

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. Contract ID Code
Cost Plus Fixed Fee

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2. Amendment/Modification No. 04	3. Effective Date 2014MAY07	4. Requisition/Purchase Req No. SEE SCHEDULE	5. Project No. (If applicable)
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6. Issued By U.S. ARMY CONTRACTING COMMAND LISA M. KOSKI WARREN, MICHIGAN 48397-5000 HTTP://CONTRACTING.TACOM.ARMY.MIL EMAIL: LISA.M.KOSKI@US.ARMY.MIL	Code W56HZV	7. Administered By (If other than Item 6) DCMA MANASSAS 10500 BATTLEVIEW PKWY SUITE 200 MANASSAS VA 20109-2342	Code S2404A
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8. Name And Address Of Contractor (No., Street, City, County, State and Zip Code) SCIENCE APPLICATIONS INTERNATIONAL CORPORATION 1710 SAIC DR MCLEAN, VA 22102-3701	<input type="checkbox"/>	9A. Amendment Of Solicitation No.
	<input type="checkbox"/>	9B. Dated (See Item 11)
	<input checked="" type="checkbox"/>	10A. Modification Of Contract/Order No. W56HZV-09-D-0153/0003
	<input type="checkbox"/>	10B. Dated (See Item 13) 2012AUG31
Code 5UTP8	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 amendments; (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)

ACRN: AE NET INCREASE: \$963,836.00

**13. THIS ITEM ONLY APPLIES TO MODIFICATIONS OF CONTRACTS/ORDERS
It Modifies The Contract/Order No. As Described In Item 14.**

<input type="checkbox"/>	A. This Change Order is Issued Pursuant To: The Contract/Order No. In Item 10A.	The Changes Set Forth In Item 14 Are Made In
<input type="checkbox"/>	B. The Above Numbered Contract/Order Is Modified To Reflect The Administrative Changes (such as changes in paying office, appropriation data, etc.) Set Forth In Item 14, Pursuant To The Authority of FAR 43.103(b).	
<input checked="" type="checkbox"/>	C. This Supplemental Agreement Is Entered Into Pursuant To Authority Of:	mutual agreement of the parties
<input type="checkbox"/>	D. Other (Specify type of modification and authority)	

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the Issuing Office.

14. Description Of Amendment/Modification (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

SEE SECOND PAGE FOR DESCRIPTION

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) LYNN M. BYRNE LYNN.M.BYRNE@US.ARMY.MIL (586)282-6553	
15B. Contractor/Offeror (Signature of person authorized to sign)	15C. Date Signed	16B. United States Of America By _____ /SIGNED/ (Signature of Contracting Officer)	16C. Date Signed 2014MAY07

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Name of Offeror or Contractor: SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

SECTION A - SUPPLEMENTAL INFORMATION

Buyer Name: LISA M. KOSKI
Buyer Office Symbol/Telephone Number: CCTA-ASG-C/(586)282-9617
Type of Contract: Cost Plus Fixed Fee
Kind of Contract: Research and Development Contracts
Type of Business: Large Business Performing in U.S.
Surveillance Criticality Designator: C
Weapon System: No Identified Army Weapons Systems

*** End of Narrative A0000 ***

PRIOR CONTRACT AMOUNT: \$ 2,456,788.00
AMOUNT OF THIS ACTION: \$ 963,836.00
TOTAL CONTRACT AMOUNT: \$ 3,420,624.00

1. The purpose of this bilateral Modification 04 is to add additional work for TRL 6 Testing.
2. As a result of Modification 04, the contract is modified as follows:
 - a. Section B - CLIN 0005 (TRL 6 Testing) is funded in the amount of \$963,836.00 with a 30 May 2016 completion date.
 - b. Section C.5.2, the entire section has revisions. All changes are underlined.
 - c. Section F - F.1.1 performance completion date updated. All changes are underlined.
 - d. Section G is revised to add accounting and appropriations data for the funds being added under this Modification 04 for the TRL 6 Testing.
 - e. Section H-H.2, is deleted.
3. As a result of this Modification 04 the total contract amount increased \$963,836.00 from 2,456,788.00 to \$3,420,624.00.
4. Except as provided herein, all other terms and conditions of this contract remain unchanged and in full force and effect.

*** END OF NARRATIVE A0005 ***

Name of Offeror or Contractor: SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT						
0005	<p>SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS</p> <p><u>ADDITIONAL WORK-TRL 6 TESTING</u></p> <p>SERVICE REQUESTED: SAIC - EM Armor PSC: AC41 CLIN CONTRACT TYPE: Cost Plus Fixed Fee</p> <p>PRON: R34MC10XR3 PRON AMD: 01 ACRN: AE</p> <p>Estimated Cost: \$876,227 Fixed Fee: \$87,609 Total Amount: \$963,836</p> <p>(End of narrative B001)</p> <p><u>Inspection and Acceptance</u> INSPECTION: Destination ACCEPTANCE: Destination</p> <p><u>Deliveries or Performance</u></p> <table border="0"> <tr> <td>DLVR SCH</td> <td>PERF COMPL</td> </tr> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u> <u>DATE</u></td> </tr> <tr> <td>001</td> <td>1 30-MAY-2016</td> </tr> </table> <p style="text-align: right;">\$ 963,836.00</p>	DLVR SCH	PERF COMPL	<u>REL CD</u>	<u>QUANTITY</u> <u>DATE</u>	001	1 30-MAY-2016	1	LO	Estimated Cost Fixed Fee Not to Exceed (Funding)	\$ 876,227.00 \$ 87,609.00 \$ 963,836.00
DLVR SCH	PERF COMPL										
<u>REL CD</u>	<u>QUANTITY</u> <u>DATE</u>										
001	1 30-MAY-2016										

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SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

Power Brick Development Program
Statement of Work

OBJECTIVE

The objective of this effort is to develop, build, and test high-power modular batteries (hereafter referred to as Power Brick Batteries) for use in pulse power applications.

C.1. REQUIREMENTS

The contractor, acting as an independent contractor and not an agent of the government, shall provide the necessary personnel, facilities, materials and services to complete the effort described below.

C.1.1. Voltage

The Power Brick Batteries shall be charged from an input port and discharged through a separate output port. The Power Brick Battery shall have a charge and discharge voltage of 600 volts (V) in accordance with MIL-PRF-GCS600A.

C.1.2. Energy

The Power Brick Batteries shall provide at least thirty (30) watt hours (Wh) of usable energy.

C.1.3. Power

The Power Brick Batteries shall provide at least five (5), one (1) second duration discharge pulses with an average discharge power of at least twenty (20) kW and a peak power of forty (40) kW.

C.1.4. Size

The Power Brick Batteries shall have a volume less than fifteen (15) liters with a maximum depth of twenty (20) centimeters (cm).

C.1.5. Temperature Range

The full temperature ranges shall be achieved without the use of any active environmental control system. The Power Brick Batteries shall be able to operate over an ambient temperature range of -37 degrees Celsius (C) to 60 C (-35 degrees Fahrenheit (F) to 140 F). The Power Brick Batteries shall be able to be stored over an ambient temperature range of -51 C to +71 C (-60 F to 160 F).

C.1.6. Battery Management System

The Power Brick Batteries shall contain a battery management system (BMS). The BMS system shall provide for cell balancing and status reporting via a Controller-Area Network (CAN) bus. The CAN message structure, fault codes, and addressing shall be mutually agreed to between the contractor and the COR. The BMS shall also provide the following functions and report the following information:

- *State of charge
- *State of health
- *Voltage
- *Current
- *Battery Temperature
- *Error Messages/Indicators

C.1.7. Safety

The Power Brick Batteries shall comply with the safety requirements in MIL-PRF-GCS600A. The Power Brick shall have an electrical contactor in both the high voltage charging and discharging circuits to provide electrical isolation from external sources and loads. The charging circuit shall include a provision to prevent back-feeding the charging power source from the battery. The Power Brick Batteries shall have external warning lights that illuminate whenever either contactor is engaged. The warning lights should be clearly visible to the user. The Power Brick Batteries shall also have safety controls needed to prevent overcharge, overdischarge, short circuit, and over temperature. These safety controls shall self activate, with CAN warning message, when a potential hazard is detected by the battery and shall be software programmable to allow for self reset or user reset when the hazard is removed.

C.1.8. Sand and Dust Requirements

The Power Brick Batteries shall be able to successfully pass the Sand and Dust test per MIL-STD-810G Method 510.4.

C.1.9. Altitude

The Power Brick Batteries shall provide rated power up to 4,000 ft. above sea-level and shall operate up to 12,000 ft above sea-level.

C.1.10. EMI

The Power Brick Batteries shall meet or exceed Electro-Magnetic Interference requirements per MIL-STD-461E, including sections RE 101, RE 102, RS 101, and CE 101.

C.1.11. Shock & Vibration

The Power Brick Batteries shall remain operable after functional shock per MIL STD- 810G 516.5 Procedure I. The Power Brick battery shall also remain functional after average shock level per MIL STD 810G Method 522 Ballistic Shock. The Power Brick Battery shall remain functional after vibration per MIL-STD-810G 514.6 Annex E, Category 24 General Minimum Integrity Test.

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C.1.12. Salt Fog

The Power Brick Batteries shall meet all functional requirements and show no evidence of degradation after exposure to salt fog in its operational or storage configuration per MIL-STD-810G, Method 509.4, Procedure I.

C.1.13. Battle Override

The Power Brick Batteries shall have a battle override mode which can be activated by the user through CAN control allowing for extended operation which could otherwise damage the battery. All critical safety parameters according to C.1.7 shall not be violated during battle override mode.

C.1.14. Venting

The Power Brick Batteries shall be housed in a metal enclosure with a vent mechanism that prevents the battery from creating a safety issue as described C.1.7.

C.2. TASKS

C.2.1 Tasks

The contractor shall design, develop, build, and deliver to the government a total of five (5) Power Brick Batteries, meeting the requirements defined in C.1. The Power Brick Batteries shall be delivered to TARDEC according to C.4.5.

C.3. MEETINGS

C.3.1. Start of Work

The contractor shall plan and conduct a kick-off meeting, via telephone (or in person if mutually agreed between the contractor and the COR), with the COR no later than one (1) month after contract award. At the meeting, the contractor shall explain its intended approach for accomplishing the Statement of Work (SOW). The contractor shall deliver to the government a meeting agenda at least three (3) days prior to the start of work meeting, in accordance with CDRL A001, Conference Agenda. In addition, the contractor shall record all meeting minutes and action items, and shall deliver the meeting minutes and a meeting report within ten (10) days after the start of work meeting, in accordance with CDRL A002, Conference Minutes and CDRL A003, Conference Report, respectively. The contractor shall also deliver any presentation materials used in the start of work meeting to the government within three (3) days after the start of work meeting in accordance with CDRL A005, Presentation Material.

C.3.2. Quarterly Review Meetings

The contractor shall host quarterly meetings at its facility (or at another facility mutually agreed upon by the contractor and the COR), at a date and time mutually agreed upon by the contractor and the COR. At the quarterly meetings, the contractor shall present the progress made during the previous quarter and validate it against the contract SOW, schedule and objectives. The contractor shall deliver to the government a meeting agenda at least three (3) days prior to each quarterly review meeting, in accordance with CDRL A001, Conference Agenda. In addition, the contractor shall record all meeting minutes and action items, and shall deliver the meeting minutes and a meeting report within ten (10) days after each quarterly review meeting, in accordance with CDRL A002, Conference Minutes and CDRL A003, Conference Report, respectively. The contractor shall also deliver any presentation materials used in a quarterly review meeting to the government within three (3) days after the start of work meeting in accordance with CDRL A005, Presentation Material.

C.4. DELIVERABLES

C.4.1. Contract Work Breakdown Structure

The contractor shall prepare and deliver a contract work breakdown structure for this effort according to CDRL A013, Contract Work Breakdown Structure within one (1) month after contract award.

*C.4.2. Scientific and Technical Reports/Final Technical Report

The contractor shall prepare and submit a draft scientific and technical report (final report) within ten (10) months after contract award in accordance with CDRL A007. The COR shall review the draft final report and make comments or request revisions within thirty (30) days of receipt. The contractor shall submit the final version of the final report NLT 30 May 2014. The final report replaces the Status Report detailed in CDRL A010 that would be due in the relevant period. The report shall summarize the work completed; significant accomplishments, problems or delays; studies completed during the contract performance period; and test results and their analysis and impact on the program.

C.4.3. Scientific and Technical Reports Summary

The contractor shall prepare and deliver a scientific and technical report summary summarizing the scientific and technical report in C.4.2 in accordance with A014 within twelve (12) months after contract award.

C.4.4. Status Reports

The contractor shall prepare and submit status reports once every 2 months in accordance with CDRL A010, Status Reports. The first report shall be delivered to the COR approximately sixty (60) days after contract award.

C.4.5. Power Brick Battery Deliverables

The contractor shall deliver the five (5) Power Brick Batteries built under C.2.1 to TARDEC for testing within twelve (12) months after

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contract award.

C.4.6. Cables for Power Brick Batteries

The contractor shall provide one set of 20 foot power output cables with each Power Brick Battery delivered under C.4.5. One end shall be terminated with a connector compatible with the battery system the other end shall be unterminated. The cables shall be stranded copper wire, 6 AWG or larger. Positive cables shall have red jacket material and negative cables shall have black jacket material. The contractor shall also provide two (2) twenty (20) foot long control cables with each Power Brick Battery delivered under C.4.5: (1) One (1) dedicated for battery charging when using contractor control software, and (2) One (1) that supports CAN communications with user-developed software using a DB9 connector and external power connections to the main contactor.

C.4.7. Safe Operation Document

The contractor shall provide a document that details all of the requirements necessary for the safe operation and testing of the Power Brick Batteries developed and produced in accordance with CDRL A019. This document shall include information on cycling parameters and methods, shall include material safety data sheets (MSDSs), and shall be updated and delivered to TARDEC in accordance with CDRL A019 prior to the delivery of any batteries.

C.4.8. Operation & Maintenance Instructions

The contractor shall deliver a document that provides government personnel necessary operating, diagnostic, and repair procedures for using and maintaining the Power Brick Batteries developed and produced in accordance with CDRL A015. This document shall be updated and delivered to TARDEC in accordance with CDRL A015 prior to the delivery of any batteries.

C.4.9. BMS Interface Software

The contractor shall provide Windows\99-compatible, user BMS Interface Software & Documentation per CDRL A021, for battery charging and control of the BMS for the Power Brick Batteries prior to the delivery of any batteries.

C.4.10. BMS Interface Control Document (ICD)

The contractor shall provide a BMS ICD in accordance with CDRL A020 for the Power Brick Batteries within ten (10) months after contract award.

C.4.11. Product Drawing & Electrical Schematics

The contractor shall provide product drawings and electrical schematics for the Power Brick Batteries in accordance with CDRL A012, Product Drawings Models and Associate Lists prior to the delivery of any batteries.

C.4.12. Power Brick Battery Mock-up

The contractor shall deliver to TARDEC one Power Brick Battery Mock-up within twelve (12) months after contract award. The mock-ups shall be weighted to reflect the weight of the actual Power Brick Batteries and shall be of the same construction of the actual Power Brick Batteries. The battery cells used in the mock-ups shall all be dummy cells which have an external appearance indistinguishable from the real cells; however, all other components should be the same as those used in the actual Power Brick Batteries. The mock-ups shall be left unsealed to allow viewing and removal of the interior components of the mock-up.

C.4.13 Battery Management System Deliverables

The contractor shall deliver to the government three (3) battery management systems (BMSs) of the same type, construction, and design as the ones inside the Power Brick Batteries developed in C.2 within eight (8) months after contract award for use in hardware-in-the-loop testing. These BMSs shall be fully functional and shall be modified such that the BMSs can be powered by an external power supply. Additionally, all sensors in the BMS shall be wired for external connection to simulated signals. All current sensors shall be bypassed on the BMS to allow input of a voltage as opposed to a current. The contractor shall provide an equation, table, or graph per CDRL A012, dictating all current sensors output voltages when current is applied over the complete current range of the Power Brick Battery. The contractor shall also provide an equation, table, or graph per CDRL A012, dictating output voltages of all other sensors in respect to their typical input signals. The BMSs shall have a twenty (20) foot cable which is electrically connected to the BMSs sensor inputs on one end and which is terminated with a multi-pin, tool-less disconnect connector on the other end with the mating connector. The BMS shall also have a twenty (20) foot cable for the external power connection which is electrically connected to the BMS on one end and unterminated on the other end. Additionally, the BMS shall have a twenty (20) foot long control cable that supports CAN communications with user-developed software using a DB9 connector and external power connections to the main contactor.

OBJECTIVE OF OPTIONS

The objective of the following options is to assess the maturity of the Power Brick Batteries by subjecting them to technology readiness level (TRL) testing.

C.5. OPTIONS

C.5.1. Option 1: TRL 5 Testing

C.5.1.1. Tasks

The contractor shall build an additional ten (10) Power Brick Batteries, meeting the requirements of C.1 and the design developed in C.2, and shall test these Power Brick Batteries according to C.5.1.1.1 to determine whether the batteries meet a maturity of technology

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readiness level (TRL) 5.

C.5.1.1.1. TRL 5 Testing**C.5.1.1.1.1. TRL5 Test Plan**

The contractor shall prepare and deliver a detailed test plan to the COR outlining the tests to be conducted on the Power Brick Batteries to achieve TRL 5 within one (1) month after exercise of this option, in accordance with CDRL A016. The COR shall review the test plan within fifteen (15) days after receipt and provide concurrence or comment. At a minimum, the plan shall verify and validate the requirements listed in C.1, as well as include the following tests: 1) rate characterization, 2) pulse power, 3) stand, 4) life-cycle capacity, 5) deep-cycle capacity, 6) retention of charge, 7) vibration, 8) altitude, 9) overcharge and thermal runaway, 10) induced short circuit, 11) extreme temperature, 12) impact resistance or drop test, 13) nail penetration, 14) BMS safety, and 15) charge and over-discharge. 7

C.5.1.1.1.2. TRL5 Test Procedure

The contractor shall prepare and deliver a detailed test procedure to the COR for the Power Brick Batteries based on the test descriptions outlined in the test plan at C.5.1.1.1.1, in accordance with CDRL A017 within one (1) month after exercise of this option. The COR shall review the test procedure within fifteen (15) days after receipt and provide concurrence or comment. The test procedure shall describe equipment to be used and contain a detailed description of each test and its implementation. The test procedure shall include data sheets. Each data sheet shall have, at a minimum, the following information: 1) test name and brief description, 2) date of test, 3) name of person performing test, 4) equipment used, 5) date of calibration, 6) results data or a brief description of results, and 7) parameters to be measured and the pass or fail criteria against which the test results will be measured.

C.5.1.1.1.3. TRL5 Testing

Within thirty (30) days of receipt of written COR concurrence of the test plan and the test procedure, the contractor shall perform all of the tests defined in the test plan prepared under task C.5.1.1.1.1 and test procedures prepared under task C.5.1.1.1.2. As part of this testing, the contractor shall produce and deliver digital video, thermal imaging, and photographs in accordance with C.5.1.3.7.

C.5.1.2. Meetings**C.5.1.2.1. Start of Work Meeting**

The contractor shall plan and conduct a start of work meeting, via telephone (or in person if mutually agreed between the contractor and the COR), with the COR no later than one (1) month after exercise of this option. At the meeting, the contractor shall explain its intended approach for accomplishing the scope of work for this option. The contractor shall deliver to the government a meeting agenda at least three (3) days prior to the start of work meeting, in accordance with CDRL A001, Conference Agenda. In addition, the contractor shall record all meeting minutes and action items, and shall deliver the meeting minutes and a meeting report within ten (10) days after the start of work meeting, in accordance with CDRL A002, Conference Minutes and CDRL A003, Conference Report, respectively. The contractor shall also deliver any presentation materials used in the start of work meeting to the government within three (3) days after the start of work meeting in accordance with CDRL A005, Presentation Material.

C.5.1.2.2. Quarterly Review Meetings

The meeting requirements described in C.3.2, Quarterly Review Meetings, shall include the effort described in C.5.1.

C.5.1.3. Deliverables***C.5.1.3.1. Scientific and Technical Reports/Final Technical Report**

The contractor shall prepare and submit a draft addendum to the final report in C.4.2 NLT 30 March 2015 in accordance with CDRL A007, Scientific and Technical Reports. The COR shall review the draft addendum to the final 8 report, make comment and request revision within thirty (30) days after receipt. The contractor shall submit the final version of the addendum to the final report within thirty (30) days after receipt of the COR's comments. The final report replaces the Status Report detailed in CDRL A010 that would be due in the relevant period. The report shall summarize the work completed; significant accomplishments, problems or delays; studies completed during the contract performance period; and test results and their analysis and impact on the program.

***C.5.1.3.2. Scientific and Technical Reports Summary**

The contractor shall prepare and deliver a scientific and technical report summary summarizing the scientific and technical report addendum in C.5.1.3.1 in accordance with A014 NLT 30 May 2015.

C.5.1.3.3. Contract Work Breakdown Structure

The contractor shall prepare and deliver a contract work breakdown structure for this option according to CDRL A013, Contract Work Breakdown Structure within one (1) month after exercise of this option.

C.5.1.3.4. Status Reports

The contractor shall prepare and submit status reports once every 2 months in accordance with CDRL A010, Status Reports. The first report shall be delivered to the COR approximately sixty (60) days after exercise of this option.

C.5.1.3.5. TRL 5 Battery Deliverables

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Any batteries built for TRL 5 testing under task C.5.1.1 that are suitable for further government performance testing (characterization by charge and discharge) after TRL 5 testing is conducted by the contractor (cells that have not been destroyed or damaged) under C.5.1.1.1.3 shall be delivered to TARDEC for testing at the conclusion of TRL 5 testing, or within ten (10) months after exercise of this option, whichever is sooner.

C.5.1.3.6. TRL 5 Testing Deliverables

*C.5.1.3.6.1. TRL 5 Testing Final Report

The contractor shall submit a technical report pertaining to all TRL 5 testing, described in C.5.1.1.1 in accordance with CDRL A006, Technical Report Study/Services. This report shall be submitted NLT 30 May 2015.

C.5.1.3.6.2. TRL 5 Test Plan

The contractor shall submit a TRL 5 Test Plan described in C.5.1.1.1.1, in accordance with CDRL A016. This test plan shall be submitted within one (1) month after exercise of this option. 9

C.5.1.3.6.3. TRL 5 Test Procedure

The contractor shall submit a TRL 5 Test Procedure described in C.5.1.1.1.2, in accordance with CDRL A017. This test procedure shall be submitted within one (1) month after exercise of this option.

C.5.1.3.7. Digital Video, Thermal Imaging, and Photograph Deliverables

The contractor shall produce digital video and thermal imaging as required by and in accordance with CDRL A008 for the TRL 5 testing under C.5.1.1.1. The contractor shall also produce digital photographs for all testing under C.5.1.1.1 as required by and in accordance with CDRL A018. The contractor shall deliver the digital video, thermal imaging video, and digital photographs produced during TRL 5 testing under C.5.1.1.1 within eight (8) months after exercise of this option.

**C.5.2. Additional Work for TRL 6 Testing The government has the unilateral right to request additional work for TRL 6 Testing. The contractor shall perform the TRL 6 Testing tasks listed in C.1. The period of performance for TRL 6 Testing shall be completed by 30 May 2016.

The estimated cost, fixed fee and total amount for TRL 6 Testing, will be:

Estimated Cost: \$ 876,227

Fixed Fee: \$ 87,609

Total Amount: \$ 963,836

C.5.2.1. Tasks

The contractor shall build an additional ten (10) Power Brick Batteries, meeting the requirements of C.1 and the design developed in C.2, and shall test these Power Brick Batteries according to C.5.2.1.1 to determine whether the batteries meet a maturity of technology readiness level (TRL) 6.

C.5.2.1.1. TRL 6 Testing

**C.5.2.1.1.1. TRL 6 Test Plan

The contractor shall prepare and deliver a detailed test plan to the COR outlining the tests to be conducted on the Power Brick Batteries within one (1) month after the award of this additional work in accordance with CDRL A016. The COR shall review the test plan within fifteen (15) days after receipt and provide concurrence or comment. At a minimum, the plan shall include the following tests: 1) bulge resistance, 2) electrical resistance compatibility, 3) extreme temperature (hot and cold), 4) high temperature cycling, 5) vibration, 6) altitude, 7) full charge capacity, 8) low temperature capacity, 9) deep cycle capacity, 10) retention of charge, 11) life cycle capacity, 12) overcharge and thermal runaway, 13) short circuit, 14) charge and over discharge, and 15) water fording. The contractor shall conduct these tests, as appropriate, in a metal mock-up box.

*C.5.2.1.1.2. TRL 6 Test Procedure

The contractor shall prepare and deliver a detailed test procedure to the COR for the Power Brick Batteries based on the test descriptions outlined in the test plan in accordance with CDRL A017 within one (1) month after this additional work is awarded. The COR shall review the test procedure within fifteen (15) days after receipt and provide concurrence or comment. The test procedure shall describe equipment to be used and contain a detailed description of each test and its implementation. The test procedure shall include data sheets. Each data sheet shall have, at a minimum, the following information: 1) test name and brief description, 2) date of test, 3) name of person performing test, 4) equipment used, 5) date of calibration, 6) results data or a brief description of results, and 7) parameters to be measured and the pass or fail criteria against which the test results will be measured 10

C.5.2.1.1.3. TRL 6 Testing

Within thirty (30) days of receipt of written COR concurrence of the test plan and the test procedure, the contractor shall perform all of the tests defined in the test plan prepared under task C.5.2.1.1.1 and test procedures prepared under task C.5.2.1.1.2. As part of this testing, the contractor shall produce and deliver digital video, thermal imaging, and photographs in accordance with C.5.2.3.7.

C.5.2.2. Meetings

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Name of Offeror or Contractor: SCIENCE APPLICATIONS INTERNATIONAL CORPORATION****C.5.2.2.1. Start of Work Meeting**

The contractor shall plan and conduct a start of work meeting, via telephone (or in person if mutually agreed between the contractor and the COR), with the COR no later than one (1) month after this additional work is awarded. At the meeting, the contractor shall explain its intended approach for accomplishing the scope of work for this additional work. The contractor shall deliver to the government a meeting agenda at least three (3) days prior to the start of work meeting, in accordance with CDRL A001, Conference Agenda. In addition, the contractor shall record all meeting minutes and action items, and shall deliver the meeting minutes and a meeting report within ten (10) days after the start of work meeting, in accordance with CDRL A002, Conference Minutes and CDRL A003, Conference Report, respectively. The contractor shall also deliver any presentation materials used in the start of work meeting to the government within three (3) days after the start of work meeting in accordance with CDRL A005, Presentation Material.

C.5.2.2.2. Quarterly Review Meetings

The meeting requirements described in C.3.2, Quarterly Review Meetings, shall include the effort described in C.5.2.

C.5.2.3. Deliverables

****C.5.2.3.1. Scientific and Technical Reports/Final Technical Report**

The contractor shall prepare and submit a draft addendum to the final report in C.4.2 within ten (10) months after award of this additional work in accordance with CDRL A007, Scientific and Technical Reports. The COR shall review the draft addendum to the final report, make comment and request revision within thirty (30) days after receipt. The contractor shall submit the final version of the addendum to the final report within thirty (30) days after receipt of the COR's comments. The final report replaces the Status Report detailed in CDRL A010 that would be due in the relevant period. The report shall summarize the work completed; significant accomplishments, problems or delays; studies completed during the contract performance period; and test results and their analysis and impact on the program.

****C.5.2.3.2. Scientific and Technical Reports Summary**

The contractor shall prepare and deliver a scientific and technical report summary summarizing the scientific and technical report addendum in C.5.2.3.1 in accordance with A014 within twelve (12) months after award of this additional work.

****C.5.2.3.3. Contract Work Breakdown Structure**

The contractor shall prepare and deliver a contract work breakdown structure for this option according to CDRL A013, Contract Work Breakdown Structure within one (1) month after award of this additional work.

****C.5.2.3.4. Status Reports**

The contractor shall prepare and submit status reports once every 2 months in accordance with CDRL A010, Status Reports. The first report shall be delivered to the COR approximately sixty (60) days after award of this additional work.

C.5.2.3.5. TRL 6 Battery Deliverables

Any batteries built for TRL 6 testing under task C.5.2.1 that are suitable for further government performance testing (characterization by charge and discharge) after TRL 6 testing is conducted by the contractor (cells that have not been destroyed or damaged) under C.5.2.1.1.3 shall be delivered to TARDEC for testing at the conclusion of TRL 6 testing, or within ten (10) months after award of this additional work.

C.5.2.3.6. TRL 6 Testing Deliverables

****C.5.2.3.6.1. TRL 6 Testing Final Report**

The contractor shall submit a final technical report pertaining to all TRL 6 testing, described in C.5.2.1.1 in accordance with CDRL A006, Technical Report Study/Services. This report shall be submitted twelve (12) months after award of this additional work.

****C.5.2.3.6.2. TRL 6 Test Plan**

The contractor shall submit a TRL 6 Test Plan described in C.5.2.1.1.1, in accordance with CDRL A016. This test plan shall be submitted within one (1) month after award of this additional work.

****C.5.2.3.6.3. TRL 6 Test Procedure**

The contractor shall submit a TRL 6 Test Procedure described in C.5.2.1.1.2, in accordance with CDRL A017. This test procedure shall be submitted within one (1) month after award of this additional work.

****C.5.2.3.7. Digital Video, Thermal Imaging, and Photograph Deliverables**

The contractor shall produce digital video and thermal imaging as required by and in accordance with CDRL A008 for the TRL 6 testing under C.5.2.1.1. The contractor shall also produce digital photographs for all testing under C.5.2.1.1 as required by and in accordance with CDRL A018. The contractor shall deliver the digital video, thermal imaging video, and digital photographs produced during TRL 6 testing under C.5.2.1.1 within twelve (12) months after award of this additional work.

C.5.3. Option 3: Additional Labor Hours for Engineering Services for Power Brick Development

The contractor shall provide up to an additional 2,800 labor hours to complete the scope described in paragraphs C.2 through C.4.

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C.5.4. Option 4: Additional Labor Hours for Testing Services for Evaluation

The contractor shall provide up to an additional 2,743 labor hours to complete the scope described in paragraphs C.5.1 and C.5.2.

*Revised by Modification 03

**Revised by Modification 04

*** END OF NARRATIVE C0001 ***

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Name of Offeror or Contractor: SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

SECTION F - DELIVERIES OR PERFORMANCE

*F.1 Period of Performance

The period of performance for CLIN 0001 and all deliverables under CLIN 0001 will be completed by 30 May 2014.

*F.1.1
All effort required under the base contract, including delivery of the final technical report, shall be completed no later than 30 May 2014. Option 1 shall be completed by 30 May 2015. Option 3 shall be completed by 29 May 2014. **Additional work for the TRL 6 testing shall be completed by 30 May 2016.

*Revised by Modification 03

**Revised by Modification 04

*** END OF NARRATIVE F0001 ***

CONTINUATION SHEET

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Name of Offeror or Contractor: SCIENCE APPLICATIONS INTERNATIONAL CORPORATION

SECTION G - CONTRACT ADMINISTRATION DATA

LINE	PRON/ AMS CD/ MIPR/ <u>ITEM</u>	OBLG <u>STAT</u>	JO NO/ <u>ACCT ASSIGN</u>	ACRN	PRIOR AMOUNT	INCREASE/ DECREASE	CUMULATIVE AMOUNT
0005	R34MC10XR3	2	R.0009812.1.7	AE \$	0.00 \$	963,836.00 \$	963,836.00
					NET CHANGE \$	963,836.00	

ACRN	ACCOUNTING CLASSIFICATION	INCREASE/ DECREASE
AE	021 201420152040 A60FL 633005441RK17 2550 L035974046 R.0009812.1.7	021001 \$ <u>963,836.00</u>
		NET CHANGE \$ 963,836.00

	PRIOR AMOUNT OF AWARD	INCREASE/DECREASE AMOUNT	CUMULATIVE OBLIG AMT
NET CHANGE FOR AWARD:	\$ 2,456,788.00	\$ 963,836.00	\$ 3,420,624.00

LINE	ACRN	EDI/SFIS ACCOUNTING CLASSIFICATION	
0005	AE	021 201420152040 A60FL 633005441RK17	2550 L035974046 R.0009812.1.7 021001

CONTINUATION SHEET	Reference No. of Document Being Continued	Page 13 of 13
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Name of Offeror or Contractor: SCIENCE APPLICATIONS INTERNATIONAL CORPORATION		

SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 Organizational Conflict of Interest

As a condition of award of this Task Order, the Contractors eligibility for future prime Contract awards or subcontract awards may be restricted regarding any current or future program managed system acquisitions. The Contractor agrees, as specified FAR Subpart 9.5, to outline the actions to be taken by the Contractor during the performance of the Task Order to avoid and mitigate any conflict of interest. The Contractor agrees that the Government or an authorized representative may, up to three years after acceptance of all programmatic documentation to be delivered under this Task Order, restrict the Contractors future participation in any resulting program managed system acquisition action(s). If the Contractor demonstrates to the Contracting Officer that there may be a possible conflict of interest arising out of an existing Contract, the Contracting Officer shall take the necessary action to delete that requirement from this Task Order.

H.2 Options:

The Government may require continued performance of any products and services for the four (12) twelve month option periods at the costs specified in the task order. The Government shall have the unilateral right to exercise the options found in CLINS 0004 through CLIN 0007 at any time during the performance of this Task order (not to exceed twelve (12) months after Task Order award) by written notice to the contractor no later than 30 days before the task order expires. Each option, should it be exercised, will have a duration of up to twelve (12) months and shall be for no more than shown on the schedule pages under CLINS 0004 through CLIN 0007, as applicable. The following dollar amounts are the not-to-exceed amounts for the Option periods. The Contracting Officer may exercise either option in whole or in part and in one or more increments.

H.2.1. Option 1: TRL 5 Testing

The government has the unilateral right to exercise Option 1 from Task Order award to up to twelve (12) months after Task Order award. The contractor shall perform the Option 1 tasks listed in C.1, if the government exercises Option 1. The period of performance for Option 1 shall be twelve (12) months which will begin when Option 1 is exercised.

The estimated cost, fixed fee and total amount for Option 1, if it is exercised, will be:

Estimated Cost: \$ 910,946
Fixed Fee: \$ 91,081
Total Amount: \$1,002,027

*H.2.2. Deleted per Modification 04

H.2.3. Option 3: Additional Labor Hours for Engineering Services for Power Brick Development

The government has the unilateral right to increase the contract level of effort (LOE) up to 2,800 manhours at the hourly rates set forth in B.3.1. The Government may exercise this option at any time on or after contract award but in any event not later than twelve (12) months after contract award. The contractor shall perform the Option 3 tasks listed in C.2 through C.4, if the government exercises Option 3. The period of performance for Option 3 shall be twelve (12) months which will begin when Option 3 is exercised.

H.2.4. Option 4: Additional Labor Hours for Testing Services for Evaluation

The government has the unilateral right to increase the contract level of effort (LOE) up to 2,743 manhours at the hourly rates set forth in B.3.2. The Government may exercise this option at any time on or after contract award but in any event not later than twelve (12) months after contract award. The contractor shall perform the Option 4 tasks listed in C.2 through C.4, if the government exercises Option 4. The period of performance for Option 4 shall be twelve (12) months which will begin when Option 4 is exercised.

H.3 Individual Subcontracting Plan.

The contractor's Individual Subcontracting Plan dated August 8th, 2012 is incorporated into the Task Order by reference.

*Revised by Modification 04