

AWARD/CONTRACT		1. This Contract Is A Rated Order Under DPAS (15 CFR 700)	Rating DOA4	Page 1	Of 29	Pages
2. Contract (Proc. Inst. Ident.) No. W56HZV-13-C-0401		3. Effective Date 2013SEP27	4. Requisition/Purchase Request/Project No. SEE SCHEDULE			
5. Issued By U.S. ARMY CONTRACTING COMMAND MICHAEL CIACIUCH WARREN, MICHIGAN 48397-5000 HTTP://CONTRACTING.TACOM.ARMY.MIL		Code W56HZV	6. Administered By (If Other Than Item 5) OFFICE OF NAVAL RESEARCH CHICAGO REGIONAL OFFICE 230 SOUTH DEARBORN STREET, ROOM 380 CHICAGO, IL 60605-1595		Code N62880	

e-mail address: MICHAEL.CIACIUCH@US.ARMY.MIL

7. Name And Address Of Contractor (No., Street, City, County, State and Zip Code) MICHIGAN STATE UNIVERSITY 301 ADMINISTRATION BLDG EAST LANSING, MI 48824-1046		8. Delivery <input type="checkbox"/> FOB Origin <input checked="" type="checkbox"/> Other (See Below)	
		9. Discount For Prompt Payment	
Code 4B834		10. Submit Invoices (4 Copies Unless Otherwise Specified)	
Facility Code		Item 12	
		To The Address Shown In:	

11. Ship To/Mark For SEE SCHEDULE		Code	12. Payment Will Be Made By DFAS COLUMBUS-NAVY ACQUISITION 3990 E BROAD STREET BLDG 21 P.O. BOX 369021 COLUMBUS OH 43213		Code HQ0251
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13. Authority For Using Other Than Full And Open Competition: <input checked="" type="checkbox"/> 10 U.S.C. 2304(c)(1) <input type="checkbox"/> 41 U.S.C. 253(c)		14. Accounting And Appropriation Data SEE SECTION G			
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15A. Item No.	15B. Supplies/Services	15C. Quantity	15D. Unit	15E. Unit Price	15F. Amount
SEE SCHEDULE					
15G. Total Amount Of Contract →					\$66,285.00

(X)	Sec.	Description	Page(s)	(X)	Sec.	Description	Page(s)
Part I - The Schedule				Part II - Contract Clauses			
X	A	Solicitation/Contract Form	1	X	I	Contract Clauses	18
X	B	Supplies or Services and Prices/Costs	3	Part III - List Of Documents, Exhibits, And Other Attachments			
X	C	Description/Specs./Work Statement	6	X	J	List of Attachments	29
X	D	Packaging and Marking	10	Part IV - Representations And Instructions			
X	E	Inspection and Acceptance	11		K	Representations, Certifications, and Other Statements of Offerors	
X	F	Deliveries or Performance	12		L	Instrs., Conds., and Notices to Offerors	
X	G	Contract Administration Data	13		M	Evaluation Factors for Award	
X	H	Special Contract Requirements	16				

Contracting Officer Will Complete Item 17 (Sealed-Bid or Negotiated Procurement) Or 18 (Sealed-Bid Procurement) As Applicable

17. <input checked="" type="checkbox"/> Contractor's Negotiated Agreement (Contractor is required to sign this document and return 2 signed copies to issuing office.) Contractor agrees to furnish and deliver all items or perform all the services set forth or otherwise identified above and on any continuation sheets for the consideration stated herein. The rights and obligations of the parties to this contract shall be subject to and governed by the following documents: (a) this award/contract, (b) the solicitation, if any, and (c) such provisions, representations, certifications, and specifications, as are attached or incorporated by reference herein. (Attachments are listed herein.)	18. <input type="checkbox"/> Sealed-Bid Award (Contractor is not required to sign this document.) Your bid on Solicitation Number _____, including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as to the items listed above and on any continuation sheets. This award consummates the contract which consists of the following documents: (a) the Government's solicitation and your bid, and (b) this award/contract. No further contractual document is necessary. (Block 18 should be checked only when awarding a sealed-bid contract.)
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19A. Name And Title Of Signer (Type Or Print)		20A. Name Of Contracting Officer JOHN M. HOPFNER JOHN.HOPFNER@US.ARMY.MIL (586)282-7359	
19B. Name of Contractor	19c. Date Signed	20B. United States Of America By _____ /SIGNED/ (Signature of Contracting Officer)	20C. Date Signed 2013SEP27
By _____ (Signature of person authorized to sign)			

CONTINUATION SHEET**Reference No. of Document Being Continued****Page 2 of 29****PIIN/SIIN** W56HZV-13-C-0401**MOD/AMD****Name of Offeror or Contractor:** MICHIGAN STATE UNIVERSITY

SECTION A - SUPPLEMENTAL INFORMATION

Buyer Name: MICHAEL CIACIUCH
Buyer Office Symbol/Telephone Number: CCTA-ASG-B/(586)282-9630
Type of Contract: Cost No Fee
Kind of Contract: Research and Development Contracts
Type of Business: Other Educational
Surveillance Criticality Designator: C
Weapon System: No Identified Army Weapons Systems

*** End of Narrative A0000 ***

<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
A-1 52.201-4000	ARMY CONTRACTING COMMAND-WARREN (DTA) OMBUDSPERSON	APR/2011

Information regarding the Ombudsperson for this contract is located at the following website:
<http://contracting.tacom.army.mil/acqinfo/ombudsperson.htm>

[End of Provision]

CONTINUATION SHEET

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Name of Offeror or Contractor: MICHIGAN STATE UNIVERSITY

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT									
0003	<p><u>DATA ITEM: CONTRACTOR MANPOWER REPORT (CMR)</u></p> <p>The Contractor shall provide the information required by Contract Clause C-1, 52.237-4000 (TACOM) entitled "Contractor Manpower Reporting (CMR)" in Section C</p> <p>Unit Identification Code (UIC): W4GHAA</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></td> <td>PERF COMPL</td> </tr> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u></td> <td><u>DATE</u></td> </tr> <tr> <td>001</td> <td>1</td> <td>30-SEP-2014</td> </tr> </table>	DLVR SCH		PERF COMPL	<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>	001	1	30-SEP-2014	1	LO		\$ ** NSP **
DLVR SCH		PERF COMPL												
<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>												
001	1	30-SEP-2014												
0004	<p><u>DATA ITEM: DD FORM 882 REPORT OF INVENTIONS AND SUBCONTRACTS</u></p> <p>The Contractor shall submit necessary Reports of Inventions and Subcontracts (DD Form 882) in accordance with Contract Clause 252.227-7039 (DFARS) entitled "Patents--Reporting of Subject Inventions" in Section I. A copy of this form can be obtained at the following website:</p> <p>www.dtic.mil/whs/directives/infomgt/forms/eforms/dd0882.pdf</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></td> <td>PERF COMPL</td> </tr> <tr> <td><u>REL CD</u></td> <td><u>QUANTITY</u></td> <td><u>DATE</u></td> </tr> <tr> <td>001</td> <td>1</td> <td>31-DEC-2014</td> </tr> </table>	DLVR SCH		PERF COMPL	<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>	001	1	31-DEC-2014	1	LO		\$ ** NSP **
DLVR SCH		PERF COMPL												
<u>REL CD</u>	<u>QUANTITY</u>	<u>DATE</u>												
001	1	31-DEC-2014												

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B.1 ESTIMATED COST AND PAYMENT

B.1.1 The estimated cost for the performance of the work under this Contract is set forth in Section B. In consideration of performance of the work specified under CLIN 0001, the Government anticipates paying the Contractor the total estimated cost amount shown. The total estimated cost of CLIN 0001 shall constitute the estimated cost for the purpose of the Contract Clause entitled "LIMITATION OF COSTS", FAR 52.232-20 (Apr 1984), but neither the Government nor the Contractor guarantee the accuracy of said estimate.

B.1.2 Allowable costs shall be determined, and payment thereof shall be provided, in accordance with the Contract Clause hereof entitled "ALLOWABLE COST AND PAYMENT", FAR 52.216-7 Alt II (Aug 2012).

B.2 PAYMENT. The Contractor may submit public vouchers monthly for payment under this Contract.

B.3 FUNDING. This Contract will be fully funded at the time of Contract award.

*** END OF NARRATIVE B0001 ***

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SECTION C - DESCRIPTION/SPECIFICATIONS/WORK STATEMENT

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
C-1	52.237-4000 (TACOM)	CONTRACTOR MANPOWER REPORTING (CMR)	FEB/2013

The Office of the Assistant Secretary of the Army (Manpower & Reserve Affairs) operates and maintains a secure Army data collection site where the contractor will report ALL contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract via secure data collection site. The contractor is required to completely fill in all required data fields in the format using the following web address: <https://cmra.army.mil> . The required information includes the following:

- (1) Contracting Office, Contracting Officer, Contracting Officer's Technical Representative;
- (2) Contract number, including task and delivery order number;
- (3) Beginning and ending dates covered by reporting period;
- (4) Contractor name, address, phone number, e-mail address, identity of contractor employee entering data;
- (5) Direct labor hours (including sub-contractors);
- (6) Direct labor dollars paid this reporting period (including sub-contractors);
- (7) Total payments (including sub-contractors);
- (8) Predominant Federal Service Code (FSC) reflecting services provided by contractor (and separate predominant FSC for each sub-contractor if different);
- (9) Data collection cost;
- (10) Organizational title associated with the Unit Identification Code (UIC) for the Army Requiring Activity (the Army Requiring Activity is responsible for providing the contractor with its UIC for the purposes of reporting this information);
- (11) Locations where contractor and sub-contractors perform the work (specified by zip code in the United States and nearest city, country, when in an overseas location, using standardized nomenclature provided on website);
- (12) Presence of deployment or contingency contract language; and
- (13) Number of contractor and sub-contractor employees deployed in theater this reporting period (by country).

Reporting inputs will be for the labor executed during the period of performance during each Government fiscal year (FY), which runs October 1 through September 30. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year, beginning with 2013. Contractors may direct questions to the help desk at : <https://cmra.army.mil>.

End of Clause]

STATEMENT/SCOPE OF WORK BEGINS HERE

C.1 INTRODUCTION/OVERVIEW

C.1.1 The Contractor, acting as an independent contractor and not as an agent of the Government, shall provide all of the personnel, facilities, materials and services necessary in order to complete the following Statement/Scope of Work ("SOW") for the project entitled "Development of Synthesized Nano-Fluids".

C.1.2 The objective of this work effort is for the Contractor to synthesize, stabilize, and characterize graphene nano-platelet dispersions in base oil, thus creating nano-fluids. Particle characterization of the graphene nano-platelets shall be performed, in order to identify their individual properties, which will then be used to conduct tribological studies. Also, the Contractor shall deliver samples of the synthesized nano-fluids developed for further Government testing.

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C.2 REQUIREMENTS/TASKS

C.2.1 The Contractor shall synthesize graphene nano-platelets into the base oil selected by the Government for study, ensuring that the necessary required concentration levels have been met.

C.2.1.1 The base oil to be used for this work will be chosen and supplied by the Government, and provided to the Contractor by the Contracting Officer's Representative (COR), who is identified in Contract Clause 52.242-4016, "Communications", found in Section G. The base oil will be continually supplied to the contractor in five gallon increments when requested throughout the period of performance. The last delivery of Government-furnished base oil will be no later than (NLT) 60 days before the Contract completion date (reference C.3.1 and C.5.1).

C.2.1.2 The COR will, also before or at the first Weekly Teleconference, advise the Contractor of the Government-selected particle size and concentrations for the graphene nano-platelets to be put into the base oil and used for this project (ref. C.3.1 and C.5.2.1).

C.2.2 Stability Analysis. The Contractor shall conduct experimentation and analysis as necessary on the concentrations of dispersed graphene nano-platelets into the base oil, in order to determine the stability.

C.2.2.1 For this effort, stability is defined as the change in graphene nano-platelet size and suspension concentration in the individual nano-fluid over a sustained period of time. In order to be considered sufficiently stable, the graphene nano-platelets shall be re-dispersible in the nano-fluid back to the original particle size distribution - and remain there - for 24 consecutive hours. In addition, after the 24 consecutive hours, if the nano-platelets become unstable in the nano-fluid, the nano-platelets must be able to be re-dispersed by ultrasonication of the nano-fluid.

C.2.2.1.1 Only the most stable solutions of dispersed graphene nano-platelet nano-fluids shall be sent to TARDEC for bulk fluid property and friction/wear-testing on the sample coupon sets (ref. C.2.4).

C.2.2.2 In order to achieve the most effective Stability Analysis, the Contractor shall formulate a list of potential stability experiments, along with which one(s) they recommend for use, and present a summary of this data to the COR on or before the second Weekly Teleconference. On or before the third Weekly Teleconference, the COR will advise the Contractor of which stability experiments the Government selects to be used.

C.2.3 Nano-platelet Characterization. The Contractor shall take and characterize the graphene nano-platelets utilizing Scanning Electron Microscopy (SEM) analysis to determine the properties of the nanoparticles at the nano scale. This SEM analysis for nano-platelet characterization shall include, but is not limited to, the particle size, particle shape, and particle distribution.

C.2.4 Coupon Analysis. TARDEC will subject up to eight coupon sets (a coupon set consists of four half-inch steel balls) to friction and wear tests utilizing the graphene nano-platelet nano-fluids sent to TARDEC by the Contractor (C.2.2.1.1). At the conclusion of Government testing, TARDEC will ship these used sample coupon sets to the Contractor. TARDEC will ship the last of the coupon sets no later than 60 days before the completion of the contract. The Contractor shall characterize the surface of no less than eight sample coupon sets with SEM/FIB (Scanning Electron Microscopy/Focused Gallium Ion Beam), AFM (Atomic Force Microscopy), and XPS (X-ray Photoelectron Spectroscopy).

C.2.4.1 FIB is a sample preparation method which makes thin (approximately 2.5nm) slices of a material perpendicular to the surface. The morphology of the cut surface or thin slice (cracks, fissures, pores, pits, etc...) will be further interrogated with SEM or TEM (Transmission Electron Microscopy).

C.2.4.2 AFM provides a topographical image of the wear surface at the nanoscale.

C.2.4.3 XPS provides information about the chemistry of surfaces and documents changes in surface chemistry with wear exposure.

C.3 MEETINGS

C.3.1 Weekly Teleconferences. The Contractor shall, in accordance with (IAW) Contract Data Requirements List (CDRL) DD Form 1423, Data Item A001 found in Contract Section J, work in conjunction with the COR to arrange, conduct and participate in weekly teleconferences with the COR in order to update TARDEC on the overall status of all work in progress, as well as any new or ongoing issues since the previous teleconference.

C.3.1.1 The first teleconference shall be held within seven calendar days after the Contract award date.

C.3.1.2 IAW CDRL Data Item A003 and Data Item Description (DID) Number DI-ADMN-81505, the Contractor shall prepare in its chosen format and distribute to the COR a set of minutes for each teleconference.

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C.3.2 Project Review Meetings. During the course of project performance, the Contractor shall coordinate with the COR, schedule and conduct two Project Review Meetings, each to be held at TARDEC facilities in Warren, MI. These meetings shall take place on dates mutually agreeable to the parties, at (i) approximately six months after the Contract award date; and (ii) 30 days prior to the contractual completion end date. Topics for discussion at these meetings include the results of the Contractor's work up to that point in time and throughout the duration of the entire work effort, any problems encountered (whether new, updated, or resolved), as well as anything else either party wishes to discuss.

C.3.2.1 After each Project Review Meeting, IAW CDRL Data Item A003 and DID Number DI-ADMN-81505, the Contractor shall prepare in its chosen format a set of meeting minutes and distribute it to the COR, ACC-WRN's PCO and Contract Specialist, ACO/DCMA Contract Administrator, and anyone else requested by the COR.

C.4 DELIVERABLES / REPORTS

C.4.1 Stable Nano-platelet Nanofluid Test Samples. The Contractor shall provide a minimum of four 500 milliliter (ml) test samples of stable nanofluid (reference C.2.2.1, C.2.2.1.1) during the period of performance of this Contract. One of the four 500 ml test samples of stable nanofluid shall be delivered every six-to-eight weeks, with the last test sample delivered to TARDEC NLT 60 days prior to Contract completion.

C.4.2 Final Nano-platelet Nanofluid Formulations. Not later than the end of the Contract period of performance, the Contractor shall deliver one-liter samples of each of the two best formulations (2 x 1 L samples total), as determined by the results of TARDEC's bulk fluid property and friction and wear testing of the nano-platelet nanofluids.

C.4.3 Contractor's Progress, Status and Management Reports. IAW CDRL Data Item A002 and DID Number DI-MGMT-80227(T), the Contractor shall prepare in its chosen format and submit a monthly Progress, Status, and Management Report (including project cost data). The first report shall be due by 30 days after the Contract award date, and subsequent reports shall be submitted every 30 days thereafter. Each report shall summarize the work completed including test plans, experimental analyses, project milestones reached, problems and/or delays encounter (with resolution status), all project cost-related reporting data, and the status of any other significant contractually-related matters.

C.4.4 Technical Reports. The Contractor shall, IAW CDRL Data Item Number A004 and DID Number DI-MISC-80711A(T), prepare and submit both Interim/Draft and Final Technical Reports for this Contract, one each for internal and external use/distribution, as follows:

C.4.4.1 Internal Report: The Contractor shall prepare and deliver a Draft Internal Technical Report, summarizing the synthesis of the graphene nano-platelets and the creation of the graphene nano-platelet nano-fluids. This Report shall at a minimum include the detailed characterization of the synthesized graphene nano-platelets and resulting nano-fluid such as the chemical composition, size, and distribution of the graphene nanoplatelets, any functionalization to include surface chemistry of the graphene nanoplatelets, and any additional information. This Report shall be provided to the COR for review and concurrence NLT 30 calendar days before the Contract completion date. The COR will review and respond to the Contractor within 15 calendar days of receipt, with any necessary suggestions and/or corrections. After receiving the COR's feedback, the Contractor shall then prepare and submit the Final Revision of the Internal Technical Report within seven calendar days.

C.4.4.2 External Report: Concurrently, the Contractor shall also prepare and deliver a Draft External Technical Report for public release with the intent to publish in a peer-reviewed forum. This Report shall be provided to the COR for review and concurrence NLT 30 calendar days before the Contract completion date. The COR will review and respond to the Contractor within 15 calendar days of receipt, with any necessary suggestions and/or corrections. The Contractor shall then prepare and submit the Final Revision of the External Technical Report (for any needed OPSEC review) within seven calendar days of receipt of the COR's feedback.

C.5 GOVERNMENT-PROVIDED MATERIALS / INFORMATION

C.5.1 Material:

C.5.1.1 Base Oil (ref. C.2.1.1).

C.5.1.2 Used Sample Coupon Sets

C.5.2 Information:

C.5.2.1 Graphene Nano-Platelet particle size and concentrations (ref. C.2.1.2).

C.5.2.2 Experiments selected for use in performing Stability Analysis (ref. C.2.2.2).

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C.6 CONTRACTUAL PERIOD OF PERFORMANCE: all work to be performed for project effort, including all deliverables, shall be completed by the Contractor no later than 30 September 2014.

END OF STATEMENT OF WORK

*** END OF NARRATIVE C0001 ***

Name of Offeror or Contractor: MICHIGAN STATE UNIVERSITY

SECTION D - PACKAGING AND MARKING

D.1 PACKAGING: The Contractor shall package and pack all items deliverable under this Contract in accordance with standard commercial practice to assure arrival at destination without damage or loss.

D.2 MARKING

D.2.1 Technical Data Marking: the Contractor shall ensure that all Technical Data deliverable under this Contract is identified by Contract number, Contractor name and address, and (when applicable), the name and address of the subcontractor who generated the data.

D.2.2 Materials and Hardware Marking: the Contractor shall mark or tag all materials and hardware required to be delivered, if any, under this Contract with the following information:

- *ACC-WRN Contract Number
- *Contractor's Name
- *Contractor's Address
- *Description of the Material or Hardware

*** END OF NARRATIVE D0001 ***

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SECTION E - INSPECTION AND ACCEPTANCE

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
E-1	52.246-9	INSPECTION OF RESEARCH AND DEVELOPMENT (SHORT FORM)	APR/1984

E.1 INSPECTION AND ACCEPTANCE POINT. Inspection and acceptance of all deliverables under this Contract shall be made at the Destination by the Contracting Officer or her/his duly-authorized representative. The determination that the deliverables are complete and conform to the requirements of the Contract will be made by the Contracting Officer's Representative (COR), in order to ensure that the work and results thereof are in accordance with the Contract terms.

*** END OF NARRATIVE E0001 ***

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SECTION F - DELIVERIES OR PERFORMANCE

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
F-1	52.242-15	STOP-WORK ORDER (AUG 1989) -- ALTERNATE I (APR 1984)	APR/1984
F-2	52.242-17	GOVERNMENT DELAY OF WORK	APR/1984
F-3	52.247-34	F.O.B. DESTINATION	NOV/1991
F-4	52.247-55	F.O.B. POINT FOR DELIVERY OF GOVERNMENT-FURNISHED PROPERTY	JUN/2003

F.1 DELIVERY: delivery of all data items set forth in the Contract shall be in accordance with the Contract Data Requirements List (CDRL), DD Form 1423 (reference Section J, Exhibit A).

F.2 PERIOD OF PERFORMANCE: all effort required under this Contract, including delivery of the Final Scientific and Technical Report, shall be completed within 12 months after the Contract award date.

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:

Commander
U.S. Army TARDEC
ATTN: RDTA-DP / BRIDGET DWORNICK, MS 110
6501 East 11 Mile Road
Warren, MI 48397-5000

*** END OF NARRATIVE F0001 ***

Name of Offeror or Contractor: MICHIGAN STATE UNIVERSITY

SECTION G - CONTRACT ADMINISTRATION DATA

G.1 CONTRACTOR SPECIAL BILLING INSTRUCTIONS

G.1.1 The Contractor shall bill to the six-digit Sub-CLIN and ACRN, in accordance with DFARS Clause 252.232-7003, "ELECTRONIC SUBMISSION OF PAYMENT REQUESTS".

G.1.2 If multiple Sub-CLINs exist on the same four-digit major CLIN, the Contractor shall determine which six-digit Sub-CLIN contains the oldest Fiscal Year money and invoice against the Sub-CLIN containing the oldest money, until fully billed.

G.1.3 To determine the Fiscal Year of funds, refer to the "Job Order Number" (JON) column listed in the Appropriation and Accounting Data listed elsewhere in Section G. The first digit represents the Fiscal Year.

G.2 DFAS SPECIAL PAYMENT INSTRUCTIONS: DFAS will make payments as billed.

G.3 WIDE AREA WORKFLOW (WAWF) NOTIFICATION

G.3.1 The Contractor shall submit cost vouchers, along with corresponding backup data and information, for payments requested under this Contract.

G.3.1.1 The Contractor shall notify their cognizant DCAA Office whenever an interim voucher is placed into WAWF for processing and payment. This notification is to ensure the most timely processing and payment of submitted vouchers. DCAA will review and approve/disapprove interim vouchers for payment.

G.3.1.2 The Contractor shall notify the Administrative Contracting Officer (ACO) when their final voucher is submitted in WAWF for processing and payment. This notification is to ensure the most timely processing and payment of the submitted final voucher. The ACO will review and approve/disapprove the final voucher request upon submission for payment.

*** END OF NARRATIVE G0001 ***

PRON/ AMS CD/ LINE	MIPR/ GFEB5 ATA	OBLG STAT	JO NO/ ACCT ASSIGN	ACRN	OBLIGATED AMOUNT
0001AA	R33KJ041R3 633005441	2	R.0005718.1.9	AA	\$ 66,285.00
TOTAL					\$ 66,285.00

ACRN	ACCOUNTING CLASSIFICATION	OBLIGATED AMOUNT
AA	021 201320142040 A60FL 633005441RK20 2550 L033676512 R.0005718.1.9	021001 \$ 66,285.00
TOTAL		\$ 66,285.00

LINE	ACRN	EDI/SFIS ACCOUNTING CLASSIFICATION	OBLIGATED AMOUNT
0001AA	AA	021 201320142040 A60FL 633005441RK20 2550 L033676512 R.0005718.1.9	021001
		<u>Regulatory Cite</u> <u>Title</u> <u>Date</u>	
G-1		252.232-7006 WIDE AREA WORKFLOW PAYMENT INSTRUCTIONS	MAY/2013

(a) Definitions. As used in this clause--

"Department of Defense Activity Address Code (DoDAAC)" is a six position code that uniquely identifies a unit, activity, or organization.

"Document type" means the type of payment request or receiving report available for creation in Wide Area WorkFlow (WAWF).

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"Local processing office (LPO)" is the office responsible for payment certification when payment certification is done external to the entitlement system.

(b) Electronic invoicing. The WAWF system is the method to electronically process vendor payment requests and receiving reports, as authorized by DFARS 252.232-7003, Electronic Submission of Payment Requests and Receiving Reports.

(c) WAWF access. To access WAWF, the Contractor shall--

(1) Have a designated electronic business point of contact in the System for Award Management at <https://www.acquisition.gov>; and

(2) Be registered to use WAWF at <https://wawf.eb.mil/> following the step-by-step procedures for self-registration available at this Web site.

(d) WAWF training. The Contractor should follow the training instructions of the WAWF Web-Based Training Course and use the Practice Training Site before submitting payment requests through WAWF. Both can be accessed by selecting the "Web Based Training" link on the WAWF home page at <https://wawf.eb.mil/>.

(e) WAWF methods of document submission. Document submissions may be via Web entry, Electronic Data Interchange, or File Transfer Protocol.

(f) WAWF payment instructions. The Contractor must use the following information when submitting payment requests and receiving reports in WAWF for this contract/order:

(1) Document type. The Contractor shall use the following document type(s).

COST VOUCHERS

(2) Inspection/acceptance location. The Contractor shall select the following inspection/acceptance location(s) in WAWF, as specified by the contracting officer.

DESTINATION/DESTINATION

(3) Document routing. The Contractor shall use the information in the Routing Data Table below only to fill in applicable fields in WAWF when creating payment requests and receiving reports in the system.

Routing Data Table*

Field Name in WAWF	Data to be entered in WAWF
Pay Official DoDAAC	Indicate the Code found in Block 12 of SF 26 (Cover Page of Contract)
Issue By DoDAAC	Indicate the Code found in Block 5 of SF 26
Admin DoDAAC	Indicate the Code found in Block 6 of SF 26
Inspect By DoDAAC	Indicate Code W91ATL
Ship To Code	Indicate Code W91ATL
Ship From Code	N/A
Mark For Code	N/A
Service Approver (DoDAAC)	Indicate the Code found in Block 6 of SF 26
Service Acceptor (DoDAAC)	Indicate the Code found in Block 12 of SF 26
Accept at Other DoDAAC	N/A
LPO DoDAAC	N/A
DCAA Auditor DoDAAC	Indicate the Code found in Block 12 of SF 26
Other DoDAAC(s)	N/A

(4) Payment request and supporting documentation. The Contractor shall ensure a payment request includes appropriate contract line item and subline item descriptions of the work performed or supplies delivered, unit price/cost per unit, fee (if applicable), and all relevant back-up documentation, as defined in DFARS Appendix F, (e.g. timesheets) in support of each payment request.

(5) WAWF email notifications. The Contractor shall enter the email address identified below in the "Send Additional Email Notifications" field of WAWF once a document is submitted in the system.

BRIDGET.L.DWORNICK.CIV@MAIL.MIL

(g) WAWF point of contact. (1) The Contractor may obtain clarification regarding invoicing in WAWF from the following contracting

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activity's WAWF point of contact.

Michael Batarseh, DCMA Customer Liaison Representative, mailto:michael.f.batarseh.civ@mail.mil, Phone: 586-282-7077

(2) For technical WAWF help, contact the WAWF helpdesk at 866-618-5988.

(End of clause)

G-2 52.242-4016 COMMUNICATIONS

FEB/2013

Communications on technical matters pertaining to the Contract shall be direct between the Contractor and the Contracting Officer's Technical Representative (COTR, or COR). Communications for the COR shall be addressed to:

COR: BRIDGET DWORNICK, PHONE 586.282.4221 and E-MAIL BRIDGET.L.DWORNICK.CIV@MAIL.MIL

The Administrative Contracting Officer's (ACO) name and e-mail address are also provided here:

Joshua Kabisch / Joshua.Kabisch@navy.mil

Please see the individual Appointment Letters issued at the time of Contract award for detailed information on all of the functions that both the COR and ACO will be delegated to perform on this Contract.

G-3 52.232-4087 PAYMENT UNDER WIDE AREA WORKFLOW (ACC WARREN)

AUG/2012

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.

The document type the contractor shall use is as follows:

- "Combo" is entered if the award is for supplies or supplies and services are being delivered.
- "2in1" is entered if the award is strictly for services being provided/delivered.

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) (found in Section B of the contract where SF 33, SF 1442, or SF 26 is the cover page; Block 15 of SF 1449)
- Accept-By DoDAAC Code: If Inspection/Acceptance is Origin, use the Admin (DCMA)DoDAAC or the DoDAAC of the inspection/acceptance office if different than the Admin DoDAAC; if Destination, use the Ship-To DoDAAC Code. If Accepted-By Other: enter the DoDAAC of the activity designated to perform acceptance.
- 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 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]

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SECTION H - SPECIAL CONTRACT REQUIREMENTS

H.1 GOVERNMENT-FURNISHED MATERIAL / INFORMATION

H.1.1 The Government will provide to the Contractor for use in performing the work requirements for this Contract the following items:

H.1.1.1 Base Oils (ref. C.2.1.1)

H.1.1.2 Graphene Nano-Platelet particles size(s) and concentration(s) (ref. C.2.1.2)

H.1.1.3 Stability Analysis experiments to be performed (ref. C.2.2.2)

H.1.2 Upon completion of the Contract or in the event of the termination of the Contract, either partial or complete, all Government-owned materials, including both property furnished to the Contractor and property acquired by the Contractor for the account of the Government, which will have become surplus or excess to any remaining Contract requirements, shall be reported immediately by the Contractor to the Contracting Officer through the cognizant Contract Specialist identified on the face page of this Contract.

*** END OF NARRATIVE H0001 ***

<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
H-1 52.204-4005	REQUIRED USE OF ELECTRONIC CONTRACTING	AUG/2012

(a) All contract awards, modifications and delivery orders issued by Army Contracting Command - Warren (DTA) will be issued electronically. The contractor has the option to receive these actions either via the Worldwide Web (WWW) or Electronic Data Interchange (EDI). Many provisions/clauses that appear "by reference," meaning only clause titles and regulation site are listed; their full texts can be found at the website <http://farsite.hill.af.mil/>

(b) In order to be eligible to receive an award under this solicitation, the successful offeror must be registered with the Department of Defense (DOD) System for Award Management (SAM). The SAM registration process may be done electronically at the World Wide Web (WWW) site: <https://www.sam.gov/portal/public/SAM>. (In order to be registered to use EDI, you must use the long form for registration. Certification information, including information on the EDI 838 TPP, must be furnished to the Contracting Officer within 60 calendar days after contract award to complete networking requirements within the Government.)

(c) Worldwide Web Distribution. The contractor will receive an electronic Notice of the Award, Modification, or Delivery Order via e-mail. If you choose the WWW option, you must download the file from the appropriate Army Contracting Command - Warren webpage:

- Warren: http://contracting.tacom.army.mil/CFDATA/AWARDS/AWARD_RPT01.cfm
- Rock Island - JMTC: <https://acquisition.army.mil/asfi/>
- Red River Army Depot: <https://acquisition.army.mil/asfi/>
- Anniston Army Depot: <https://acquisition.army.mil/asfi/>

(d) Electronic Data Interchange. If you choose to receive contract awards, modifications and delivery orders through EDI, they will be delivered electronically via the Federal Acquisition Network (FACNET). Federal Standard Version 3050 of Standard X12 from the American National Standards Institute (ANSI) will be used as the format for these electronic transactions.

(1) You must complete the EDI 838 Trading Partner Profile, and must agree (i) to subcontract with a DoD certified VAN or Value Added Service (VAS) provider, or (ii) to become DoD certified as a Value Added Network (VAN). The EDI 838 Training Partner Profile is contained in the basic SAM registration form and includes portions of the registration form which are titled "Optional".

(2) You must select a VAN from the official DoD approved list. DoD Certified VANs are listed at <http://www.acq.osd.mil/dpap/ebiz/VANs.htm>. If your VAN is later removed from the official list, or if you voluntarily drop your initially selected VAN, then you must switch to a VAN that remains on the official DoD approved list. You must maintain an active account on a DoD approved VAN for the entire duration of the contract, beginning no later than the 60th day after award.

(e) Unless otherwise specified elsewhere in the contract, all data items you are required to provide under this contract must be submitted electronically. Please go to the following webpage for detailed information about submitting your offer electronically: <http://contracting.tacom.army.mil/acqinfo/ebidnotice.htm>

(f) Additional information can be obtained by sending a message to: usarmy.detroit.acc.mbx.wrn-web-page@mail.mil or by calling

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(586) 282-7059.

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SECTION I - CONTRACT CLAUSES

I.1 The clauses below are incorporated by reference with the same force and effect as if they were given in full text. The full text of a clause may be accessed electronically at the following web address:

<farsite.hill.af.mil/VFFARA.HTM>

<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
252.227-7017	IDENTIFICATION AND ASSERTION OF USE, RELEASE, OR DISCLOSURE RESTRICTIONS	JUN/1995
252.227-7028	TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT	JUN/1995

*** END OF NARRATIVE I0001 ***

	<u>Regulatory Cite</u>	<u>Title</u>	<u>Date</u>
I-1	52.202-1	DEFINITIONS	JAN/2012
I-2	52.203-3	GRATUITIES	APR/1984
I-3	52.203-5	COVENANT AGAINST CONTINGENT FEES	APR/1984
I-4	52.203-6	RESTRICTIONS ON SUBCONTRACTOR SALES TO THE GOVERNMENT	SEP/2006
I-5	52.203-7	ANTI-KICKBACK PROCEDURES	OCT/2010
I-6	52.203-8	CANCELLATION, RESCISSION, AND RECOVERY OF FUNDS FOR ILLEGAL OR IMPROPER ACTIVITY	JAN/1997
I-7	52.203-10	PRICE OR FEE ADJUSTMENT FOR ILLEGAL OR IMPROPER ACTIVITY	JAN/1997
I-8	52.203-12	LIMITATION ON PAYMENTS TO INFLUENCE CERTAIN FEDERAL TRANSACTIONS	OCT/2010
I-9	52.204-10	REPORTING EXECUTIVE COMPENSATION AND FIRST-TIER SUBCONTRACT AWARDS	JUL/2013
I-10	52.211-5	MATERIAL REQUIREMENTS	AUG/2000
I-11	52.215-8	ORDER OF PRECEDENCE--UNIFORM CONTRACT FORMAT	OCT/1997
I-12	52.216-11	COST CONTRACT--NO FEE (APR 1984) -- ALTERNATE I (APR 1984)	APR/1984
I-13	52.222-1	NOTICE TO THE GOVERNMENT OF LABOR DISPUTES	FEB/1997
I-14	52.222-19	CHILD LABOR--COOPERATION WITH AUTHORITIES AND REMEDIES	MAR/2012
I-15	52.222-20	WALSH-HEALEY PUBLIC CONTRACTS ACT	OCT/2010
I-16	52.222-21	PROHIBITION OF SEGREGATED FACILITIES	FEB/1999
I-17	52.222-26	EQUAL OPPORTUNITY	MAR/2007
I-18	52.222-35	EQUAL OPPORTUNITY FOR VETERANS	SEP/2010
I-19	52.222-36	AFFIRMATIVE ACTION FOR WORKERS WITH DISABILITIES	OCT/2010
I-20	52.222-37	EMPLOYMENT REPORTS ON VETERANS	SEP/2010
I-21	52.222-50	COMBATING TRAFFICKING IN PERSONS	FEB/2009
I-22	52.223-18	ENCOURAGING CONTRACTOR POLICIES TO BAN TEXT MESSAGING WHILE DRIVING	AUG/2011
I-23	52.225-13	RESTRICTIONS ON CERTAIN FOREIGN PURCHASES	JUN/2008
I-24	52.227-1	AUTHORIZATION AND CONSENT (DEC 2007) -- ALTERNATE I (APR 1984)	APR/1984
I-25	52.228-7	INSURANCE--LIABILITY TO THIRD PERSONS	MAR/1996
I-26	52.232-20	LIMITATION OF COST	APR/1984
I-27	52.232-23	ASSIGNMENT OF CLAIMS (JAN 1986) -- ALTERNATE I (APR 1984)	APR/1984
I-28	52.232-25	PROMPT PAYMENT	JUL/2013
I-29	52.232-33	PAYMENT BY ELECTRONIC FUNDS TRANSFER--SYSTEM FOR AWARD MANAGEMENT	JUL/2013
I-30	52.232-39	UNENFORCEABILITY OF UNAUTHORIZED OBLIGATIONS	JUN/2013
I-31	52.233-1	DISPUTES	JUL/2002
I-32	52.233-3	PROTEST AFTER AWARD (AUG 1996) -- ALTERNATE I (JUN 1985)	JUN/1985
I-33	52.233-4	APPLICABLE LAW FOR BREACH OF CONTRACT CLAIM	OCT/2004
I-34	52.242-1	NOTICE OF INTENT TO DISALLOW COSTS	APR/1984
I-35	52.245-1	GOVERNMENT PROPERTY	APR/2012
I-36	52.247-68	REPORT OF SHIPMENT (REPSHIP)	FEB/2006
I-37	52.249-5	TERMINATION FOR CONVENIENCE OF THE GOVERNMENT (EDUCATIONAL AND OTHER NONPROFIT INSTITUTIONS)	SEP/1996
I-38	52.253-1	COMPUTER GENERATED FORMS	JAN/1991
I-39	252.201-7000	CONTRACTING OFFICER'S REPRESENTATIVE	DEC/1991
I-40	252.203-7000	REQUIREMENTS RELATING TO COMPENSATION OF FORMER DOD OFFICIALS	SEP/2011
I-41	252.203-7002	REQUIREMENT TO INFORM EMPLOYEES OF WHISTLEBLOWER RIGHTS	JAN/2009
I-42	252.204-7000	DISCLOSURE OF INFORMATION	AUG/2013

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I-43	252.204-7003	CONTROL OF GOVERNMENT PERSONNEL WORK PRODUCT	APR/1992
I-44	252.204-7004	ALTERNATE A, SYSTEM FOR AWARD MANAGEMENT	MAY/2013
I-45	252.204-7006	BILLING INSTRUCTIONS	OCT/2005
I-46	252.215-7000	PRICING ADJUSTMENTS	DEC/2012
I-47	252.225-7002	QUALIFYING COUNTRY SOURCES AS SUBCONTRACTORS	DEC/2012
I-48	252.225-7048	EXPORT-CONTROLLED ITEMS	JUN/2013
I-49	252.227-7013	RIGHTS IN TECHNICAL DATA--NONCOMMERCIAL ITEMS	JUN/2013
I-50	252.227-7014	RIGHTS IN NONCOMMERCIAL COMPUTER SOFTWARE AND NONCOMMERCIAL COMPUTER SOFTWARE DOCUMENTATION	MAY/2013
I-51	252.227-7015	TECHNICAL DATA--COMMERCIAL ITEMS	JUN/2013
I-52	252.227-7016	RIGHTS IN BID OR PROPOSAL INFORMATION	JAN/2011
I-53	252.227-7019	VALIDATION OF ASSERTED RESTRICTIONS--COMPUTER SOFTWARE	SEP/2011
I-54	252.227-7025	LIMITATIONS ON THE USE OR DISCLOSURE OF GOVERNMENT-FURNISHED INFORMATION MARKED WITH RESTRICTIVE LEGENDS	MAY/2013
I-55	252.227-7030	TECHNICAL DATA--WITHHOLDING OF PAYMENT	MAR/2000
I-56	252.227-7037	VALIDATION OF RESTRICTIVE MARKINGS ON TECHNICAL DATA	JUN/2013
I-57	252.227-7039	PATENTS--REPORTING OF SUBJECT INVENTIONS	APR/1990
I-58	252.232-7003	ELECTRONIC SUBMISSION OF PAYMENT REQUESTS AND RECEIVING REPORTS	JUN/2012
I-59	252.232-7010	LEVIES ON CONTRACT PAYMENTS	DEC/2006
I-60	252.235-7011	FINAL SCIENTIFIC OR TECHNICAL REPORT	NOV/2004
I-61	252.243-7001	PRICING OF CONTRACT MODIFICATIONS	DEC/1991
I-62	252.246-7000	MATERIAL INSPECTION AND RECEIVING REPORT	MAR/2008
I-63	252.246-7001	WARRANTY OF DATA	DEC/1991
I-64	252.247-7023	TRANSPORTATION OF SUPPLIES BY SEA (JUN 2013) -- ALTERNATE III (MAY 2002)	MAY/2002
I-65	52.216-7	ALLOWABLE COST AND PAYMENT (JUN2013) -- ALTERNATE II (AUG 2012)	AUG/2012

(a) Invoicing.

(1) The Government will make payments to the Contractor when requested as work progresses, but not more often than once every two weeks, in amounts determined to be allowable by the Contracting Officer in accordance with FAR subpart 31.3 in effect on the date of this contract and the terms of this contract. The Contractor may submit to an authorized representative of the Contracting Officer, in such form and reasonable detail as the representative may require, an invoice or voucher supported by a statement of the claimed allowable cost for performing this contract.

(2) Contract financing payments are not subject to the interest penalty provisions of the Prompt Payment Act. Interim payments made prior to the final payment under the contract are contract financing payments, except interim payments if this contract contains Alternate I to the clause at 52.232-25.

(3) The designated payment office will make interim payments for contract financing on the 30th day after the designated billing office receives a proper payment request. In the event that the Government requires an audit or other review of a specific payment request to ensure compliance with the terms and conditions of the contract, the designated payment office is not compelled to make payment by the specified due date.

(b) Reimbursing costs.

(1) For the purpose of reimbursing allowable costs (except as provided in subparagraph (b)(2) of this clause, with respect to pension, deferred profit sharing, and employee stock ownership plan contributions), the term costs includes only --

(i) Those recorded costs that, at the time of the request for reimbursement, the Contractor has paid by cash, check, or other form of actual payment for items or services purchased directly for the contract;

(ii) When the Contractor is not delinquent in paying costs of contract performance in the ordinary course of business, costs incurred, but not necessarily paid, for --

(A) Supplies and services purchased directly for the contract and associated financing payments to subcontractors, provided payments determined due will be made

(1) In accordance with the terms and conditions of a subcontract or invoice; and

(2) Ordinarily within 30 days of the submission of the Contractors payment request to the Government;

(B) Materials issued from the Contractors inventory and placed in the production process for use on the contract;

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(C) Direct labor;

(D) Direct travel;

(E) Other direct in-house costs; and

(F) Properly allocable and allowable indirect costs, as shown in the records maintained by the Contractor for purposes of obtaining reimbursement under Government contracts; and

(iii) The amount of financing payments that have been paid by cash, check or other form of payment to subcontractors.

(2) Accrued costs of Contractor contributions under employee pension plans shall be excluded until actually paid unless

(i) The Contractors practice is to make contributions to the retirement fund quarterly or more frequently; and

(ii) The contribution does not remain unpaid 30 days after the end of the applicable quarter or shorter payment period (any contribution remaining unpaid shall be excluded from the Contractors indirect costs for payment purposes).

(3) Notwithstanding the audit and adjustment of invoices or vouchers under paragraph (g) of this clause, allowable indirect costs under this contract shall be obtained by applying indirect cost rates established in accordance with paragraph (d) of this clause.

(4) Any statements in specifications or other documents incorporated in this contract by reference designating performance of services or furnishing of materials at the Contractors expense or at no cost to the Government shall be disregarded for purposes of cost-reimbursement under this clause.

(c) Small business concerns. A small business concern may receive more frequent payments than every 2 weeks.

(d) Final indirect cost rates.

(1) Final annual indirect cost rates and the appropriate bases shall be established in accordance with Subpart 42.7 of the Federal Acquisition Regulation (FAR) in effect for the period covered by the indirect cost rate proposal.

(2)(i) The Contractor shall submit an adequate final indirect cost rate proposal to the Contracting Officer (or cognizant Federal agency official) and auditor within the 6-month period following the expiration of each of its fiscal years. Reasonable extensions, for exceptional circumstances only, may be requested in writing by the Contractor and granted in writing by the Contracting Officer. The Contractor shall support its proposal with adequate supporting data.

(ii) The proposed rates shall be based on the Contractors actual cost experience for that period. The appropriate Government representative and the Contractor shall establish the final indirect cost rates as promptly as practical after receipt of the Contractors proposal.

(iii) An adequate indirect cost rate proposal shall include the following data unless otherwise specified by the cognizant Federal agency official:

(A) Summary of all claimed indirect expense rates, including pool, base, and calculated indirect rate.

(B) General and Administrative expenses (final indirect cost pool). Schedule of claimed expenses by element of cost as identified in accounting records (Chart of Accounts).

(C) Overhead expenses (final indirect cost pool). Schedule of claimed expenses by element of cost as identified in accounting records (Chart of Accounts) for each final indirect cost pool.

(D) Occupancy expenses (intermediate indirect cost pool). Schedule of claimed expenses by element of cost as identified in accounting records (Chart of Accounts) and expense reallocation to final indirect cost pools.

(E) Claimed allocation bases, by element of cost, used to distribute indirect costs.

(F) Facilities capital cost of money factors computation.

(G) Reconciliation of books of account (i.e., General Ledger) and claimed direct costs by major cost element.

(H) Schedule of direct costs by contract and subcontract and indirect expense applied at claimed rates, as well as a subsidiary schedule of Government participation percentages in each of the allocation base amounts.

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(I) Schedule of cumulative direct and indirect costs claimed and billed by contract and subcontract.

(J) Subcontract information. Listing of subcontracts awarded to companies for which the contractor is the prime or upper-tier contractor (include prime and subcontract numbers; subcontract value and award type; amount claimed during the fiscal year; and the subcontractor name, address, and point of contact information).

(K) Summary of each time-and-materials and labor-hour contract information, including labor categories, labor rates, hours, and amounts; direct materials; other direct costs; and, indirect expense applied at claimed rates.

(L) Reconciliation of total payroll per IRS form 941 to total labor costs distribution.

(M) Listing of decisions/agreements/approvals and description of accounting/organizational changes.

(N) Certificate of final indirect costs (see 52.242-4, Certification of Final Indirect Costs).

(O) Contract closing information for contracts physically completed in this fiscal year (include contract number, period of performance, contract ceiling amounts, contract fee computations, level of effort, and indicate if the contract is ready to close).

(iv) The following supplemental information is not required to determine if a proposal is adequate, but may be required during the audit process:

(A) Comparative analysis of indirect expense pools detailed by account to prior fiscal year and budgetary data.

(B) General Organizational information and limitation on allowability of compensation for certain contractor personnel. See 31.205-6(p). Additional salary reference information is available at [://www.whitehouse.gov/omb/procurement_index_exec_comp/](http://www.whitehouse.gov/omb/procurement_index_exec_comp/).

(C) Identification of prime contracts under which the contractor performs as a subcontractor.

(D) Description of accounting system (excludes contractors required to submit a CAS Disclosure Statement or contractors where the description of the accounting system has not changed from the previous year's submission).

(E) Procedures for identifying and excluding unallowable costs from the costs claimed and billed (excludes contractors where the procedures have not changed from the previous year's submission).

(F) Certified financial statements and other financial data (e.g., trial balance, compilation, review, etc.).

(G) Management letter from outside CPAs concerning any internal control weaknesses.

(H) Actions that have been and/or will be implemented to correct the weaknesses described in the management letter from subparagraph (G) of this section.

(I) List of all internal audit reports issued since the last disclosure of internal audit reports to the Government.

(J) Annual internal audit plan of scheduled audits to be performed in the fiscal year when the final indirect cost rate submission is made.

(K) Federal and State income tax returns.

(L) Securities and Exchange Commission 10-K annual report.

(M) Minutes from board of directors meetings.

(N) Listing of delay claims and termination claims submitted which contain costs relating to the subject fiscal year.

(O) Contract briefings, which generally include a synopsis of all pertinent contract provisions, such as: Contract type, contract amount, product or service(s) to be provided, contract performance period, rate ceilings, advance approval requirements, pre-contract cost allowability limitations, and billing limitations.

(v) The Contractor shall update the billings on all contracts to reflect the final settled rates and update the schedule of cumulative direct and indirect costs claimed and billed, as required in paragraph (d)(2)(iii)(I) of this section, within 60 days after settlement of final indirect cost rates.

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(3) The Contractor and the appropriate Government representative shall execute a written understanding setting forth the final indirect cost rates. The understanding shall specify

- (i) the agreed-upon final annual indirect cost rates,
- (ii) the bases to which the rates apply,
- (iii) the periods for which the rates apply,
- (iv) any specific indirect cost items treated as direct costs in the settlement, and
- (v) the affected contract and/or subcontract, identifying any with advance agreements or special terms and the applicable rates.

The understanding shall not change any monetary ceiling, contract obligation, or specific cost allowance or disallowance provided for in this contract. The understanding is incorporated into this contract upon execution.

(4) Failure by the parties to agree on a final annual indirect cost rate shall be a dispute within the meaning of the Disputes clause.

(5) Within 120 days (or longer period if approved in writing by the Contracting Officer) after settlement of the final annual indirect cost rates for all years of a physically complete contract, Contractor shall submit a completion invoice or voucher to reflect the settled amounts and rates. The completion invoice or voucher shall include settled subcontract amounts and rates. The prime contractor is responsible for settling subcontractor amounts and rates included in the completion invoice or voucher and providing status of subcontractor audits to the contracting officer upon request.

(6)(i) If the Contractor fails to submit a completion invoice or voucher within the time specified in paragraph (d)(5) of this clause, the Contracting Officer may--

- (A) Determine the amounts due to the Contractor under the contract; and
- (B) Record this determination in a unilateral modification to the contract.

(ii) This determination constitutes the final decision of the Contracting Officer in accordance with the Disputes clause.

(e) Billing rates. Until final annual indirect cost rates are established for any period, the Government shall reimburse the Contractor at billing rates established by the Contracting Officer or by an authorized representative (the cognizant auditor), subject to adjustment when the final rates are established. These billing rates --

(1) Shall be the anticipated final rates; and

(2) May be prospectively or retroactively revised by mutual agreement, at either party's request, to prevent substantial overpayment or underpayment.

(f) Quick-closeout procedures. Quick-closeout procedures are applicable when the conditions in FAR 42.708(a) are satisfied.

(g) Audit. At any time or times before final payment, the Contracting Officer may have the Contractor's invoices or vouchers and statements of cost audited. Any payment may be --

- (1) Reduced by amounts found by the Contracting Officer not to constitute allowable costs; or
- (2) Adjusted for prior overpayments or underpayments.

(h) Final payment.

(1) Upon approval of a completion invoice or voucher submitted by the Contractor in accordance with paragraph (d)(5) of this clause, and upon the Contractor's compliance with all terms of this contract, the Government shall promptly pay any balance of allowable costs and that part of the fee (if any) not previously paid.

(2) The Contractor shall pay to the Government any refunds, rebates, credits, or other amounts (including interest, if any) accruing to or received by the Contractor or any assignee under this contract, to the extent that those amounts are properly allocable to costs for which the Contractor has been reimbursed by the Government. Reasonable expenses incurred by the Contractor for securing refunds, rebates, credits, or other amounts shall be allowable costs if approved by the Contracting Officer. Before final payment under this contract, the Contractor and each assignee whose assignment is in effect at the time of final payment shall execute and deliver --

- (i) An assignment to the Government, in form and substance satisfactory to the Contracting Officer, of refunds, rebates, credits, or

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other amounts (including interest, if any) properly allocable to costs for which the Contractor has been reimbursed by the Government under this contract; and

(ii) A release discharging the Government, its officers, agents, and employees from all liabilities, obligations, and claims arising out of or under this contract, except --

(A) Specified claims stated in exact amounts, or in estimated amounts when the exact amounts are not known;

(B) Claims (including reasonable incidental expenses) based upon liabilities of the Contractor to third parties arising out of the performance of this contract; provided, that the claims are not known to the Contractor on the date of the execution of the release, and that the Contractor gives notice of the claims in writing to the Contracting Officer within 6 years following the release date or notice of final payment date, whichever is earlier; and

(C) Claims for reimbursement of costs, including reasonable incidental expenses, incurred by the Contractor under the patent clauses of this contract, excluding, however, any expenses arising from the Contractor's indemnification of the Government against patent liability.

(End of Clause)

I-66 52.227-11 PATENT RIGHTS--OWNERSHIP BY THE CONTRACTOR DEC/2007

(a) As used in this clause--

Invention means any invention or discovery that is or may be patentable or otherwise protectable under title 35 of the U.S. Code, or any variety of plant that is or may be protectable under the Plant Variety Protection Act (7 U.S.C. 2321, et seq.)

Made means--

(1) When used in relation to any invention other than a plant variety, the conception or first actual reduction to practice of the invention; or

(2) When used in relation to a plant variety, that the Contractor has at least tentatively determined that the variety has been reproduced with recognized characteristics.

Nonprofit organization means a university or other institution of higher education or an organization of the type described in section 501(c)(3) of the Internal Revenue Code of 1954 (26 U.S.C. 501(c)) and exempt from taxation under section 501(a) of the Internal Revenue Code (26 U.S.C. 501(a)), or any nonprofit scientific or educational organization qualified under a State nonprofit organization statute.

Practical application means to manufacture, in the case of a composition of product; to practice, in the case of a process or method; or to operate, in the case of a machine or system; and, in each case, under such conditions as to establish that the invention is being utilized and that its benefits are, to the extent permitted by law or Government regulations, available to the public on reasonable terms.

Subject invention means any invention of the Contractor made in the performance of work under this contract.

(b) Contractor's rights. (1) Ownership. The Contractor may retain ownership of each subject invention throughout the world in accordance with the provisions of this clause.

(2) License. (i) The Contractor shall retain a nonexclusive royalty-free license throughout the world in each subject invention to which the Government obtains title, unless the Contractor fails to disclose the invention within the times specified in paragraph (c) of this clause. The Contractor's license extends to any domestic subsidiaries and affiliates within the corporate structure of which the Contractor is a part, and includes the right to grant sublicenses to the extent the Contractor was legally obligated to do so at contract award. The license is transferable only with the written approval of the agency, except when transferred to the successor of that part of the Contractor's business to which the invention pertains.

(ii) The Contractor's license may be revoked or modified by the agency to the extent necessary to achieve expeditious practical application of the subject invention in a particular country in accordance with the procedures in FAR 27.302(i)(2) and 27.304-1(f).

(c) Contractor's obligations. (1) The Contractor shall disclose in writing each subject invention to the Contracting Officer within 2 months after the inventor discloses it in writing to Contractor personnel responsible for patent matters. The disclosure shall identify the inventor(s) and this contract under which the subject invention was made. It shall be sufficiently complete in technical detail to

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convey a clear understanding of the subject invention. The disclosure shall also identify any publication, on sale (i.e., sale or offer for sale), or public use of the subject invention, or whether a manuscript describing the subject invention has been submitted for publication and, if so, whether it has been accepted for publication. In addition, after disclosure to the agency, the Contractor shall promptly notify the Contracting Officer of the acceptance of any manuscript describing the subject invention for publication and any on sale or public use.

(2) The Contractor shall elect in writing whether or not to retain ownership of any subject invention by notifying the Contracting Officer within 2 years of disclosure to the agency. However, in any case where publication, on sale, or public use has initiated the 1-year statutory period during which valid patent protection can be obtained in the United States, the period for election of title may be shortened by the agency to a date that is no more than 60 days prior to the end of the statutory period.

(3) The Contractor shall file either a provisional or a nonprovisional patent application or a Plant Variety Protection Application on an elected subject invention within 1 year after election. However, in any case where a publication, on sale, or public use has initiated the 1-year statutory period during which valid patent protection can be obtained in the United States, the Contractor shall file the application prior to the end of that statutory period. If the Contractor files a provisional application, it shall file a nonprovisional application within 10 months of the filing of the provisional application. The Contractor shall file patent applications in additional countries or international patent offices within either 10 months of the first filed patent application (whether provisional or nonprovisional) or 6 months from the date permission is granted by the Commissioner of Patents to file foreign patent applications where such filing has been prohibited by a Secrecy Order.

(4) The Contractor may request extensions of time for disclosure, election, or filing under paragraphs (c)(1), (c)(2), and (c)(3) of this clause.

(d) Government's rights--(1) Ownership. The Contractor shall assign to the agency, on written request, title to any subject invention--

(i) If the Contractor fails to disclose or elect ownership to the subject invention within the times specified in paragraph (c) of this clause, or elects not to retain ownership; provided, that the agency may request title only within 60 days after learning of the Contractor's failure to disclose or elect within the specified times.

(ii) In those countries in which the Contractor fails to file patent applications within the times specified in paragraph (c) of this clause; provided, however, that if the Contractor has filed a patent application in a country after the times specified in paragraph (c) of this clause, but prior to its receipt of the written request of the agency, the Contractor shall continue to retain ownership in that country.

(iii) In any country in which the Contractor decides not to continue the prosecution of any application for, to pay the maintenance fees on, or defend in reexamination or opposition proceeding on, a patent on a subject invention.

(2) License. If the Contractor retains ownership of any subject invention, the Government shall have a nonexclusive, nontransferable, irrevocable, paid-up license to practice, or have practiced for or on its behalf, the subject invention throughout the world.

(e) Contractor action to protect the Government's interest. (1) The Contractor shall execute or have executed and promptly deliver to the agency all instruments necessary to--

(i) Establish or confirm the rights the Government has throughout the world in those subject inventions in which the Contractor elects to retain ownership; and

(ii) Assign title to the agency when requested under paragraph (d) of this clause and to enable the Government to obtain patent protection and plant variety protection for that subject invention in any country.

(2) The Contractor shall require, by written agreement, its employees, other than clerical and nontechnical employees, to disclose promptly in writing to personnel identified as responsible for the administration of patent matters and in the Contractor's format, each subject invention in order that the Contractor can comply with the disclosure provisions of paragraph (c) of this clause, and to execute all papers necessary to file patent applications on subject inventions and to establish the Government's rights in the subject inventions. The disclosure format should require, as a minimum, the information required by paragraph (c)(1) of this clause. The Contractor shall instruct such employees, through employee agreements or other suitable educational programs, as to the importance of reporting inventions in sufficient time to permit the filing of patent applications prior to U.S. or foreign statutory bars.

(3) The Contractor shall notify the Contracting Officer of any decisions not to file a nonprovisional patent application, continue the prosecution of a patent application, pay maintenance fees, or defend in a reexamination or opposition proceeding on a patent, in any country, not less than 30 days before the expiration of the response or filing period required by the relevant patent office.

(4) The Contractor shall include, within the specification of any United States nonprovisional patent or plant variety protection application and any patent or plant variety protection certificate issuing thereon covering a subject invention, the following statement, "This invention was made with Government support under (identify the contract) awarded by (identify the agency). The

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Government has certain rights in the invention."

(f) Reporting on utilization of subject inventions. The Contractor shall submit, on request, periodic reports no more frequently than annually on the utilization of a subject invention or on efforts at obtaining utilization of the subject invention that are being made by the Contractor or its licensees or assignees. The reports shall include information regarding the status of development, date of first commercial sale or use, gross royalties received by the Contractor, and other data and information as the agency may reasonably specify. The Contractor also shall provide additional reports as may be requested by the agency in connection with any march-in proceeding undertaken by the agency in accordance with paragraph (h) of this clause. The Contractor also shall mark any utilization report as confidential/proprietary to help prevent inadvertent release outside the Government. As required by 35 U.S.C. 202(c)(5), the agency will not disclose that information to persons outside the Government without the Contractor's permission.

(g) Preference for United States industry. Notwithstanding any other provision of this clause, neither the Contractor nor any assignee shall grant to any person the exclusive right to use or sell any subject invention in the United States unless the person agrees that any products embodying the subject invention or produced through the use of the subject invention will be manufactured substantially in the United States. However, in individual cases, the requirement for an agreement may be waived by the agency upon a showing by the Contractor or its assignee that reasonable but unsuccessful efforts have been made to grant licenses on similar terms to potential licensees that would be likely to manufacture substantially in the United States, or that under the circumstances domestic manufacture is not commercially feasible.

(h) March-in rights. The Contractor acknowledges that, with respect to any subject invention in which it has retained ownership, the agency has the right to require licensing pursuant to 35 U.S.C. 203 and 210(c), and in accordance with the procedures in 37 CFR 401.6 and any supplemental regulations of the agency in effect on the date of contract award.

(i) Special provisions for contracts with nonprofit organizations. If the Contractor is a nonprofit organization, it shall--

(1) Not assign rights to a subject invention in the United States without the written approval of the agency, except where an assignment is made to an organization that has as one of its primary functions the management of inventions, provided, that the assignee shall be subject to the same provisions as the Contractor;

(2) Share royalties collected on a subject invention with the inventor, including Federal employee co-inventors (but through their agency if the agency deems it appropriate) when the subject invention is assigned in accordance with 35 U.S.C. 202(e) and 37 CFR 401.10;

(3) Use the balance of any royalties or income earned by the Contractor with respect to subject inventions, after payment of expenses (including payments to inventors) incidental to the administration of subject inventions for the support of scientific research or education; and

(4) Make efforts that are reasonable under the circumstances to attract licensees of subject inventions that are small business concerns, and give a preference to a small business concern when licensing a subject invention if the Contractor determines that the small business concern has a plan or proposal for marketing the invention which, if executed, is equally as likely to bring the invention to practical application as any plans or proposals from applicants that are not small business concerns; provided, that the Contractor is also satisfied that the small business concern has the capability and resources to carry out its plan or proposal. The decision whether to give a preference in any specific case will be at the discretion of the Contractor.

(5) Allow the Secretary of Commerce to review the Contractor's licensing program and decisions regarding small business applicants, and negotiate changes to its licensing policies, procedures, or practices with the Secretary of Commerce when the Secretary's review discloses that the Contractor could take reasonable steps to more effectively implement the requirements of paragraph (i)(4) of this clause.

(j) Communications: the Contractor shall contact the ACC-WRN Contracting Officer for matters related to this Clause.

(k) Subcontracts. (1) The Contractor shall include the substance of this clause, including this paragraph (k), in all subcontracts for experimental, developmental, or research work to be performed by a small business concern or nonprofit organization.

(2) The Contractor shall include in all other subcontracts for experimental, developmental, or research work the substance of the patent rights clause required by FAR Subpart 27.3.

(3) At all tiers, the patent rights clause must be modified to identify the parties as follows: references to the Government are not changed, and the subcontractor has all rights and obligations of the Contractor in the clause. The Contractor shall not, as part of the consideration for awarding the subcontract, obtain rights in the subcontractor's subject inventions.

(4) In subcontracts, at any tier, the agency, the subcontractor, and the Contractor agree that the mutual obligations of the parties created by this clause constitute a contract between the subcontractor and the agency with respect to the matters covered by the clause; provided, however, that nothing in this paragraph is intended to confer any jurisdiction under the Contract Disputes Act in connection

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with proceedings under paragraph (h) of this clause.

(End of clause)

I-67 252.235-7010 ACKNOWLEDGMENT OF SUPPORT AND DISCLAIMER MAY/1995

(a) The Contractor shall include an acknowledgment of the Government's support in the publication of any material based on or developed under this contract, stated in the following terms: "This material is based upon work supported by the U.S. Army Contracting Command-Warren (ACC-WRN) under Contract Number W56HZV-13-C-0401".

(b) All material, except scientific articles or papers published in scientific journals, must, in addition to any notices or disclaimers by the Contractor, also contain the following disclaimer: "Any opinions, findings and conclusions or recommendations expressed in this material are those of the author(s) and do not necessarily reflect the views of the U.S. Army.".

(End of Clause)

I-68 52.223-3 HAZARDOUS MATERIAL IDENTIFICATION AND MATERIAL SAFETY DATA JAN/1997

(a) Hazardous material, as used in this clause, includes any material defined as hazardous under the latest version of Federal Standard No. 313 (including revisions adopted during the term of the contract).

(b) The offeror must list any hazardous material, as defined in paragraph (a) of this clause, to be delivered under this contract. The hazardous material shall be properly identified and include any applicable identification number, such as National Stock Number or Special Item Number. This information shall also be included on the Material Safety Data Sheet submitted under this contract.

Material	Identification No.
(If none, insert None)	

(c) This list must be updated during performance of the contract whenever the Contractor determines that any other material to be delivered under this contract is hazardous.

(d) The apparently successful offeror agrees to submit, for each item as required prior to award, a Material Safety Data Sheet, meeting the requirements of 29 CFR 1910.1200(g) and the latest version of Federal Standard No. 313, for all hazardous material identified in paragraph (b) of this clause. Data shall be submitted in accordance with Federal Standard No. 313, whether or not the apparently successful offeror is the actual manufacturer of these items. Failure to submit the Material Safety Data Sheet prior to award may result in the apparently successful offeror being considered nonresponsible and ineligible for award.

(e) If, after award, there is a change in the composition of the item(s) or a revision to Federal Standard No. 313, which renders incomplete or inaccurate the data submitted under paragraph (d) of this clause, the Contractor shall promptly notify the Contracting Officer and resubmit the data.

(f) Neither the requirements of this clause nor any act or failure to act by the Government shall relieve the Contractor of any responsibility or liability for the safety of Government, Contractor, or subcontractor personnel or property.

(g) Nothing contained in this clause shall relieve the Contractor from complying with applicable Federal, State, and local laws, codes, ordinances, and regulations (including the obtaining of licenses and permits) in connection with hazardous material.

(h) The Government's rights in data furnished under this contract with respect to hazardous material are as follows:

(1) To use, duplicate and disclose any data to which this clause is applicable. The purposes of this right are to --

(i) Apprise personnel of the hazards to which they may be exposed in using, handling, packaging, transporting, or disposing of hazardous materials;

(ii) Obtain medical treatment for those affected by the material; and

(iii) Have others use, duplicate, and disclose the data for the Government for these purposes.

(2) To use, duplicate, and disclose data furnished under this clause, in accordance with subparagraph (h)(1) of this clause, in

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precedence over any other clause of this contract providing for rights in data.

(3) The Government is not precluded from using similar or identical data acquired from other sources.

(End of Clause)

I-69 52.252-6 AUTHORIZED DEVIATIONS IN CLAUSES APR/1984

(a) The use in this solicitation or contract of any Federal Acquisition Regulation (48 CFR Chapter 1) clause with an authorized deviation is indicated by the addition of (DEVIATION) after the date of the clause.

(b) The use in this solicitation or contract of any DoD FAR SUPPLEMENT (48 CFR 2) clause with an authorized deviation is indicated by the addition of (DEVIATION) after the name of the regulation.

(End of Clause)

I-70 252.223-7001 HAZARD WARNING LABELS DEC/1991

(a) Hazardous material, as used in this clause, is defined in the Hazardous Material Identification and Material Safety Data clause of this contract.

(b) The Contractor shall label the item package (unit container) of any hazardous material to be delivered under this contract in accordance with the Hazard Communication Standard (29 CFR 1910.1200 et seq). The Standard requires that the hazard warning label conform to the requirements of the standard unless the material is otherwise subject to the labeling requirements of one of the following statutes:

- (1) Federal Insecticide, Fungicide and Rodenticide Act;
- (2) Federal Food, Drug and Cosmetics Act;
- (3) Consumer Product Safety Act;
- (4) Federal Hazardous Substances Act; or
- (5) Federal Alcohol Administration Act.

(c) The Offeror shall list which hazardous material listed in the Hazardous Material Identification and Material Safety Data clause of this contract will be labeled in accordance with one of the Acts in paragraphs (b)(1) through (5) of this clause instead of the Hazard Communication Standard. Any hazardous material not listed will be interpreted to mean that a label is required in accordance with the Hazard Communication Standard.

MATERIAL (If None, Insert None.)	ACT
_____	_____
_____	_____
_____	_____

(d) The apparently successful Offeror agrees to submit, before award, a copy of the hazard warning label for all hazardous materials not listed in paragraph (c) of this clause. The Offeror shall submit the label with the Material Safety Data Sheet being furnished under the Hazardous Material Identification and Material Safety Data clause of this contract.

(e) The Contractor shall also comply with MIL-STD-129, Marking for Shipment and Storage (including revisions adopted during the term of this contract).

(End of clause)

I-71 52.204-4009 MANDATORY USE OF CONTRACTOR TO GOVERNMENT ELECTRONIC COMMUNICATION MAR/2005

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(a) All references in the contract to the submission of written documentation shall mean electronic submission. All electronic submissions shall be in the formats and media described in the website:

<http://contracting.tacom.army.mil/acqinfo/ebidnotice.htm>

(b) This shall include all written unclassified communications between the Government and the Contractor except contract awards and contract modifications which shall be posted on the internet. Return receipt shall be used if a commercial application is available. Classified information shall be handled in full accordance with the appropriate security requirements.

(c) In order to be contractually binding, all Government communications requiring a Contracting Officer signature must be sent from the Contracting Officer's e-mail address. The Contractor shall designate the personnel with signature authority who can contractually bind the contractor. All binding contractor communication shall be sent from this contractor e-mail address(es).

(d) Upon award, the Contractor shall provide the Contracting Officer with a list of e-mail addresses for all administrative and technical personnel assigned to this contract.

(e) Unless exempted by the Procuring Contracting Officer in writing, all unclassified written communication after contract award shall be transmitted electronically.

[End of Clause]

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SECTION J - LIST OF ATTACHMENTS

<u>List of Addenda</u>	<u>Title</u>	<u>Date</u>	<u>Number of Pages</u>	<u>Transmitted By</u>
Exhibit A	CONTRACT DATA REQUIREMENTS LIST (CDRL) DD FORM 1423		003	DATA
Attachment 0001	INSTRUCTIONS FOR COMPLETING SF 298		001	DATA
Attachment 0002	DATA ITEM DESCRIPTION (DID) DI-MGMT-80227(T) - CONTRACTOR'S PROGRESS, STATUS AND MANAGEMENT REPORT (CDRL DATA ITEM A002)	05-SEP-1986	002	EMAIL
Attachment 0003	DID DI-ADMN-81505 - RECORD OF MEETING/MINUTES REPORT (CDRL DATA ITEM A003)	20-NOV-1995	003	EMAIL
Attachment 0004	DID DI-MISC-80711A(T) - SCIENTIFIC AND TECHNICAL REPORTS (CDRL DATA ITEM A004)	21-JAN-2000	001	EMAIL

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

Public reporting burden for this collection of information is estimated to average 440 hours per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing this burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports, 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302, and to the Office of Management and Budget, Paperwork Reduction Project (0704-0188), Washington, DC 20503. Please DO NOT RETURN your form to either these addresses. Send completed form to the Government Issuing Contracting Officer for the Contract/PR No. listed in Block E.

- A. CONTRACT LINE ITEM / CLIN NUMBER: 0002
- B. EXHIBIT: A
- C. CATEGORY: Reports
- D. SYSTEM/ITEM: "DEVELOPMENT OF SYNTHESIZED NANO-FLUIDS"
- E. CONTRACT/P.R. NUMBER: W56HZV-13-C-0401
- F. CONTRACTOR: MICHIGAN STATE UNIVERSITY

- 1. DATA ITEM NUMBER: A001
- 2. TITLE OF DATA ITEM: WEEKLY TELECONFERENCES
- 3. SUBTITLE:
- 4. AUTHORITY: see Item 16 below
- 5. CONTRACT REFERENCE: C.3.1
- 6. REQUIRING OFFICE: RDTA-DP / M.S. 110
- 7. WAWF/DD250 REQ'D. : DS
- 8. APP. CODE: N/A
- 9. DIST. STATEMENT REQUIRED: A
- 10. FREQUENCY: WEEKLY
- 11. AS OF DATE: Date of Contract Award
- 12. DATE OF FIRST SUBMISSION: 7 DAC
- 13. DATE OF SUBS. SUBMISSION(S): see Item 16 below
- 14. DISTRIBUTION ADDRESSEES: Submit teleconference meeting minutes electronically to the following e-mail address:

BRIDGET DWORNICK, CONTRACTING OFFICER'S REPRESENTATIVE (COR), E-MAIL: BRIDGET.L.DWORNICK.CIV@MAIL.MIL
(see Clause G-1, 52.242-4016, "COMMUNICATIONS", in Section G of the Contract)

15. TOTAL: 1 each

16. REMARKS: The Contractor shall participate in weekly teleconferences, arranged by the COR, in order to update the COR and TARDEC on the status of work progress. The initial teleconference will be conducted approximately 7 days after the date of Contract award, and subsequent teleconferences are required to be held every week thereafter until the period of performance is complete.

- 17. PRICE GROUP: N/A
- 18. ESTIMATED TOTAL PRICE: N/A

- 1. DATA ITEM NUMBER: A002
- 2. TITLE OF DATA ITEM: CONTRACTOR'S PROGRESS STATUS AND MANAGEMENT REPORT
- 3. SUBTITLE: MONTHLY PROGRESS REPORTS
- 4. AUTHORITY: DI-MGMT-80227(T) (see Item 16 below)
- 5. CONTRACT REFERENCE: C.4.3
- 6. REQUIRING OFFICE: RDTA-DP / M.S. 110
- 7. WAWF/DD250 REQ'D. : DS
- 8. APP. CODE: A
- 9. DIST. STATEMENT REQUIRED: A
- 10. FREQUENCY: MONTHLY
- 11. AS OF DATE: Date of Contract Award
- 12. DATE OF FIRST SUBMISSION: 30 DAC

13. DATE OF SUBS. SUBMISSION(S): see Item 16 below

14. DISTRIBUTION ADDRESSEES: Submit reports electronically to the following e-mail addresses:

a. BRIDGET DWORNICK, CONTRACTING OFFICER'S REPRESENTATIVE (COR), E-MAIL: BRIDGET.L.DWORNICK.CIV@MAIL.MIL
(see Clause G-1, 52.242-4016, "COMMUNICATIONS", in Section G of the Contract)

b. MICHAEL CIACIUCH, ACC-WRN CONTRACT SPECIALIST, E-MAIL: MICHAEL.R.CIACIUCH.CIV@US.ARMY.MIL

c. WANITA PROVENZO, DCMA DETROIT ADMINISTRATIVE CONTRACTING OFFICER (ACO), E-MAIL: WANITA.PROVENZO@DCMA.MIL
(see Clause G-1, 52.242-4016, "COMMUNICATIONS", in Section G of the Contract)

15. TOTAL: 1 each

16. REMARKS:

a. The Contractor shall submit monthly Progress Status & Management Reports. The first report is due approximately 30 days after the date of Contract award, and subsequent updated reports are required to be submitted every 30 days until the contractual period of performance is complete.

b. Reports shall also include Person-hours or Percentage of Effort expended for both the current reporting period, as well as the cumulative total for the entire contractual effort up to that date.

17. PRICE GROUP: N/A

18. ESTIMATED TOTAL PRICE: N/A

1. DATA ITEM NUMBER: A003

2. TITLE OF DATA ITEM: RECORD OF MEETING/MINUTES REPORT

3. SUBTITLE:

4. AUTHORITY: DI-ADMN-81505

5. CONTRACT REFERENCE: C.3.1.2

6. REQUIRING OFFICE: RDTA-DP / M.S. 110

7. WAWF/DD250 REQ'D. : N/A

8. APP. CODE: A

9. DIST. STATEMENT REQUIRED: A

10. FREQUENCY: see Item 16 below

11. AS OF DATE: see Item 16 below

12. DATE OF FIRST SUBMISSION: see Item 16 below

13. DATE OF SUBS. SUBMISSION(S): see Item 16 below

14. DISTRIBUTION ADDRESSEES: submit meeting minutes electronically as directed for each individual meeting that is held

15. TOTAL: 1 each

16. REMARKS: for each event requiring meeting minutes, the Contractor shall prepare and distribute a set of minutes in accordance with Data Item Description (DID) DI-ADMN-81505 (CDRL Data Item A003) cited above.

17. PRICE GROUP: N/A

18. ESTIMATED TOTAL PRICE: N/A

1. DATA ITEM NUMBER: A004

2. TITLE OF DATA ITEM: SCIENTIFIC AND TECHNICAL REPORTS

3. SUBTITLE: Draft/Final Scientific & Technical Report(s)

4. AUTHORITY: DI-MISC-80711A(T) (see block 16 below)

5. CONTRACT REFERENCE: C.4.4

6. REQUIRING OFFICE: RDTA-DP / M.S. 110

7. WAWF/DD250 REQUIRED. : N/A

8. APP. CODE: A
9. DISTRIBUTION STATEMENT REQUIRED: see block 16 below
10. FREQUENCY: see block 16
11. AS OF DATE: Date of Contract award
12. DATE OF FIRST SUBMISSION: see block 16
13. DATE OF SUBSEQUENT SUBMISSION(S): see block 16

14. DISTRIBUTION ADDRESSEES: The Contractor shall submit this item electronically to the following e-mail addresses:
 - a. BRIDGET DWORNICK, CONTRACTING OFFICER'S REPRESENTATIVE (COR), E-MAIL: BRIDGET.L.DWORNICK.CIV@MAIL.MIL
 - b. MICHAEL CIACIUCH, ACC-WRN CONTRACT SPECIALIST, E-MAIL: MICHAEL.R.CIACIUCH.CIV@US.ARMY.MIL
 - c. WANITA PROVENZO, DCMA DETROIT ADMINISTRATIVE CONTRACTING OFFICER (ACO), E-MAIL: WANITA.PROVENZO@DCMA.MIL
15. TOTAL: 1 each

16. REMARKS:
 - a. the Contractor shall complete this task IAW the corresponding DID cited in block 4 above; DID DI-MISC-80711A is further tailored by deleting 10.2.
 - b. The Draft copy of the Final Scientific and Technical Report shall be delivered to the COR approximately 60 days before the contractual completion date. This Report shall include a completed Standard Form (SF) 298 (Report Documentation Page) as the Report's cover sheet. The Government will review the Draft and respond within 30 days of receipt with any comments. Based upon the COR's feedback, the Contractor shall revise as necessary and then submit the Final version of the Report (with the completed SF298) within 30 days after receipt of the Draft comments/approval, or approximately (but no later than) the end completion date of the Contract.
 - c. The SF298 may be downloaded from the following internet address: http://www.dtic.mil/dtic/pdf/submit/SF0298_fillable.pdf
 - d. Instructions for completing the SF298 are provided in Contract Section J, Attachment 0001.
 - e. The following is additional guidance and instructions for completing the SF298 form that is applicable when submitting SBIR Program reports:
 - 1) for each unclassified report, the Contractor shall fill in Block 12a (Distribution/Availability Statement) of the SF298 with one of the following statements:
 - a) Distribution Statement A: Approved for public release, distribution unlimited; or
 - b) Distribution Statement B: Distribution authorized only to U.S. Government Agencies, contains proprietary information.

- Notes: after reviewing the Contractor's entry in Block 12a, TARDEC has ultimate responsibility for assigning a Final Distribution Statement. The Contractor shall mark the actual Report itself in accordance with the appropriate legends set forth in DFARS Clause 252.227-7018, "RIGHTS IN NONCOMMERCIAL TECHNICAL DATA AND COMPUTER SOFTWARE -- SMALL BUSINESS INNOVATIVE RESEARCH (SBIR) PROGRAM". Block 13 (Abstract) of the SF298 shall include the following statement: "Report developed under ACC-WRN Phase II SBIR Contract Number W56HZV-12-C-0062 for Topic Number A10-139". 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 DoD will be publishing this Abstract, it shall not contain any proprietary or classified data. Block 14 (Subject Terms) of the SF298 must include the term "SBIR Report".

17. PRICE GROUP: N/A
18. ESTIMATED TOTAL PRICE: N/A

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

Prepare the reports in the Contractor's chosen format and submit them using any of the following electronic formats:

- (1) Files readable using these Microsoft* Office XP or Microsoft* Office 2007 & lower Products: Word, Excel, or PowerPoint. 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 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.

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.

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

(1) E-MAIL. Maximum size of each e-mail message shall be ten (10) megabytes. 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) CD or DVD 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
Attn: BRIDGET DWORNICK / RDTA-DP / M.S. 110
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 both via e-mail and CD.

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INSTRUCTIONS FOR COMPLETING SF 298

1. REPORT DATE. Full publication date, including day and month, if available. Must cite at least the year; e.g., 30-06-1998, xx-06-1998, and/or xxxx-1998.
2. REPORT TYPE. State the type of report, such as final, technical, interim, memorandum, master's thesis, progress, quarterly, research, special, group study, etc.
3. DATES COVERED. Indicate the time during which the work was performed and the report was written; e.g., Jun 2001 - Jun 2002, 1-10 Jun 2003, May - Nov 2004, and/or Nov 2002.
4. TITLE. Enter title and subtitle with volume number and part number, if applicable. On classified documents, enter the title classification in parentheses.
- 5.a. CONTRACT NUMBER. Enter the contract number as it appears in the report; e.g., W56HZV-13-C-0293.
- 5.b. GRANT NUMBER. N/A
- 5.c. PROGRAM ELEMENT NUMBER. Enter all program element numbers (if applicable) as they appear in the report; e.g., 61101A.
- 5.d. PROJECT NUMBER. Enter all project numbers (if applicable) as they appear in the report; e.g., 1F665702D1257 and/or ILIR.
- 5.e. TASK NUMBER. Enter all task numbers (if applicable) as they appear in the report; e.g., 05, RF0330201, and/or T4112.
- 5.f. WORK UNIT NUMBER. Enter all work unit numbers (if applicable) as they appear in the report; e.g., 001 and/or FAPL30480105.
6. AUTHOR(S). Enter the name(s) of the person(s) responsible for writing the report, performing the research, or credited with the content of the report. The form of entry is the last name, first name, middle initial, and additional qualifiers separated by commas; e.g., Smith, Richard, J., Jr.
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES). Leave Blank
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9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES). Enter "U.S. Army Tank-Automotive Research Development & Engineering Center, Warren, Michigan 48397-5000".
10. SPONSOR/MONITOR'S ACRONYM(S). Enter "TARDEC".
11. SPONSOR/MONITOR'S REPORT NUMBER(S). Enter report number as assigned by the sponsoring/monitoring agency, if available/known; e.g., BRL-TR-829 and/or -215.
12. DISTRIBUTION/AVAILABILITY STATEMENT. Use agency-mandated availability statements to indicate the public availability or distribution limitations of the report (refer to instructions on the DD Form 1423). If additional limitations/restrictions or special markings are indicated, follow agency authorization procedures; e.g., RD/FRD, PROPIN, ITAR, etc. Include copyright information.
13. SUPPLEMENTARY NOTES. Enter information not included elsewhere, such as: prepared in cooperation with; translation of; report supersedes; old edition number, etc.
14. ABSTRACT. A brief (approximately 200 words) factual summary of the most significant information.
15. SUBJECT TERMS. Key words or phrases identifying major concepts in the report.