the contract price reflecting the percentage of the work performed prior to the notice of termination, plus reasonable charges that the Contractor can demonstrate to the satisfaction of the Government, using its standard record keeping system, have resulted from the termination. The Contractor shall not be required to comply with the cost accounting standards or contract cost principles for this purpose. This paragraph does not give the Government any right to audit the Contractor's records. The Contractor shall not be paid for any work performed or costs incurred that reasonably could have been avoided.

(g) *Termination for cause.* The Government may terminate this contract, or any part hereof, for cause in the event of any default by the Contractor, or if the Contractor fails to comply with any contract terms and conditions, or fails to provide the Government, upon request, with adequate assurances of future performance. In the event of termination for cause, the Government shall not be liable to the Contractor for any amount for supplies or services not accepted, and the Contractor shall be liable to the Government for any and all rights and remedies provided by law. If it is determined that the Government improperly terminated this contract for default, such termination shall be deemed a termination for convenience.

(h) *Warranty.* The Contractor warrants and implies that the items delivered hereunder are merchantable and fit for use for the particular purpose described in this contract.

(End of clause)

52.243-4 Changes (June 2007)

(a) The Contracting Officer may, at any time, without notice to the sureties, if any, by written order designated or indicated to be a change order, make changes in the work within the general scope of the contract, including changes--

- (1) In the specifications (including drawings and designs);
- (2) In the method or manner of performance of the work;
- (3) In the Government-furnished property or services; or
- (4) Directing acceleration in the performance of the work.

(b) Any other written or oral order (which, as used in this paragraph (b), includes direction, instruction, interpretation, or determination) from the Contracting Officer that causes a change shall be treated as a change order under this clause; Provided, that the Contractor gives the Contracting Officer written notice stating--

- (1) The date, circumstances, and source of the order; and
- (2) That the Contractor regards the order as a change order.

(c) Except as provided in this clause, no order, statement, or conduct of the Contracting Officer shall be treated as a change under this clause or entitle the Contractor to an equitable adjustment.

(d) If any change under this clause causes an increase or decrease in the Contractor's cost of, or the time required for, the performance of any part of the work under this contract, whether or not changed by any such order, the Contracting Officer shall make an equitable adjustment and modify the contract in writing. However, except for an adjustment based on defective specifications, no adjustment for any change under paragraph (b) of this clause shall be made for any costs incurred more than 20 days before the Contractor gives written notice as required. In the case of defective specifications for which the Government is responsible, the equitable adjustment shall include any increased cost reasonably incurred by the Contractor in attempting to comply with the defective specifications.

(e) The Contractor must assert its right to an adjustment under this clause within 30 days after (1) receipt of a written change order under paragraph (a) of this clause or (2) the furnishing of a written notice under paragraph (b) of this clause, by submitting to the Contracting Officer a written statement describing the general nature and

amount of the proposal, unless this period is extended by the Government. The statement of proposal for adjustment may be included in the notice under paragraph (b) of this clause.

(f) No proposal by the Contractor for an equitable adjustment shall be allowed if asserted after final payment under this contract.

(End of clause)

STATEMENT OF WORK

Quantification of Seismic Detection Capabilities of iPhone Accelerometers for Nuclear Explosion Monitoring

BACKGROUND

At present the International Monitoring System (IMS) of the Comprehensive Nuclear-Test-Ban Treaty Organization (CTBTO) consists of a network of 254 monitoring stations located around the world with the purpose of detecting and identifying possible nuclear explosions. The network consists of seismic, infrasound, hydroacoustic and radionuclide stations located within the states that ratified the Comprehensive Nuclear Test Ban Treaty. The seismic sub-network consists of 50 primary and 120 auxiliary stations to monitor seismic waves propagating from an earthquake or a potential nuclear explosion. Although these stations are well located around the globe, there have been instances, such as the second and third suspected North Korean nuclear test, when the IMS network was unable to determine conclusively whether a suspect event was of nuclear origin. Additionally, the technology to analyze the collected data and the maintenance of the monitoring stations is rather expensive. Therefore, cost-effective technology to improve the detection of small events and to help determine the type of the events (earthquake or explosion) is needed by the CTBTO. The rapidly evolving potential of public and societal monitoring becomes evident in the ubiquitous use of smart phones in recent years. The technology in today's smart phones includes a sophisticated computer with built-in accelerometer sensors, a powerful CPU, data storage, GPS geo-location, and wireless connectivity. In theory, these devices are already prepared to monitor ground movement and submit the recorded signals to a central processing unit for further analysis. The rapid spread of smart phone usage, even in developing countries, therefore makes the prospect of crowd-sourced nuclear verification appear promising.

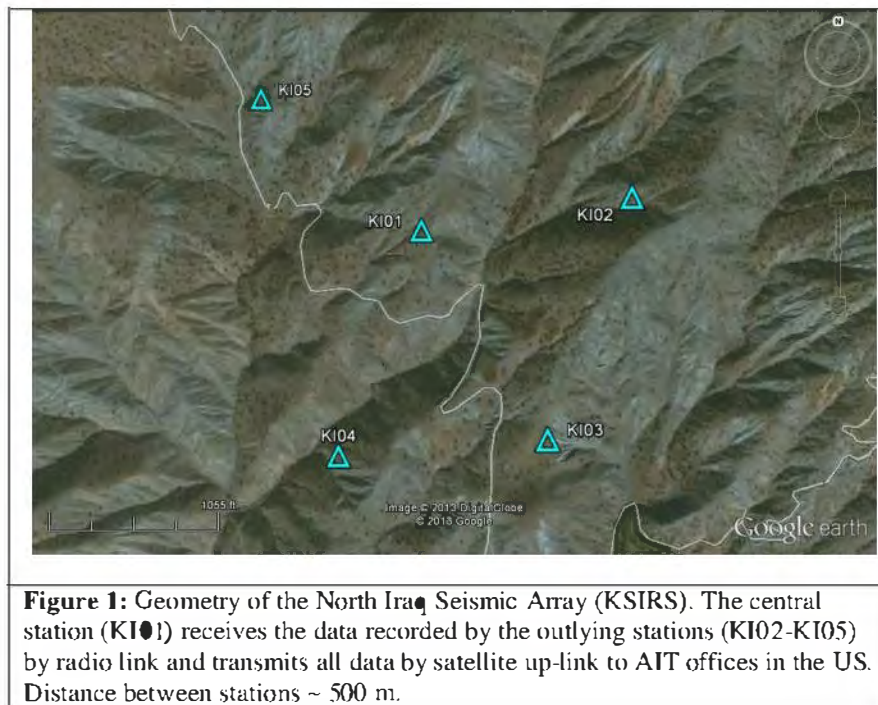
PROBLEM

In a recent article, Stubbs and Drell (2013) report that the accelerometer in the iPhone 4 should allow 95% confidence in detecting an underground nuclear test with a yield of 1 kiloton at a distance of 150 km. Because this statement was accompanied neither by supporting data about the frequency-dependent sensitivity of the sensor nor by an explanation of the underlying assumptions how that sensitivity translates to seismic magnitude at a given distance (such as the geological media and depth of the explosion, the nature of the topography and geology along the signal propagation path, etc.), a quantitative investigation of iPhone capabilities is needed to determine whether this new technology can in fact help CTBTO to reach its verification goals.

SCOPE

A baseline study is proposed herein to quantify the seismic detection capabilities of iPhones with respect to local and regional earthquakes and to compare the results to state-of-the-art STS-2 broadband seismometer recordings by the North Iraq Seismic Array (KSIRS) (Figure 1). These instruments (comparable to the ones used by the IMS) will serve to calibrate the iPhones'

detection capabilities as a co-located reference standard for studying the signals that the iPhones detect or fail to detect and the magnitude and distance of the events that produce those signals.



TASKS

Task 1: Research iPhone Technology

Research the current state of technology of the iPhone. Evaluate power consumption, data formats and data transfer capabilities. Research availability of- and/or build cables for continuous power supply by external 12 V batteries. Research availability of external GPS antennas. Research availability of- and/or build cable Y-splitters to provide multiple access to iPhone port, if needed (i.e., power input, data output). Research data format and file storage on iPhone as well as file transfer from iPhone to digitizer or directly to external computer. Research need for third party software and required licenses, if needed. Purchase iPhones.

Task 2: Deployment of iPhones

Staff of AIT will travel to Iraq to deploy iPhones in vaults of KSIRS next to STS-2 for comparative analysis. The deployment modes will vary from best-case scenario, where a single iPhone is glued to the concrete pier of the central element of KSIRS (baseline measurement, not achievable during operational conditions), to ideal operational condition, where the iPhone will be placed on the pier in the instrument vault (representing resting on a desk inside a building), to normal operational condition, where the iPhone is placed within a garment's pocket or purse resting on the vault's floor (representing location in people's pockets and purses while sitting or standing). The iPhones will be connected to power and, depending on the outcome of Task 1,

either connected to an external computer or data will remain on the iPhone during the data collection phase. The iPhones will be deployed for a period 3-4 months to assure a representative distribution of earthquake magnitudes recorded local and regional distances.

Task 3: Retrieval of iPhones and Data

Staff of AIT will travel to Iraq to retrieve iPhones from vaults and to secure data recorded during Task2.

Task 4: Data Analysis

Data collected during the recording phase will be analysed to establish a noise floor threshold for individual iPhones. We will analyze the detection of a range of small- and mid-sized earthquakes (similar in magnitude to clandestine nuclear explosions). The magnitude and distances of those events that trigger detection would be known through seismic bulletins produced from the IMS-type seismometers in the vault, as would be the magnitude and distance of those earthquakes that are detected by the STS-2 seismometers but not by the iPhones. We will appraise the individual iPhone signal detection thresholds against the detection threshold while the iPhones are operated in array mode. The availability of the KSIRS vaults enables us to apply array processing techniques to the collected data and appraise the improvement of the array processed data over the individual baseline thresholds. The resulting detection thresholds will be used to model the detection statistics for an assumed operational system of these devices. Varying density of iPhones per km² in given region will be modeled along with an assumed background noise and estimates of the fractions of iPhones that would likely be in *ideal operational* and *normal operational* environments at any time. We will translate detection thresholds to seismic magnitude vs. distance thresholds. We will generalize this approach to a global network based on the number of known iPhones users in each country, and we will then compare its capabilities with the modeled detection thresholds for the IMS to see whether there are areas of the world that would be served better by the iPhone network than they currently are by the IMS

DELIVERABLES

- Project status/progress reports submitted on a quarterly basis following a template provided by the COR, to include incremental technical accomplishments, other relevant efforts (under different projects funded by the Department or other Departments / Agencies), as well as detailed finance data
- Briefings (and/or poster presentations) as requested during the time of performance and upon conclusion, including a poster at the AFRL-NNSA-DOS-DTRA-NSF-CTBTO joint Review of Monitoring Research (RMR) and an oral briefing at Department of State Program Review
- Final report with detailed findings and conclusions

SECURITY

This project is a fundamental scientific research. No aspect of this project is classified.

PERIOD OF PERFORMANCE

September 30, 2014 – September 29, 2015

OTHER TERMS AND CONDITIONS

All travels shall be coordinated with the Project Officer (COR) in advance. Foreign travel shall be made only with Country Clearance granted by Embassy in Iraq. (Request for Country Clearance is to be submitted by the COR.) All shipping and travel receipts shall be submitted and retained in accordance with Federal Government regulations.

KEY PERSONNEL

(b)(6)

Senior Geophysicist
 Array Information Technology
 2020 Cedar Street, Berkeley, CA, 94709
 Phone: (b)(6) @arrayinfotech.com

(b)(6)

Senior Geophysicist
 Array Information Technology
 5130 Commercial Drive, Melbourne, FL, 32940
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VENDOR-PROPOSED SCHEDULE

Task/Time	M1	M2	M3	★M4	M5	M6	★M7	M8	M9	★M10	M11	M12
Task 1	█											
Task 2			█									
Task 3						█						
Task 4								█				

★ Quarterly Reports, ★ Final Report

PROPOSED COSTS BY VENDOR

Cost Element	Base	Rate	Amount
Direct Labor	Labor [hrs]	[\$]	(b)(4)
(b)(6)	(b)(4)	(b)(4)	
Total Direct Labor			
Total Indirect Labor			
Travel (2 Trips to Iraq, 1 to RMR, 1 to AGU)			
Equipment			
Material/Publication			
Material Handling		(b)(4)	
G&A			
Fixed Fee			
Total			149,692

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE "UNCLASSIFIED" 3/31/2026	RATING
2. AMENDMENT/MODIFICATION NO. M001	3. EFFECTIVE DATE 09/28/2015	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (if applicable)
6. ISSUED BY OFFICE OF ACQUISITION MANAGEMENT (A/LM/AQM) PO BOX 9115, ROSSLYN STATION US DEPARTMENT OF STATE ARLINGTON, VA 22219	CODE LMAQM NAME (b)(6) TEL. (b)(6) EMAIL (b)(6)@state.gov	7. ADMINISTERED BY (if other than item 6) CODE	
8. NAME AND ADDRESS OF CONTRACTOR (No., street, country, state and ZIP Code) ARRAY INFORMATION TECHNOLOGY, INC. DBA: ARRAY 7474 GREENWAY CENTER DRIVE SUITE 600 GREENBELT, MD 20770-3504		(X)	9A. AMENDMENT OF SOLICITATION NO.
CONTACT: (b)(6) DUNS 112935437			9B. DATED (SEE ITEM 11)
CODE 112935437 FACILITY CODE 99100		X	10A. MODIFICATION OF CONTRACT/ORDER NO. SAQMMA14M1816
			10B. DATED (SEE ITEM 13) 09/30/2014

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)

See Line Item Detail

\$0.00

13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACT/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:
X	D. OTHER (Specify type of modification and authority) 52.243-4

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

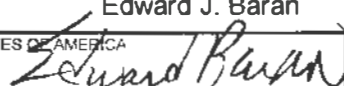
14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

The purpose of this modification is to:

1. Extend the period of performance through 8/31/2016. This extension is made at no cost or until all funds under this purchase order are fully exhausted, whichever comes first.

All other terms and conditions remain the same.

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)	16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Edward J. Baran
15B. CONTRACTOR/OFFEROR (Signature of person authorized to sign)	15C. DATE SIGNED
16B. UNITED STATES OF AMERICA By  (Signature of Contracting Officer)	16C. DATE SIGNED 09/29/2015

Line Item Summary	Contract Number:	Order Number:	Title: V Fund Array Information	Total Funding Change:	Date of Order:
		SAQMMA14M1816	Technology 3658 14 "UNCLASSIFIED"	\$0.00 3/31/2026	09/28/2015
Line Item No.	Description	Quantity	Unit	Unit Price	Total Cost
	BAA-2014-DOS-AVC-VTRDN				
001	BAA award for the white paper #AIT-1. Work shall be in accordance with AIT-1 white paper "Qualification of Seismic Detection Capabilites of iPhone Accelerometers for Nuclear Explosion Monitoring" and the attached Statement of Work (SOW). Doc Ref No: 1033440021 Taxes included: Delivery Date (Start to End) Date FOB: Destination 09/05/2014 09/30/2014 to 08/31/2016 Funding Information:	1.00 0.00 1.00	LT	\$149,678.00 \$0.00 \$149,678.00	\$149,678.00 \$0.00 \$149,678.00
	Government POC (b)(6) (b)(6) (b)(6)@state.gov				
				Previous Total:	\$149,678.00
				Modification Total:	\$0.00
				Grand Total:	\$149,678.00