AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

1. Contract ID Code	Page
Cost Plus Fixed Fee	1 Of 10

2. Amendment/Modification No.	3. Effective Date	4. Requisition/Purchase Req No.	5. Project No. (If applicable)
P00003	2013NOV26	SEE SCHEDULE	

6. Issued By Code W56HZV

U.S. ARMY CONTRACTING COMMAND
MICHAEL G. IVKOV
WARREN, MICHIGAN 48397-5000
HTTP://CONTRACTING.TACOM.ARMY.MIL

EMAIL: MICHAEL.G.IVKOV@US.ARMY.MIL

7. Administered By (If other than Item 6) Code S4402A

DCMA DALLAS
600 N PEARL STREET SUITE 1630
DALLAS TX 75201-2843

8. Name And Address Of Contractor (No., Street, City, County, State and Zip Code)

ARKANSAS POWER ELECTRONICS INTERNATIONAL, INC.
535 W RESEARCH CENTER BLVD STE 209
FAYETTEVILLE, AR 72701-7174

Code 1NVG2 Facility Code

☐ **9A. Amendment Of Solicitation No.**

9B. Dated (See Item 11)

☒ **10A. Modification Of Contract/Order No.**

W56HZV-12-C-0007

10B. Dated (See Item 13)

2012FEB16

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)

NO CHANGE TO OBLIGATION DATA

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

☐	**A. This Change Order is Issued Pursuant To: 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 data, etc.) Set Forth In Item 14, Pursuant To The Authority of FAR 43.103(b).**
☒	**C. This Supplemental Agreement Is Entered Into Pursuant To Authority Of:**
☐	**D. Other (Specify type of modification and authority)**

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)	
		JOHN M. HOPFNER JOHN.HOPFNER@US.ARMY.MIL (586)282-7359	
15B. Contractor/Offeror	**15C. Date Signed**	**16B. United States Of America**	**16C. Date Signed**
_____ **(Signature of person authorized to sign)**		**By** /SIGNED/ **(Signature of Contracting Officer)**	2013NOV26

SECTION A - SUPPLEMENTAL INFORMATION

Buyer Name: MICHAEL G. IVKOV
Buyer Office Symbol/Telephone Number: CCTA-ASG-B/(586)282-9754
Type of Contract: Cost Plus Fixed Fee
Kind of Contract: Research and Development Contracts
Type of Business: Other Small Business Performing in U.S.
Surveillance Criticality Designator: C
Weapon System: No Identified Army Weapons Systems

*** End of Narrative A0000 ***

Status	Regulatory Cite	Title	Date
A-1 CHANGED	52.232-4007 (TACOM)	WIDE AREA WORKFLOW (WAWF), CODES, AND DESIGNATED ACCEPTORS	APR/2008

TACOM-Warren uses WAWF-RA (Receipt and Acceptance) to electronically process vendor requests for payment. (See DFARS clause 252.232-7003, entitled Electronic Submission of Payment Requests and Receiving Reports). Under WAWF-RA, vendors electronically submit (and track) invoices, and receipt/acceptance documents/reports. Submission of hard copy DD250/invoices is no longer acceptable for payment purposes.

The contractor shall register to use WAWF-RA at https://wawf.eb.mil There is no charge to use WAWF. Direct any questions relating to system setup and vendor training to the Help Desk at Ogden, UT at 1-866-618-5988. Web-based training for WAWF is also available at https://wawf.eb.mil

To obtain payment, WAWF requires the contractor to input/indicate the various DoDAAC (Department of Defense Activity Address Code) codes that apply to the acquisition. These codes can be found on the cover page of contracts/orders as described below.

Also, contractors must ensure to include the purchase request number in the line item description. This number can be found under the line item description on the order/contract.

Types of Invoice to Use:

- If this is a Cost-Type contract, use a Cost Voucher type of invoice.

- If this is a Fixed-Price-Type contract, use a Combo Invoice and Receiving Report. If a certified invoice is required, use a two-in-one invoice as described in WAWF.

Instructions for completing all these documents are at the WAWF training website: http://www.wawftraining.com/

USE THE FOLLOWING CODES TO ROUTE YOUR INVOICES THROUGH WAWF:

- Your firms CAGE code: Found in Block 15A of SF 33; Block 17a of SF 1449; Block 14 of SF 1442; Block 7 of SF 26

- Issue and Admin DoDAAC Code: Found in Block 7 of SF 33; Block 9 of SF 1449; Block 7 of SF 1442; Block 5 of SF 26

- Ship-To DoDAAC Code: If deliverables are involved, Indicate W91ATL

- Accept-By DoDAAC Code: Indicate W91ATL

- Payment DoDAAC Code: Found in Block 25 of SF 33; Block 18a of SF 1449; Block 27 of SF 1442; Block 12 of SF 26

The WAWF system will prompt for additional e-mail submission after clicking Signature. The following additional e-mail submissions are required:

M. Abul Masrur, COR
E-MAIL: m.a.masrur.civ@mail.mil

The paying office DoDAAC and mailing address is located on the first page of the award. To track the status of your invoice, click on

the link, Pay status (myInvoice-External link) at the bottom of the left-hand menu.

If your paying office is Columbus, direct any payment-related questions to the Defense Finance Accounting Services (DFAS) Columbus at 1-888-756-4571. Please have your order number and invoice ready when calling about payment status. If your paying office is other than Columbus, contact your contract administrator for the customer service phone/fax numbers.

[End of Clause]

MODIFICATION P00003

PURPOSE OF MODIFICATION: Extend the Period of Performance from 16 February 2014 to 15 February 2015.

1. The purpose of this bilateral Modification P00003 is to extend the Period of Performance from 16 February 2014 to 15 February 2015 at no additional cost to the Government and incorporate the proper COR email addresses in Clauses 52.242-4016 and 52.232-4007.

2. The contract is hereby modified as follows:

a. Section A: Clause 52.232-4007 WIDE AREA WORKFLOW (WAWF), CODES, AND DESIGNATED ACCEPTORS (APR 2008) has been updated to reflect the proper COR email address.

b. Section B: CLIN 0001 has been updated to reflect the extended period of performance.

c. Section C, Scope of Work, has been updated to reflect the extended period of performance as noted by the asterisks.

d. Section F.1.1 has been updated to reflect the change in the period of performance.

e. Section G: Clause 52.242-4016 COMMUNICATIONS (APR 2008) has been updated to reflect the proper COR email address.

f. Section J, Exhibit A, Contract Data Requirements List, includes an update to CDRL A002 and A003 to reflect the updated delivery dates.

3. Except as specifically provided for in this Modification P00003, all other terms and conditions of Contract W56HZV-12-C-0007 remain unchanged and in full force and effect.

*** END OF NARRATIVE A0004 ***

Name of Offeror or Contractor: ARKANSAS POWER ELECTRONICS INTERNATIONAL, INC.

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
	SECTION B - SUPPLIES OR SERVICES AND PRICES/COSTS				
0001	SERVICES LINE ITEM GENERIC NAME DESCRIPTION: 2010.2(C) PH II SBIR A10-132 CLIN CONTRACT TYPE: Cost Plus Fixed Fee Inspection and Acceptance INSPECTION: Destination ACCEPTANCE: Destination Deliveries or Performance DLVR SCH REL CD: 001 — QUANTITY: 1 — PERF COMPL DATE: 15-FEB-2015 $ 729,991.26	1	LO		$ 729,991.26
000101	SERVICES LINE ITEM PRON: R312C135R3 PRON AMD: 02 ACRN: AA AMS CD: 665502M4000 (AMOUNT: $ 451,206.57)				
000102	SERVICES LINE ITEM PRON: R322C229R3 PRON AMD: 02 ACRN: AB AMS CD: 665502M40 (AMOUNT: $ 278,784.69)				

SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

STATEMENT OF WORK
Arkansas Power Electronics International, Inc.

C.1. High Temperature Silicon Carbide Gate Driver PhII SBIRScope. Under this effort, the Contractor shall develop compact, low-loss gate drivers utilizing silicon carbide (SiC) to enable high frequency and high temperature operation while driving SiC power devices.

C.1.1 Background. At the present time, affordable compact, low-loss SiC gate drivers that can operate reliably in the high frequency, high temperature regime are not available. This is a major gap in power electronics component requirements.

C.1.2 Mission. The mission of the TARDEC Ground Vehicle Power and Mobility Advanced Propulsion Team is to develop electrical power electronic components and systems for future hybrid electric vehicles, exportable power, and onboard power application.

C.1.3 Challenges. One of the main challenges of this mission is making power system components smaller, lighter, more efficient, and capable of operating with minimal cooling requirements. All of this must be accomplished without compromising reliability and service life A key strategy to do this is to make power converters that are more efficient and can operate with higher coolant temperature. This minimizes radiator size and allows cooling using available coolant, rather than a custom lower-temperature cooling loop. This strategy is augmented by the use of SiC power devices operated at high frequency. As stated above, at the present time, there are no affordable compact, low-loss SiC gate drivers that meet these difficult electrical and thermal performance requirements.

C.1.4 Prior Efforts. This important gap in gate driver performance has been identified in Broad Agency Announcement (BAA), Small Business Innovative Research (SBIR), and Army Technology Objective (ATO) programs with the objective of developing compact, efficient, high-temperature power converters in future hybrid electric vehicles and vehicles with on-board power generation capabilities. This Phase II effort is based on the Phase I SBIR effort, High Temperature SiC Gate Drivers.

C.2. Requirements

C.2.1 The Contractor, as an independent contractor and not as an agent of the Government, shall provide all necessary qualified personnel, facilities, materials, and services to complete the efforts described in this Scope of Work.

C.2.2 The Contractor shall design and develop a gate driver that meets the following minimum requirements:

-ability to operate over temperature range of -40 to 200 degrees Celsius;
-voltage isolation capability of 3 kilovolts (kV);
-ability to operate at a switching frequency of at least 200 kilohertz (kHz);
-dV/dt noise immunity of greater than 35 kV/microsecond;
-ability to source and sink 15 Amp (A) peak current;
-utilizes over-current, over-voltage, and over-temperature protection circuits;
-SiC metal oxide semiconducting field-effect transistros (MOSFETs), depletion-mode junction field effect transistors (JFETs), and enhancement-mode JFETs driving capability;
-implements SiC transistors in the output stage of the gate driver module;
-galvanic isolation between the input signal and output stage; and,
-input compatibility for 3.3 and 5V logic level signals.

C.3. Tasks

C.3.1 High Temperature Silicon-on-Insulator (HTSOI) and SiC Output Totem Pole Driver Development. The Contractor shall design the totem pole output driver stage of the complete gate driver in both HTSOI and SiC. The Contractor shall present the circuit schematic of the totem pole output in the Bi-monthly Progress Status and Management Report IAW Section C.5.1.2. The HTSOI output stage shall be integrated with the HTSOI application specific integrated circuit (ASIC). The SiC output stage shall interface with the HTSOI ASIC while ensuring a rise time of 10 nanoseconds and high peak output current of 15 Amps. The HTSOI shall be fabricated in XFABs XI10 process as described in the Contractors proposal (A2-4820) submitted on 27 June 2011 on page 11 and the SiC driver shall be fabricated in SemiSouths SiC process as described in the Contractors proposal (A2-4820) submitted on 27 June 2011 on page 11 . The HTSOI and SiC Totem pole drivers shall be characterized for electrical performance over the temperature range from -40 deg C to 200 deg C. The Contractor shall evaluate various HTSOI processes and report findings in the Bi-monthly Progress Status and Management Report IAW Section C.5.1.2 to ensure gate driver performance over the operating temperature range. Laterally-diffused MOSFETs with high breakdown voltages shall be investigated for use in the totem pole output stage. The Contractor shall obtain a custom order of SiC JFETs from SemiSouth based on the following specifications:

-breakdown voltage of 120 V min,
-peak saturation current of 15A,
-threshold voltage of 0.75 V,
-output capacitance of 400 pf, and
-a die size of 9mm^2.

C.3.2 Optimization of Coreless Planar Transformer. The Contractor shall investigate material and fabrication techniques and report its findings in the Bi-monthly Progress Status and Management Report IAW Section C.5.1.2. The Contractor shall perform a detailed electrical optimization to improve the frequency response and noise immunity of the coreless planar isolation transformer. The Contractor shall optimize the transformer performance by adjusting various physical parameters to include conductor thickness, laminate thickness, laminated permeability and permittivity, track separation, track width, number of turns, and inner/outer radii. A MATLAB program shall be developed by the Contractor to solve the equations governing the transformer design and viable designs shall be fabricated and characterized. The design and characterization results shall be reported in the Bi-monthly Progress Status and Management Report IAW Section C.5.1.2. The Contractor shall fabricate the transformer in the low temperature co-fired ceramic (LTCC) substrate that houses the gate driver integrated circuits (ICs). Thin film processing of the transformer shall be investigated by the Contractor for integration onto the SiC ASIC and results shall be reported in the Bi-monthly Progress Status and Management Report IAW Section C.5.1.2.

C.3.3 HTSOI ASIC Gate Driver Revision. The HTSOI ASIC gate driver designed in Phase I of this effort shall be revised for improved noise immunity and increased speed of the output driver. . A frequency modulation (FM) demodulator, protection circuits, and circuit blocks required for the isolated supply shall be designed and tested by the Contractor to ensure all sub-circuits are functional. Design and test results shall be reported in the nearest Bi-monthly Progress Status and Management Report IAW Section C.5.1.2. Improvements shall be made to the level shifter circuit to increase its output current capability to 15A and increase the speed of the output driver stage to 200kHz. The Contractor shall design the level shifter to accommodate HTSOI and SiC output driver device technologies. The Contractor shall revise the design of the modulator to allow higher (10MHz) carrier frequency to reduce propagation delay and increase noise immunity. The Contractor shall design the required protection circuits and the isolated power supply. The Contractor shall fabricate and demonstrate the HTSOI ASIC gate driver to ensure all required specifications, as defined in C.2.2, are met.Results shall be reported in the Bi-monthly Progress Status and Management Report IAW Section C.5.1.2.

C.3.4 Discrete SiC and HTSOI/SiC Hybrid Gate Driver Development. The Contractors design and simulation results for the discrete SiC gate driver developed during Phase I of this effort shall be transferred into a hardware prototype and shall be delivered IAW Section C.5.2. This prototype shall be used to verify device models and provide a design platform for development of the SiC ASIC gate driver. Both amplitude modulation (AM) and frequency modulation FM circuits shall be investigated by the Contractor. The Contractor shall merge the discrete SiC gate driver developed in this task with the HTSOI ASIC to form the hybrid gate driver and shall test the functionality of gate driver in order to verify that it meets all required specifications listed in Section C.2.1. Test results shall be reported in the Bi-monthly Progress Status and Management Report IAW Section C.5.1.2.

C.3.5 SiC IC Process Design Kit Development. The Contractor shall develop a Process Design Kit (PDK) for a SiC process. The PDK shall include the following documentation elements: data sheet, design manual, and ordering guide. The PDK shall include the following component elements: physical design and circuit design files and Personal Simulation Program with Integrated Circuit Emphasis (SPICE) device models. The Contractor shall fabricate test structures in the SemiSouth SiC process using the physical design flow, which shall include the following devices: N-channel depletion mode JFETs, N-channel enhancement mode JFETs, N-diffusion resistors, silicided resistors, P+N-N++ diodes, and capacitors. The Contractor shall characterize and model the devices listed above for inclusion in the process design kit. The Contractor shall simulate the output totem pole driver within the PDK.

C.4. Meetings

C.4.1 Start of Work Meeting. The Contractor shall conduct a start of work meeting within 20 days after contract award. During the start of work meeting, the Contractor shall discuss their planned approach to complete the contract. The Contractor shall prepare a meeting agenda IAW Section C.5.1.4 and meeting minutes IAW Section C.5.1.5.

C.4.2 Mid-project In-Process Review Meeting. The Contractor shall plan and attend a one (1) day mid-project in-process review meeting at TARDEC. The Contractor shall coordinate the mid-project in-process review meeting with the Contracting Officer's Representative (COR) no later than the ninth (9th)_month after contract award. The meeting shall be held during the eleventh (11th) month after contract award. At the meeting, the Contractor shall present progress against the SOW and address any tasks not successfully completed and critical problems encountered. The Contractor shall prepare a meeting agenda IAW Section C.5.1.4 and meeting minutes IAW Section C.5.1.5.

C.4.3 Final Project Presentation Meeting. The Contractor shall plan and attend a one (1) day final project presentation meeting at TARDEC. The Contractor shall coordinate the final project presentation meeting with the Contracting Officer's Representative (COR) no later than the twenty-first (21st) month after contract award. The meeting shall be held during the thirty-fifth (35th) month after contract award. At the meeting, the Contractor shall present progress against the SOW and address any tasks not successfully completed and critical problems encountered. The Contractor shall prepare a meeting agenda IAW Section C.5.1.4 and meeting minutes IAW Section

C.5.1.5. *

C.5. Deliverables

C.5.1 Data Deliverables.

C.5.1.1 Deliverable of Draft and Final Scientific and Technical Report. Final technical report shall be delivered by the Contractor IAW CDRL A003.

C.5.1.2 Deliverable of Bi-monthly Progress Status and Management Reports. Monthly progress report shall be delivered by the Contractor IAW CDRL A001.

C.5.1.3 Research and Development (R&D) Project Summary. The Contractor shall deliver an R&D Project Summary IAW CDRL A002.

C.5.1.4 Meeting Agenda. The Contractor shall deliver a meeting agenda prior to the start of all meetings with TARDEC IAW CDRL A004.

C.5.1.5 Meeting Agenda. The Contractor shall deliver meeting minutes after each meeting with TARDEC IAW CDRL A005.

C.5.2 Hardware Deliverables.

The Contractor shall send all hardware deliverables to the COR at the following address:
U.S. Army TARDEC
M. Abul Masrur, RDTA-RS, MS-121
6501 East 11 Mile Road
Warren, MI 48397-5000

C.5.2.1 HTSOI ASIC Gate Driver. The Contractor shall fabricate and deliver one (1) full-HTSOI gate driver. The HTSOI gate driver shall be delivered to TARDEC (IAW Section C.5.2) within thirty-six (36) months after contract award. *

C.5.2.2 Hybrid HTSOI/SiC Gate Driver. The Contractor shall fabricate and deliver one (1) hybrid HTSOI/SiC gate driver capable of operating at a maximum ambient temperature of 200 degrees Celsius. The HTSOI/SiC gate will meet all requirements listed in Section C.2.1. The Hybrid HTSOI/SiC gate driver shall be delivered to TARDEC (IAW Section C.5.2) within thirty-six (36) months after contract award. *

C.5.2.3 Discrete SiC Gate Driver. The Contractor shall fabricate and deliver one (1) discrete SiC gate driver capable of operating at a maximum ambient temperature of 200 degrees Celsius.The discrete SiC gate driver should meet all requirements listed in Section C.2.1. The discrete SiC gate driver shall be delivered to TARDEC (IAW Section C.5.2) within thirty-six (36) months after contract award. *

C.5.2.4 Process Design Kit. The Contractor shall deliver the SiC IC process design kit (PDK). The process design kit shall include the all contents of the PDK Documents and Design Kit Components. The PDK shall be delivered to TARDEC (IAW Section C.5.2) within thirty-six (36) months after contract award. *

C.6. Period of Performance

C.6.1 The total period of performance of the contract is thirty-six (36) months from the date of contract award. *

C.7. Government-Furnished Equipment/Materials/Property

C.7.1 No facilities, equipment, data, documents, computer software or hardware, or other materials shall be made available for Contractor use in performing this effort.

* Changed by Modification P00003

*** END OF NARRATIVE C0001 ***

SECTION F - DELIVERIES OR PERFORMANCE

F.1 PERIOD OF PERFORMANCE

F.1.1 All effort required under this contract, including delivery of the final technical report, shall be completed within thirty-six (36) months after contract award date.*

F.1.2 If there is any conflict between Section B and Section F of this contract, Section F will prevail.

F.2 DATA DELIVERABLES

F.2.1 Delivery of data set forth in the contract shall be in accordance with the Contract Data Requirements List, DD Form 1423.

F.3 MATERIAL/HARDWARE DELIVERABLES

F.3.1 All materials/hardware required to be delivered under the contract shall be delivered FOB Destination to the following address:

US Army TARDEC
ATTN: M. Abul Masrur, RTDA-RS, MS-121
6501 E. 11 Mile Rd.
Warren, MI 48397-5000

* Changed by Modification P00003

*** END OF NARRATIVE F0001 ***

SECTION G - CONTRACT ADMINISTRATION DATA

Status	Regulatory Cite	Title	Date
G-1 CHANGED	52.242-4016	COMMUNICATIONS	FEB/2013

Communications on technical matters pertaining to the contract shall be direct between the contractor and the Contracting Officer Representative (COR). Communications for the COR shall be addressed to:

Name: M. Abul Masrur
E-mail: m.a.masrur.civ@mail.mil

The Administrative Contracting Officer's (ACO) name and email address are also provided if known at this time:

ACO: Gregory Havemeyer
E-mail: gregory.j.havemeyer.civ@mail.mil

Please see the appointment letters prepared at time of contract award for functions the Technical Representative and ACO will perform on this contract.

[End of Clause]

SECTION J - LIST OF ATTACHMENTS

List of Addenda	Title	Date	Number of Pages	Transmitted By
Exhibit A	CONTRACT DATA REQUIREMENTS LIST (CDRL)	11-JAN-2012		

CONTRACT DATA REQUIREMENT LIST Form Approval OMB No. 0704-0188

A. CONTRACT LINE ITEM NO.: 0002 D. SYSTEM/ITEM.....: High Temperature SiC Gate Driver
B. EXHIBIT : A E. CONTRACT/PR NO.: W56HZV-12-C-0007
C. CATEGORY.....: Reports F. CONTRACTOR.....: Arkansas Power Electronics International, Inc.

1. DATA ITEM NO. ....: A001
2. TITLE OF DATA ITEM: Contractor's Progress Status and Management Report
3. SUBTITLE .....: Bi-Monthly Reports

4. AUTHORITY .....: DI-MGMT-80227(T) (see 16a. below)
5. CONTRACT REFERENCE: C.5.1.2
6. REQUIRING OFFICE..: RDTA-RS/MS 21 9. DIST. STATEMENT REQUIRED: A 12. DATE OF FIRST SUB: 60 DAC
7. WAWF/DD250 REQ\'85 . : LT 10. FREQUENCY : Bi-Monthly 13. DATE OF SUBS. SUB: bi-mon
8. APP CODE ..... : N/A 11. AS OF DATE: Date of Award

14. DISTRIBUTION ADDRESSEES: SUBMIT REPORTS ELECTRONICALLY TO THE E-MAIL ADDRESSES SHOWN IMMEDIATELY BELOW:

Abul Masrur, CONTRACTING OFFICER'S REPRESENTATIVE, E-MAIL: m.a.masrur.civ@mail.mil
Michael Ivkov, CONTRACT SPECIALIST, E-MAIL: michael.g.ivkov.civ@mail.mil

15. TOTAL:

16. REMARKS:

a. DI-MGMT-80227 is tailored by deleting 10.2, 10.3(j) 10.3(k), and 10.3(l

17. PRICE GROUP: 18. ESTIMATED TOTAL PRICE:

1. DATA ITEM NO. ....: A002
2. TITLE OF DATA ITEM: Research and Development (R&D) Project Summary
3. SUBTITLE .....:

4. AUTHORITY .....: DI-MISC-81612A
5. CONTRACT REFERENCE: C.5.1.3
6. REQUIRING OFFICE .: RDTA-RS/MS 21 9. DIST. STATEMENT REQUIRED: A 12. DATE OF FIRST SUB: SEE ITEM 16
7. WAWF/DD250 REQ .. : DD 10. FREQUENCY: SEE ITEM 16 13. DATE OF SUBS. SUB: SEE ITEM 16
8. APP CODE ..... : A 11. AS OF DATE: Date of Award

14. DISTRIBUTION ADDRESSEES: SUBMIT REPORTS ELECTRONICALLY TO THE E-MAIL ADDRESSES SHOWN IMMEDIATELY BELOW:

Abul Masrur, CONTRACTING OFFICER'S REPRESENTATIVE, E-MAIL: m.a.masrur.civ@mail.mil
Michael Ivkov, CONTRACT SPECIALIST, E-MAIL: michael.g.ivkov.civ@mail.mil
COGNIZANT ACO, DCMA, SEE SECTION G OF THE CONTRACT

15. TOTAL:

16. REMARKS:

The Contractor shall submit a publicly releasable SBIR Phase II R&D Project Summary at the end of the contract. The summary shall be an unclassified, non-sensitive, and non-proprietary summation of results intended for public viewing on the Army SBIR / STTR Small Business

Portal. The R&D Project Summary shall address the Data Item requirements on a summary basis and shall not exceed 700 words.

Since the Department of Defense (DOD) will be publishing the R&D Project Summary, it shall not contain any proprietary, classified, or ITAR restricted data. The R&D Project Summary shall be submitted electronically and in HTML format.

The Contractor shall deliver one (1) draft "SBIR Phase II R&D Project Summary" thirty-five (35) months after contract award. The COR shall review the draft report and return it to the Contractor within fifteen (15) days of receipt with comments. The Contractor shall submit one (1) final "SBIR Phase II R&D Project Summary" within fifteen (15) days after receipt of draft comments (36 months after contract award). *

17. PRICE GROUP: 18. ESTIMATED TOTAL PRICE:

1. DATA ITEM NO. ....: A003
2. TITLE OF DATA ITEM: SCIENTIFIC AND TECHNICAL REPORT
3. SUBTITLE .....: DRAFT/FINAL TECHNICAL REPORT

4. AUTHORITY .....: DI-MISC-80711A(T) (see 16a. below)
5. CONTRACT REFERENCE: C.5.1.1
6. REQUIRING OFFICE .: RDTA-RS/MS 21 9. DIST. STATEMENT REQUIRED: A 12. DATE OF FIRST SUB: SEE ITEM 16
7. WAWF/DD250 REQ .. : DD 10. FREQUENCY: SEE ITEM 16 13. DATE OF SUBS. SUB: SEE ITEM 16
8. APP CODE ..... : A 11. AS OF DATE: Date of Award

14. DISTRIBUTION ADDRESSEES: SUBMIT REPORTS ELECTRONICALLY TO THE E-MAIL ADDRESSES SHOWN IMMEDIATELY BELOW:

Abul Masrur, CONTRACTING OFFICER'S REPRESENTATIVE, E-MAIL: m.a.masrur.civ@mail.mil
Michael Ivkov, CONTRACT SPECIALIST, E-MAIL: michael.g.ivkov.civ@mail.mil
COGNIZANT ACO, DCMA, SEE SECTION G OF THE CONTRACT

15. TOTAL:

16. REMARKS:

a. DI-MISC-80711A is tailored by deleting 10.2.

b. The Draft of the Final Technical Report (C.5.1.1) shall be delivered thirty-four (34) months after date of contract award. The draft report shall include a completed Standard Form (SF) 298 (Report Documentation Page) as the report's cover sheet. The Government will review the draft report and provide comments or approval within 30 days of receipt. The Contractor shall submit the Final Technical Report (with the completed SF 298) within thirty (30) days after receipt of the Governments draft comments/approval. *

c. You may download the SF 298 form, from the following internet address:

http://www.dtic.mil/dtic/forms/sf298template.doc

Instructions for completing the SF 298 are provided in Attachment 001 to the contract.

Here are some additional instructions for completing the SF 298 form that apply when submitting reports under the SBIR Program:

For each unclassified report, the Contractor shall fill in Block 12a (Distribution/Availability Statement) of the SF 298 with one of the following statements:

(a) Approved for public release; distribution unlimited.

(b) Distribution authorized to U.S. Government Agencies only; contains proprietary information

Note: After reviewing the Contractor's entry in Block 12a, TARDEC has final responsibility for assigning a distribution statement. The contractor shall mark the actual report itself in accordance with the appropriate legends set forth in DFARS 252.227-7018, "RIGHTS IN NONCOMMERCIAL TECHNICAL DATA AND COMPUTER SOFTWARE -- SMALL BUSINESS INNOVATIVE RESEARCH (SBIR) PROGRAM".

Block 13 (Abstract) of the SF 298 must include the first sentence, "Report developed under SBIR contract for topic (insert topic number)." The abstract must identify the purpose of the work and briefly describe the work carried out, the finding or results, and the potential applications of the effort. Since the Department of Defense (DOD) will be publishing the abstract, it must not contain any

proprietary or classified data.

Block 14 (Subject Terms) of the SF 298 must include the term "SBIR Report."

17. PRICE GROUP: 18. ESTIMATED TOTAL PRICE:

1. DATA ITEM NO. ....: A004
2. TITLE OF DATA ITEM: Meeting Agenda
3. SUBTITLE .....:

4. AUTHORITY .....: DI-MISC-81612A
5. CONTRACT REFERENCE: C.5.1.4
6. REQUIRING OFFICE .: RDTA-RS/MS 21 9. DIST. STATEMENT REQUIRED: A 12. DATE OF FIRST SUB: SEE ITEM 16
7. WAWF/DD250 REQ .. : DD 10. FREQUENCY: SEE ITEM 16 13. DATE OF SUBS. SUB: SEE ITEM 16
8. APP CODE ..... : A 11. AS OF DATE: Date of Award

14. DISTRIBUTION ADDRESSEES: SUBMIT REPORTS ELECTRONICALLY TO THE E-MAIL ADDRESSES SHOWN IMMEDIATELY BELOW:

Abul Masrur, CONTRACTING OFFICER'S REPRESENTATIVE, E-MAIL: m.a.masrur.civ@mail.mil
COGNIZANT ACO, DCMA, SEE SECTION G OF THE CONTRACT

15. TOTAL:

16. REMARKS:

The Contractor shall submit a Meeting Agenda seven (7) days prior to the start of the Start of Work Meeting, the Mid-project In-Progress Review, and the Final Project Presentation Meeting. The Meeting Agenda shall document in a list all technical and programmatic topics to be covered in the upcoming meeting.

17. PRICE GROUP: 18. ESTIMATED TOTAL PRICE:

1. DATA ITEM NO. ....: A005
2. TITLE OF DATA ITEM: Meeting Minutes
3. SUBTITLE .....:

4. AUTHORITY .....: DI-MISC-81612A
5. CONTRACT REFERENCE: C.5.1.5
6. REQUIRING OFFICE .: RDTA-RS/MS 21 9. DIST. STATEMENT REQUIRED: A 12. DATE OF FIRST SUB: SEE ITEM 16
7. WAWF/DD250 REQ .. : DD 10. FREQUENCY: SEE ITEM 16 13. DATE OF SUBS. SUB: SEE ITEM 16
8. APP CODE ..... : A 11. AS OF DATE: Date of Award

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COGNIZANT ACO, DCMA, SEE SECTION G OF THE CONTRACT

15. TOTAL:

16. REMARKS:

The Contractor shall submit Meeting Minutes seven (7) days after the completion of the Start of Work Meeting, the Mid-project In-Progress Review, and the Final Project Presentation Meeting. The meeting minutes shall contain information discussed in the prior meeting.

17. PRICE GROUP: 18. ESTIMATED TOTAL PRICE:

********* THE FOLLOWING INSTRUCTION APPLIES TO ALL REPORTS DELIVERABLE UNDER THE CONTRACT **********

Prepare the reports in Contractor format. Submit the reports using any of the following electronic formats:

(1) Files readable using these Microsoft* Office XP or Microsoft* Office 2002 & lower Products: Word, Excel, PowerPoint, or Access. Spreadsheets must be sent in a file format that includes all formulae, macro and format information. Print or scan images of spreadsheets are not acceptable. Please see security note below for caution regarding use of macros.

(2) Files in Adobe PDF (Portable Document Format). When scanning documents, scanner should be set to 200 dots per inch.

(3) Files in HTML (Hypertext Markup Language) Format. HTML documents must not contain active links to Internet websites or web pages for reference information. All linked information must be contained within your electronic report, and be accessible offline.

(4) Other electronic formats. Before preparing your report in any other electronic format, please e-mail the COR, with an e-mail copy-furnished to amsta-idq@tacom.army.mil, to obtain a decision as to the format's acceptability. This e-mail must be received by the COR not later than ten (10) calendar days before the draft report's due date. All alternate methods must be at no cost to the Government.

(5) Please note that we can no longer accept .zip files due to increasing security concerns.

NOTE. Macros: The virus scanning software used by our e-mail systems cannot always distinguish a macro from a virus. Therefore, sending a macro embedded in an e-mail message or an e-mail attachment may cause the e-mail report to be quarantined.

d. Acceptable media: The Contractor shall submit reports via e-mail. If e-mail is not workable, another acceptable media is a 650 megabyte CD ROM. Identify the software application and version used to create each file submitted.

(1) E-MAIL. Maximum size of each e-mail message shall be three and one-half (3.5) megabytes. Previously "zipped" files were accepted, but due to security concerns these zipped attachments cannot be received through our mail system. You may use multiple e-mail messages if necessary, however, you must annotate the subject lines in this manner: "Message 1 of 3, 2 of 3, 3 of 3."

(2) 650 MEGABYTE CD ROM to be delivered via U.S. Mail or other carrier. The Contractor shall label all submitted disks with the Contract number, the Contractor's name and address, and a contact's phone number. Exterior mailing envelopes containing disks must be addressed to the following address:

U.S. Army TARDEC
Gerald C. Lane, RDTA-RS, MS 21
6501 East 11 Mile Road
Warren, MI 48397-5000

NOTE: Please select only one type of electronic media to transmit each report. For instance, do not submit a report via e-mail and CD-ROM.

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* Changed by Modification P00003