

<b>AWARD/CONTRACT</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)			RATING	PAGE OF PAGES 1   23	
2. CONTRACT (Proc. Inst. Ident.) NO. M67854-09-C-7007		3. EFFECTIVE DATE 16 Apr 2009		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. FY09BAA			
5. ISSUED BY MCSC CONTRACTING OFFICES CODE: CT-JNLWD 2200 LESTER ST QUANTICO VA 22134		CODE M67854	6. ADMINISTERED BY (If other than Item 5) DCMA PHOENIX TWO RENAISSANCE SQUARE SUITE 400 40 NORTH CENTRAL AVE PHOENIX AZ 85004-4424			CODE S0302A	
7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code) FIORE INDUSTRIES JERALD KING 400 GOLD AVENUE SW SUITE 400 ALBUQUERQUE NM 87102-3224				8. DELIVERY [ ] FOB ORIGIN [ X ] OTHER (See below)			
				9. DISCOUNT FOR PROMPT PAYMENT Net 30 Days			
				10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN:		ITEM  <b>Block 6</b>	
CODE OMBR1		FACILITY CODE					
11. SHIP TO/MARK FOR  <b>See Schedule</b>		CODE	12. PAYMENT WILL BE MADE BY DFAS - CLEVELAND-CHARLESTON PO BOX 998022 CLEVELAND OH 44199-8022			CODE N68342	
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: [ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )				14. ACCOUNTING AND APPROPRIATION DATA <b>See Schedule</b>			
15A. ITEM NO.	15B. SUPPLIES/ SERVICES		15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT	
<b>SEE SCHEDULE</b>							
<b>15G. TOTAL AMOUNT OF CONTRACT</b>						<b>\$387,321.00</b>	
16. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
<b>PART I - THE SCHEDULE</b>				<b>PART II - CONTRACT CLAUSES</b>			
X	A	SOLICITATION/ CONTRACT FORM	1	X	I	CONTRACT CLAUSES	11 - 23
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2	<b>PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS</b>			
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	3		J	LIST OF ATTACHMENTS	
X	D	PACKAGING AND MARKING	4	<b>PART IV - REPRESENTATIONS AND INSTRUCTIONS</b>			
X	E	INSPECTION AND ACCEPTANCE	5		K	REPRESENTATIONS, CERTIFICATIONS AND	
X	F	DELIVERIES OR PERFORMANCE	6			OTHER STATEMENTS OF OFFERORS	
X	G	CONTRACT ADMINISTRATION DATA	7 - 9		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
X	H	SPECIAL CONTRACT REQUIREMENTS	10		M	EVALUATION FACTORS FOR AWARD	
<b>CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE</b>							
17. [ X ] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return _____ 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. [ ] AWARD (Contractor is not required to sign this document.) Your offer 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 offer, and (b) this award/contract. No further contractual document is necessary.			
19A. NAME AND TITLE OF SIGNER (Type or print)				20A. NAME AND TITLE OF CONTRACTING OFFICER PEGGY L. SMITH / CONTRACTING OFFICER TEL: 703-432-0894 EMAIL: peggy.l.smith1@usmc.mil			
19B. NAME OF CONTRACTOR		19C. DATE SIGNED		20B. UNITED STATES OF AMERICA		20C. DATE SIGNED	
BY _____ (Signature of person authorized to sign)				BY  (Signature of Contracting Officer)		16-Apr-2009	

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	IWM Vessel Stopper Demonstration Project CPFF Support shall be performed in accordance with the offeror's proposal and attached statement of work. FOB: Destination MILSTRIP: N0001409RC20102 PURCHASE REQUEST NUMBER: FY09BAA		Each		(b) (4)
				ESTIMATED COST	(b) (4)
				FIXED FEE	(b) (4)
				TOTAL EST COST + FEE	(b) (4)
	ACRN AA CIN: 00000000000000000000000000000000				(b) (4)

Section C - Descriptions and Specifications

STATEMENT OF WORK

All work shall be performed in accordance with the offeror's proposal and attached statement of work.

Section D - Packaging and Marking

ADDITIONAL INFORMATION

D1. All deliverables under this contract shall be prepared, packaged and marked in accordance with best commercial practice to ensure safe delivery at destination.

D2. Marking of all deliverables shall be in accordance with the contractor's best commercial practices, using the latest version of MIL STD 129 as guidance.

Each shipment of material and/or data shall be clearly marked to show the following information:

MARK FOR: Contract Number: M67854-09-C-7007

Item Number: As applicable (0001)

D3. Classified Matter: Classified matter, if applicable, will be packed and shipped in accordance with transmission instructions contained in the Industrial Security Manual for Safeguarding Classified Information and Applicable Security Requirements Guide.

## Section E - Inspection and Acceptance

## INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	Government	Destination	Government

## CLAUSES INCORPORATED BY REFERENCE

52.242-15 Alt I	Stop-Work Order (Aug 1989) - Alternate I	APR 1984
52.246-8	Inspection Of Research And Development Cost Reimbursement	MAY 2001
52.247-34	F.O.B. Destination	NOV 1991

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 17-APR-2009 TO 30-SEP-2010	N/A	N/A FOB: Destination	

Section G - Contract Administration Data

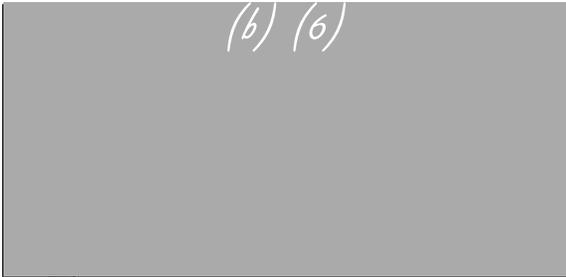
ACCOUNTING AND APPROPRIATION DATA

AA: 1791319W2DV 000 RA309 0 068342 2D 000000 00002000JN20  
AMOUNT: \$387,321.00  
CIN 00000000000000000000000000000000: \$387,321.00

ADDITIONAL INFORMATION

G1. Points of Contacts

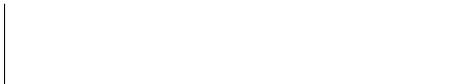
Contracting Officer:  
Ms. Peggy Smith  
Commander  
Marine Corps Systems Command  
2200 Lester Street  
Quantico, VA 22134  
703.432.0894  
703.784.3178 (facsimile)  
Peggy.L.Smith1@usmc.mil



Technical POC @ JNLWD:  
Richard Scott  
Project Engineer  
Joint Non-Lethal Weapons Directorate  
3097 Range Road Quantico, Va. 22134  
Tel. COMM: 703-432-1518 DSN 378-1518  
Richard.i.scott@usmc.mil

Financial POC @JNLWD:  
Linda Palmer  
Budget Analyst, Plans, Policies & Operations Department (PP&O)  
Joint Non Lethal Weapons Directorate  
3097 Range Road Quantico, VA 22134  
Tel. COMM 703-784-3049 or DSN 278-3049 Fax: 703-784-3178  
linda.palmer@usmc.mil

Administrative Contracting Officer:



DCMA Soldier Systems and CAP – Phoenix  
Two Renaissance Square  
40 North Central Avenue, Suite 400  
Phoenix, AZ 85004-4424  
602.594.7800  
602.594.7995/7991 facsimile  
DCMA.PHOENIX@DCMA.MIL

## G2. Accounting Classification Reference Number (ACRN)

The Accounting Classification Reference Number (ACRN) is the double letter prefix to the long line accounting classification citation number contained in the accounting data sheet attached to the contract, or listed below. It is used as a method for tracking expenditures against individual contract line items. In instances where multiple long line accounting classification numbers are applicable to single line items, each will be prefixed by a separate ACRN. Each line item, subline item, task and/or subtask listed in the schedule or statement of work shall have an accounting classification reference number assigned at the time of award.

## G3. Invoicing Instructions

### MARCORSYSCOM WAWF INSTRUCTIONS TO CONTRACTORS

#### ELECTRONIC INVOICING PROCEDURES (MARCORSYSCOM Feb 2006)

In compliance with DFARS 252.232-7003, "Electronic Submission of Payment Request (May 2006)", the United States Marine Corps (USMC) utilizes WAWF-RA to electronically process vendor request for payment. The contractor is required to utilize this system when processing invoices and receiving reports under this contract.

The contractor shall (i) ensure an Electronic Business Point of Contract (POC) is designated in Central Contractor Registration at <http://www.ccr.gov> and (ii) register to use WAWF-RA at the <https://wawf.eb.mil/> within ten (10) days after award of the contract or modification incorporating WAWF-RA into the contract. Step by step procedures to register are available at the <https://wawf.eb.mil/>.

The USMC WAWF-RA point of contact for this contract is Mr. Barry Oglesby and can be reached on 703-432-4443 or via email at [MCSC\\_DFM\\_MAO@usmc.mil](mailto:MCSC_DFM_MAO@usmc.mil).

The contractor is directed to use the Cost Voucher format when processing invoices and receiving reports for cost type / reimburseable contracts. For all requirements, unless specifically directed otherwise, the contractor shall use the Marine Corps Systems Command DODAAC (M67854) as the DODAAC for all shipping addresses, even if the ship-to address is other than the Marine Corps Systems Command.

#### Data entry information in WAWF:

Payment Office DoDAAC: please refer to block 12 of the SF26

Issue By DoDAAC: M67854

Admin Office DoDAAC: please refer to block 6 of the SF26

Ship To/Service Acceptor DoDAAC: M67854

Contract Number: please refer to block 2 of the SF26

Before closing out of an invoice session in WAWF-RA, but after submitting your document or documents, the contractor will be prompted to send additional email notifications. The contractor shall click on Send Additional Email Notifications block on the page that appears. Add the primary point of contact's email address in the first email address block and add the alternate point of contact's email address in the following block. This additional

notification to the government is important to ensure the appropriate point of contact is aware that the invoice documents have been submitted into the WAWF-RA system.

NOTE: The POC identified above is for WAWF issues only. Any other contracting questions/problems should be addressed to the ACO identified in block 6 of the contract cover page.

## Section H - Special Contract Requirements

### ADDITIONAL INFORMATION

#### H1. Contractor Notice Regarding Late Delivery

In the event that the contractor, for any reason, anticipates or encounters difficulty in complying with the contract delivery schedule or date, or in meeting any of the other requirements of the contract, they shall immediately notify the ACO and PCO in writing, providing all of the pertinent details. This data shall be informational only in character and its receipt by the Government shall not be construed as a waiver by the Government of (i) any delivery schedule or date, (ii) compliance with any other contract requirement by the contractor, or (iii) any other rights or remedies belonging to the Government under law or otherwise in this contract.

#### H2. Incorporation of Representation and Certifications by Reference

All representations and certifications and other written statements by the contractor in response to the Representations and Certifications completed via the Online Representations and Certifications Application (ORCA) website, incident to the award of the contract or modification of this contract, are hereby incorporated by reference with the same force and effect as if they were given in full text.

#### H3. Contract Changes

No order, statement, or conduct of Government personnel who might visit the contractor's facility or in any other manner communicate with contractor personnel during the performance of this contract shall constitute a change under the Changes clause of this contract.

No understanding or agreement, contract modification, change order, or other matter deviating from or constituting an alteration or change of the terms of the contract shall be effective or binding upon the Government unless formalized by contractual documents executed by the contracting officer or his or her designated representative.

The Contracting Officer is the only person authorized to approve changes in any of the requirements of this contract and notwithstanding provisions contained elsewhere in the contract, the said authority remains solely with the Contracting Officer. In the event that the contractor effects any change at the direction of any person other than the Contracting Officer, the change will be considered to have been made without authority at the contractor's expense, and no adjustment shall be made in the contract price or other contract terms and conditions as consideration for the aforementioned unauthorized change. Further, should the unauthorized change be to the Government's detriment, the contractor may be held financially responsible for its correction.

#### H4. Responsibility in Subcontracting

The contractor will be fully responsible for assuring that all appropriate contractual provisions and clauses are passed down to its subcontractors, and that those provisions are enforced.

#### H5. Central Contractor Registration

The contractor must ensure that his/her company is registered in the Central Contractor Registration database. This is mandatory for award of any Government contract. To register, go on-line to <http://ccr.edi.disa.mil>

## Section I - Contract Clauses

## CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	SEP 2007
52.204-2	Security Requirements	AUG 1996
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.204-7	Central Contractor Registration	APR 2008
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-9	Changes or Additions to Make-or-Buy Program	OCT 1997
52.215-14	Integrity of Unit Prices	OCT 1997
52.215-17	Waiver of Facilities Capital Cost of Money	OCT 1997
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	JUL 2005
52.215-19	Notification of Ownership Changes	OCT 1997
52.216-8	Fixed Fee	MAR 1997
52.216-15	Predetermined Indirect Cost Rates	APR 1998
52.219-6	Notice Of Total Small Business Set-Aside	JUN 2003
52.219-8	Utilization of Small Business Concerns	MAY 2004
52.222-1	Notice To The Government Of Labor Disputes	FEB 1997
52.222-3	Convict Labor	JUN 2003
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	JUL 2005
52.222-20	Walsh-Healey Public Contracts Act	DEC 1996
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-39	Notification of Employee Rights Concerning Payment of Union Dues or Fees	DEC 2004
52.222-50	Combating Trafficking in Persons	AUG 2007
52.223-6	Drug-Free Workplace	MAY 2001
52.223-14	Toxic Chemical Release Reporting	AUG 2003
52.225-8	Duty-Free Entry	FEB 2000
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.226-1	Utilization Of Indian Organizations And Indian-Owned Economic Enterprises	JUN 2000
52.227-1 Alt I	Authorization And Consent (Dec 2007) - Alternate I	APR 1984
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	DEC 2007

52.227-10	Filing Of Patent Applications--Classified Subject Matter	DEC 2007
52.227-16	Additional Data Requirements	JUN 1987
52.228-7	Insurance--Liability To Third Persons	MAR 1996
52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-17	Interest	OCT 2008
52.232-18	Availability Of Funds	APR 1984
52.232-20	Limitation Of Cost	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-24	Prohibition of Assignment of Claims	JAN 1986
52.232-25	Prompt Payment	OCT 2008
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	OCT 2003
52.233-1 Alt I	Disputes (Jul 2002) - Alternate I	DEC 1991
52.233-3 Alt I	Protest After Award (Aug 1996) - Alternate I	JUN 1985
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-2	Production Progress Reports	APR 1991
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.242-15	Stop-Work Order	AUG 1989
52.243-2 Alt V	Changes--Cost-Reimbursement (Aug 1987) - Alternate V	APR 1984
52.243-6	Change Order Accounting	APR 1984
52.243-7	Notification Of Changes	APR 1984
52.245-1	Government Property	JUN 2007
52.245-9	Use And Charges	JUN 2007
52.246-9	Inspection Of Research And Development (Short Form)	APR 1984
52.246-23	Limitation Of Liability	FEB 1997
52.247-63	Preference For U.S. Flag Air Carriers	JUN 2003
52.247-64	Preference for Privately Owned U.S. - Flag Commercial Vessels	FEB 2006
52.249-6	Termination (Cost Reimbursement)	MAY 2004
52.249-14	Excusable Delays	APR 1984
52.251-1	Government Supply Sources	APR 1984
52.252-6	Authorized Deviations In Clauses	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense- Contract-Related Felonies	DEC 2004
252.204-7000	Disclosure Of Information	DEC 1991
252.204-7002	Payment For Subline Items Not Separately Priced	DEC 1991
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Central Contractor Registration (52.204-7) Alternate A	SEP 2007
252.204-7005	Oral Attestation of Security Responsibilities	NOV 2001
252.204-7009	Requirements Regarding Potential Access to Export- Controlled Items	JUL 2008
252.215-7000	Pricing Adjustments	DEC 1991
252.215-7002	Cost Estimating System Requirements	DEC 2006
252.215-7004	Excessive Pass-Through Charges	MAY 2008
252.219-7003	Small Business Subcontracting Plan (DOD Contracts)	APR 2007
252.223-7004	Drug Free Work Force	SEP 1988
252.225-7001	Buy American Act And Balance Of Payments Program	JUN 2005
252.225-7002	Qualifying Country Sources As Subcontractors	APR 2003
252.225-7012	Preference For Certain Domestic Commodities	MAR 2008
252.225-7014	Preference For Domestic Specialty Metals	JUN 2005
252.225-7016	Restriction On Acquisition Of Ball and Roller Bearings	MAR 2006

252.227-7013	Rights in Technical Data--Noncommercial Items	NOV 1995
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation	JUN 1995
252.227-7016	Rights in Bid or Proposal Information	JUN 1995
252.227-7019	Validation of Asserted Restrictions--Computer Software	JUN 1995
252.227-7022	Government Rights (Unlimited)	MAR 1979
252.227-7023	Drawings and Other Data to become Property of Government	MAR 1979
252.227-7025	Limitations on the Use or Disclosure of Government- Furnished Information Marked with Restrictive Legends	JUN 1995
252.227-7026	Deferred Delivery Of Technical Data Or Computer Software	APR 1988
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.227-7039	Patents--Reporting Of Subject Inventions	APR 1990
252.231-7000	Supplemental Cost Principles	DEC 1991
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	MAR 2008
252.235-7002	Animal Welfare	DEC 1991
252.235-7010	Acknowledgment of Support and Disclaimer	MAY 1995
252.235-7011	Final Scientific or Technical Report	NOV 2004
252.237-7006	Subcontracting	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.246-7000	Material Inspection And Receiving Report	MAR 2008
252.246-7001	Warranty Of Data	DEC 1991
252.247-7023	Alt III Transportation of Supplies by Sea (May 2002) Alternate III	MAY 2002
252.251-7000	Ordering From Government Supply Sources	NOV 2004

#### CLAUSES INCORPORATED BY FULL TEXT

##### 52.216-7 ALLOWABLE COST AND PAYMENT (DEC 2002)

###### (a) Invoicing.

(1) The Government will make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with Federal Acquisition Regulation (FAR) subpart 31.2 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 \_\_\_\_\_ (Contracting Officer insert day as prescribed by agency head; if not prescribed, insert "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 the 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 Contractor's payment request to the Government;

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

(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 forms of payment to subcontractors.

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

(i) The Contractor's 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 Contractor's 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 Contractor's 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 Contractor's 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 Contractor's proposal.

(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, the Contractor shall submit a completion invoice or voucher to reflect the settled amounts and rates.

(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)(4) 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 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)

#### 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 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 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. (Complete according to agency instructions.)

(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 with proceedings under paragraph (h) of this clause.

(End of clause)

#### 52.227-23 RIGHTS TO PROPOSAL DATA (TECHNICAL) (JUN 1987)

Except for data contained on pages **N/A**, it is agreed that as a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the "Rights in Data--General" clause contained in this contract) in and to the technical data contained in the proposal dated **21 July 2008**, upon which this contract is based.

(End of clause)

#### 52.232-22 LIMITATION OF FUNDS (APR 1984)

(a) The parties estimate that performance of this contract will not cost the Government more than (1) the estimated cost specified in the Schedule or, (2) if this is a cost-sharing contract, the Government's share of the estimated cost specified in the Schedule. The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost, which, if this is a cost-sharing contract, includes both the Government's and the Contractor's share of the cost.

(b) The Schedule specifies the amount presently available for payment by the Government and allotted to this contract, the items covered, the Government's share of the cost if this is a cost-sharing contract, and the period of performance it is estimated the allotted amount will cover. The parties contemplate that the Government will allot additional funds incrementally to the contract up to the full estimated cost to the Government specified in the Schedule, exclusive of any fee. The Contractor agrees to perform, or have performed, work on the contract up to the point at which the total amount paid and payable by the Government under the contract approximates but does not exceed the total amount actually allotted by the Government to the contract.

(c) The Contractor shall notify the Contracting Officer in writing whenever it has reason to believe that the costs it expects to incur under this contract in the next 60 days, when added to all costs previously incurred, will exceed 75 percent of (1) the total amount so far allotted to the contract by the Government or, (2) if this is a cost-sharing contract, the amount then allotted to the contract by the Government plus the Contractor's corresponding share. The notice shall state the estimated amount of additional funds required to continue performance for the period specified in the Schedule.

(d) Sixty days before the end of the period specified in the Schedule, the Contractor shall notify the Contracting Officer in writing of the estimated amount of additional funds, if any, required to continue timely performance under the contract or for any further period specified in the Schedule or otherwise agreed upon, and when the funds will be required.

(e) If, after notification, additional funds are not allotted by the end of the period specified in the Schedule or another agreed-upon date, upon the Contractor's written request the Contracting Officer will terminate this contract on that date in accordance with the provisions of the Termination clause of this contract. If the Contractor estimates that the

funds available will allow it to continue to discharge its obligations beyond that date, it may specify a later date in its request, and the Contracting Officer may terminate this contract on that later date.

(f) Except as required by other provisions of this contract, specifically citing and stated to be an exception to this clause--

(1) The Government is not obligated to reimburse the Contractor for costs incurred in excess of the total amount allotted by the Government to this contract; and

(2) The Contractor is not obligated to continue performance under this contract (including actions under the Termination clause of this contract) or otherwise incur costs in excess of (i) the amount then allotted to the contract by the Government or, (ii) if this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, until the Contracting Officer notifies the Contractor in writing that the amount allotted by the Government has been increased and specifies an increased amount, which shall then constitute the total amount allotted by the Government to this contract.

(g) The estimated cost shall be increased to the extent that (1) the amount allotted by the Government or, (2) if this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, exceeds the estimated cost specified in the Schedule. If this is a cost-sharing contract, the increase shall be allocated in accordance with the formula specified in the Schedule.

(h) No notice, communication, or representation in any form other than that specified in subparagraph (f)(2) above, or from any person other than the Contracting Officer, shall affect the amount allotted by the Government to this contract. In the absence of the specified notice, the Government is not obligated to reimburse the Contractor for any costs in excess of the total amount allotted by the Government to this contract, whether incurred during the course of the contract or as a result of termination.

(i) When and to the extent that the amount allotted by the Government to the contract is increased, any costs the Contractor incurs before the increase that are in excess of (1) the amount previously allotted by the Government or, (2) if this is a cost-sharing contract, the amount previously allotted by the Government to the contract plus the Contractor's corresponding share, shall be allowable to the same extent as if incurred afterward, unless the Contracting Officer issues a termination or other notice and directs that the increase is solely to cover termination or other specified expenses.

(j) Change orders shall not be considered an authorization to exceed the amount allotted by the Government specified in the Schedule, unless they contain a statement increasing the amount allotted.

(k) Nothing in this clause shall affect the right of the Government to terminate this contract. If this contract is terminated, the Government and the Contractor shall negotiate an equitable distribution of all property produced or purchased under the contract, based upon the share of costs incurred by each.

(l) If the Government does not allot sufficient funds to allow completion of the work, the Contractor is entitled to a percentage of the fee specified in the Schedule equalling the percentage of completion of the work contemplated by this contract.

(End of clause)

#### 52.243-7 NOTIFICATION OF CHANGES (APR 1984)

(a) Definitions.

"Contracting Officer," as used in this clause, does not include any representative of the Contracting Officer.

"Specifically authorized representative (SAR)," as used in this clause, means any person the Contracting Officer has so designated by written notice (a copy of which shall be provided to the Contractor) which shall refer to this subparagraph and shall be issued to the designated representative before the SAR exercises such authority.

(b) Notice. The primary purpose of this clause is to obtain prompt reporting of Government conduct that the Contractor considers to constitute a change to this contract. Except for changes identified as such in writing and signed by the Contracting Officer, the Contractor shall notify the Administrative Contracting Officer in writing, within five (5) calendar days from the date that the Contractor identifies any Government conduct (including actions, inactions, and written or oral communications) that the Contractor regards as a change to the contract terms and conditions. On the basis of the most accurate information available to the Contractor, the notice shall state--

- (1) The date, nature, and circumstances of the conduct regarded as a change;
- (2) The name, function, and activity of each Government individual and Contractor official or employee involved in or knowledgeable about such conduct;
- (3) The identification of any documents and the substance of any oral communication involved in such conduct;
- (4) In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;
- (5) The particular elements of contract performance for which the Contractor may seek an equitable adjustment under this clause, including--
  - (i) What contract line items have been or may be affected by the alleged change;
  - (ii) What labor or materials or both have been or may be added, deleted, or wasted by the alleged change;
  - (iii) To the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performance have been or may be caused by the alleged change;
  - (iv) What adjustments to contract price, delivery schedule, and other provisions affected by the alleged change are estimated; and
- (6) The Contractor's estimate of the time by which the Government must respond to the Contractor's notice to minimize cost, delay or disruption of performance.

(c) Continued performance. Following submission of the notice required by (b) above, the Contractor shall diligently continue performance of this contract to the maximum extent possible in accordance with its terms and conditions as construed by the Contractor, unless the notice reports a direction of the Contracting Officer or a communication from a SAR of the Contracting Officer, in either of which events the Contractor shall continue performance; provided, however, that if the Contractor regards the direction or communication as a change as described in (b) above, notice shall be given in the manner provided. All directions, communications, interpretations, orders and similar actions of the SAR shall be reduced to writing and copies furnished to the Contractor and to the Contracting Officer. The Contracting Officer shall countermand any action which exceeds the authority of the SAR.

(d) Government response. The Contracting Officer shall promptly, within ten (10) calendar days after receipt of notice, respond to the notice in writing. In responding, the Contracting Officer shall either--

- (1) Confirm that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance;
- (2) Countermand any communication regarded as a change;

(3) Deny that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance; or

(4) In the event the Contractor's notice information is inadequate to make a decision under (1), (2), or (3) above, advise the Contractor what additional information is required, and establish the date by which it should be furnished and the date thereafter by which the Government will respond.

(e) Equitable adjustments.

(1) If the Contracting Officer confirms that Government conduct effected a change as alleged by the Contractor, and the conduct causes an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether changed or not changed by such conduct, an equitable adjustment shall be made--

(i) In the contract price or delivery schedule or both; and

(ii) In such other provisions of the contract as may be affected.

(2) The contract shall be modified in writing accordingly. In the case of drawings, designs or specifications which are defective and for which the Government is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the defective drawings, designs or specifications before the Contractor identified, or reasonably should have identified, such defect. When the cost of property made obsolete or excess as a result of a change confirmed by the Contracting Officer under this clause is included in the equitable adjustment, the Contracting Officer shall have the right to prescribe the manner of disposition of the property. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided, respectively, in (b) and (c) above.

Note: The phrases contract price and cost wherever they appear in the clause, may be appropriately modified to apply to cost-reimbursement or incentive contracts, or to combinations thereof.

(End of clause)

#### 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

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

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

(End of clause)

FOR OFFICIAL USE ONLY – Freedom of Information Act (FOIA)  
Exemption (Title 5 USC§ 552(b)(5) and/or (b)(30))

Distribution Statement C: Distribution authorized to U.S. Government Agencies and their contractors (To protect information and technical data that advance current technology or describe new technology in an area of significant or potentially significant military application or that relate to a specific military deficiency of a potential adversary.) Requests for this document shall be referred to the Joint Non-Lethal Weapons Directorate, Quantico, VA.

**Intelligent Waveform Modulation (IWM)**  
**Vessel Stopper Statement of Work**  
**M67854-08-R-7044**  
**\$387K**

**1.0 INTRODUCTION:**

This effort's primary objective is to develop a high power RF engine stopping solution that supports both Navy and Coast Guard operational, financial and performance requirements and limitations. The proposed program is an 18 month program to demonstrate a prototype of a vessel-stopping system capable of being mounted onto various land, air and marine platforms including high speed vessels, that will safely stop or significantly impede the movement of gasoline or diesel engine powered vessels in interdiction scenarios. The proposed system will be an adaptation of successfully demonstrated, proof-of-concept systems. The objective is to demonstrate a prototype interdiction system capable of: **1)** being vessel integrated, **2)** target vessel stoppage, without pre-emplacement, at stand-off distances of  $\geq 25$  meters from any approach angle, in  $\leq 30$  seconds, **3)** leaving non-targeted vehicles  $> 10$  meters away from, and out of the direct path of the chase vessel, unaffected, **4)** causing no harm to humans or animals, **5)** producing readily-reversible engine operation disruption on any system employing even unsophisticated power plant electrics, **6)** efficient operation at low cost-per-use; \$100 or less per stop (based on the system producing at least 4,000 stops).

## **2.0 SCOPE:**

This effort is focused on the research, development, integration, and demonstration of small boat stopping using high power microwaves. A brassboard system RF engine stopping system will be built and demonstrated.

Ensuring that user requirements are well understood provides the foundation for developing an overall system design. This project will work with Navy and USCG representatives who will be providing this guidance. This effort will address the following issues:

- The preliminary system design based on the user guidance; including platform operational constraints
- Assess the system range, accuracy and precision
- Assess the effectiveness against target engines defined as primary threat assets
- Assess the system's ability to provide a universal, repeatable, robust effect
- Provide an understanding of the system's impact to personnel within the watercraft's safety

The effort will also provide a plan to conduct proof of concept operational assessments using the brassboard system to enhance user understanding of system capabilities to allow for design iteration with potential changes to user tactics, doctrine and rules of engagement.

In FY09 the system design will be carried out and in FY10 the system will be integrated onto the test platform and field testing will be conducted.

This project is associated with a current JNLWD RF Vessel Stopping effort. In that effort are some similar tasks and resources that will be shared by both projects. Given the schedules associated with the individual programs resource coordination shall be the responsibility of the individual effort providers. The JNLWD shall initiate coordination between the providers.

## **3.0 TECHNICAL REQUIREMENTS:**

**3.1 Program Management** – The vendor shall provide day-to-day management of project participants, monitor and manage cost, performance, schedule and risk.

FOR OFFICIAL USE ONLY

The JNLWD shall provide overall programmatic guidance and direction related to the overall IWM Vessel Stopper program. The vendor shall prepare and present program plans and status reports/briefs for various levels of management. The vendor shall facilitate communication among the program participants. This communication includes resource scheduling.

**3.2** The project efforts shall consist of facility modifications, set-up, software control program development hardware modifications and effects testing at vendor and government facilities. The primary efforts consist of:

**3.2.1** Adapting the vendor test facility for marine engine testing. This facility is designed for automated data capture of RF hardening and vulnerabilities testing for a variety of land and air platforms, but is not set-up to meet the cooling requirements of marine engines. The facility will be upgraded to include water and fuel tanks, hoses and exhaust lines for marine engine testing. The volume of the tanks will be specified based on customer input as to the engine requirements.

**3.2.2** Develop & Integrate Auto-PRF Sweep for IWM – (b) (4)  
(b) (4) This, in turn, can be automatically controlled using a computer program. Code will be generated, burned to an appropriate storage device and integrated into the IWM controls.

**3.2.3** Combined demonstration and progress review. A demonstration of the automated PRF control from (b) (4) shall be performed concurrently with the interim program review at the vendor test facility.

**3.2.4** Testing. Up to five engines: Marine engine testing shall be performed at the test facility. Testing shall consist of irradiating the subject power plants from various angles while monitoring engine performance over (b) (4) Data consisting of engine RPM before, during and post irradiation will be monitored and these data collected. Transmitted and incident power on target and polarization will also be collected for each test. Anomalies and inconsistencies will be noted for analysis. At minimum, engine RPM will monitored. Components such as, but not limited to, (b) (4)

(b) (4)

FOR OFFICIAL USE ONLY

(b) (4) shall be monitored where applicable. Testing shall be repeated for each engine to note changes in effects and to provide data on the potential of cumulative long-term damage to the engines. Vendor shall repair and maintain engines to ensure completion of project. The vendor shall be responsible for return shipping of project resources upon completion of task efforts and in accordance with the agreed upon resource sharing schedule.

**3.2.5** Database Generation and Statistical Analysis. The raw data collected shall be transferred to a database for analysis and presentation. Statistical analysis of the data will be performed. Expected outputs shall include the effects (b) (4), by engine type, (b) (4) and systems affected. Cumulative effects data shall be noted. The data shall be compiled into tables and graphs for ease of presentation. Both raw data and analysis shall be included in the year-end report.

**3.2.6** Combined Demonstration and Program Review. The demonstration and program review shall be scheduled for 3 days to allow the customer to observe the range of effects and interact directly in laboratory demonstration. This assumes that up to two engine effects demonstrations may be performed; each taking up to a half day to turn-around, may be necessary and allows one day for the Program Review.

**3.2.7** Identify (b) (4) Necessary for Marine Use. The (b) (4) (b) (4) will be used in its current state for the testing to be performed in the vendor's test facility. For Phase 2 efforts, modifications will be necessary to assure its reliable operation in a marine environment. The vendor shall identify those elements that are at risk and generate a modifications requirements list (b) (4)

(b) (4) it is to assure an efficient transition to field testing should the Phase 2 option be exercised. The list of modifications shall be presented to the JNLWD technical representative prior to Phase 2 initiation.

**3.2.8** Design (b) (4) Modifications. The (b) (4) will require some minimal modification for mounting in the customer-specified watercraft. Bolt hole patterns, cable lengths, structural

FOR OFFICIAL USE ONLY

reinforcements and water-proofing design changes and the like will need to be made and will be partially based on the specifications as determined by the vendor. Vendor shall communicate with the demonstration partners to obtain vessel specifications and identify resources to successfully evaluate the system. The vendor shall specify, design, and manufacture the necessary components for the (b) (4) to match the environmental needs and the customer-identified craft.

3.2.9 (b) (4) Mount on Test Vessel. The (b) (4) shall be made at the vendor prior to shipping the (b) (4) to the customer specified site. Once completed, the system shall be packaged, shipped to the test site and installed by vendor personnel. The vendor shall make final modifications found necessary at the test site.

3.2.10 Perform On-Site Field Testing. The vendor shall support vessel stopping testing for four (4) one week periods. The vendor shall support effects tests of the IWM system on customer-provided test vessels. The vendor shall operate (b) (4) collect data and record observations of the testing.

3.2.11 Demonstration. Vendor personnel will take part in a final demonstration of (b) (4) at the test site where the field testing shall be performed. The vendor shall be responsible for the operation (b) (4) and shall do so in cooperation with the customer's designated demonstration partners. The integrity of the (b) (4) be verified prior to performing the demonstration. Once the final demonstration is completed, vendor personnel shall remove the (b) (4) from the demonstration vessel and ship it back to the vendor's facilities.

#### 4.0 DELIVERABLES, DATA

- 4.1.1 Monthly Progress Reports. Monthly reports will be generated at the end of each month throughout the project life, beginning one calendar month after award. Monthly technical and financial status reports are due on the 10<sup>th</sup> of each month.
- 4.1.2 JNLWP Program Reviews (Quarterly reviews)

FOR OFFICIAL USE ONLY

## FOR OFFICIAL USE ONLY

- 4.1.3 Progress Report. The program summary report, summarizing the project progress, results and a (b) (4) and recommendations for continuing the project to field demo shall be submitted prior to on-site evaluations.
- 4.1.4 The vendor shall deliver raw data, analysis of raw data, & testing reports to include those on vulnerabilities found for specific marine engines as scheduled in the WBS. All data, analysis, general and specific, and system detail shall be provided in an inclusive volume prior to field evaluations
- 4.1.5 Final Report. A final report consisting of requirements, requirements validation, lessons learned, raw data, data analysis, findings, and designs generated throughout the program shall be delivered. The data collected during the field trial will be analyzed and put into presentation format. The report will also include pricing and delivery information (b) (4)

### **5.0 FUNDING:**

The funding provided for this effort is \$387K FY09 BA-2

### **6.0 GOVERNMENT FURNISHED PROPERTY/MATERIAL**

The Government shall provide the test site and all vehicles necessary to execute this SOW. The Government shall provide target test articles (outboard motors). The vendor shall be responsible for the return shipping of Government assets used in the exercise of this SOW.

### **7.0 CONTRACTOR FURNISHED PROPERTY/MATERIAL**

All hardware, software, instruction manuals, and databases developed under this contract will be supplied to the customer with Government Purpose Only License Rights.

### **8.0 TRAVEL**

Long distance travel (CONUS) is expected and shall be pre-approved by the JNLWD. Travel shall be conducted only in support of JNLWP-funded activities.

### **9.0 SECURITY**

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

The most current JNLWP Security Classification Guide (see section 13) and/or the specific technology security classification guide will be used. All "Unclassified" work will be categorized as "For Official Use Only" until it has undergone the proper DoD-compliant information release process and has been approved for final release by the JNLWD Director. All documents, unless approved otherwise by the JNLWD, should be marked and distributed according to *Distribution Statement D: Distribution authorized to DoD Department of Defense and U.S. DoD contractors only. Other requests shall be referred to the Joint Non-Lethal Weapons Directorate, Quantico, VA.*

(b) (4) The following security classification guide (SCG) shall be used for this project:

Department of Defense Security Classification Guide for:

(b) (4)

Dated 21 June 1999.

The projects principal investigator (PI) and project engineers (as appropriate) require (b) (4) All information shall be protected in accordance with applicable security classifications guidance and regulations as described above.

**10.0 PERIOD OF PERFORMANCE**

The period of performance will be 1 APR 2009 to 30 September 2010.

**11.0 INSPECTION AND ACCEPTANCE**

Inspection and acceptance shall be performed by: Henry D. Webb, JNLWD Technology Division, (703)-432-8149, [henry.webb@usmc.mil](mailto:henry.webb@usmc.mil)

**12.0 POINTS OF CONTACT**

Technical POC @ Vendor

(b) (6)

FOR OFFICIAL USE ONLY

404 Gold Ave. SW, Suite 400  
Albuquerque, NM 87102-3224

**Financial POC @ Vendor**

**Jerald King**

**[jking@fiore-ind.com](mailto:jking@fiore-ind.com)**

404 Gold Ave. SW, Suite 400  
Albuquerque, NM 87102-3224

**Technical POC @ JNLWD:**

Henry Darrel Webb  
Joint Non-Lethal Weapons Directorate  
Maritime Portfolio Manager  
3097 Range Road Quantico, Va. 22134  
Tel. COMM: 703-432-8149 DSN 378-8149  
[henry.webb@usmc.mil](mailto:henry.webb@usmc.mil)

**Financial POC @JNLWD:**

Linda Palmer  
Budget Analyst, Plans, Policies & Operations Department (PP&O)  
Joint Non Lethal Weapons Directorate  
3097 Range Road Quantico, VA 22134  
Tel. COMM 703-784-3049 or DSN 278-3049  
Fax: 703-784-3178  
[linda.palmer@usmc.mil](mailto:linda.palmer@usmc.mil)

FOR OFFICIAL USE ONLY

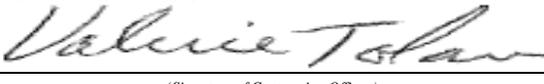
WBS

Phase 1 Tasks	
<b>1.0 Adapt Automated Test Facility for Marine Engine</b>	
1.1	Define general engine cooling requirements To be obtained from manufacturer or other sources
1.2	Purchase water tanks, fuel tanks, hoses & misc hardware
1.3	Run fuel, cooling, drain & exhaust lines/fans and prep test area
<b>2.0 Develop and Integrate</b> (b) (4)	
2.1	Develop control code for (b) (4)
2.2	Burn code to IWM ROM device and install
2.2	Test (b) (4)
<b>3.0 Lab Demo Auto</b> (b) (4)	
3.1	Demo Auto (b) (4)
<b>3.2 Hold IPR at Fiore</b>	
<b>4.0 Lab tests - customer provided marine engines</b>	
4.1	Receive and prep customer supplied engines. Return engines to Government upon completion of individual article evaluations.
4.2	Mount & Hook-up engine, irradiate and monitor
<b>5.0 Database compilation &amp; Statistical analysis</b> (b) (4)	
5.1	Compile Data from tests as generated
5.2	Perform statistical analysis (b) (4) on engine performance
<b>6 (b) (4) lab demos &amp; Program Review</b>	
6.1	Demo effects to customer at Fiore Automated Test Facility
6.2	First year program review
<b>7.0 Identify</b> (b) (4) <b>marine use</b>	
7.1	Identify components that need to be made harsh environment/water resistant
7.2	Generate modification requirements
<b>8.0 Monthly Progress reports</b>	
<b>9.0 Year end report</b>	
Phase 2 Tasks	
<b>10.0 Design</b> (b) (4) <b>nd interfaces</b>	
10.1	Obtain mounting requirements from customer Customer will provide contact for requirements Vendor will be responsible for requirements & validation
10.2	Design any craft specific mounting and cabling system needed (b) (4)

FOR OFFICIAL USE ONLY

FOR OFFICIAL USE ONLY

10.1	(b) (4)	components needed to protect them from the elements
10.3		Manufacture or purchase required mod components
11.	(b) (4)	and mount in carrier vessel
11.1	(b) (4)	as necessary at vendor facility
11.2	Crate, pack	(b) (4)
11.3		Travel to customer location
11.4	(b) (4)	vessel
12.0	Perform live wet testing o	(b) (4) (4 scheduled)
13.0		Final review and interdiction demonstration
13.1		Interdiction demonstration
13.2		Final Program Review
14.0		Final report

<b>AWARD/CONTRACT</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)			RATING	PAGE OF PAGES 1   23
2. CONTRACT (Proc. Inst. Ident.) NO. M67854 09 C 7008		3. EFFECTIVE DATE 27 Apr 2009		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. N0001409RC20107		
5. ISSUED BY MCSC CONTRACTING OFFICES CODE: CT-JNLWD 2200 LESTER ST QUANTICO VA 22134		CODE M67854	6. ADMINISTERED BY (If other than Item 5) DCMA PHOENIX TWO RENAISSANCE SQUARE SUITE 400 40 NORTH CENTRAL AVE PHOENIX AZ 85004-4424		CODE S0302A	
7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code) PHYSICS, MATERIALS AND APPLIED MATHMATIC DR. KEVIN KREMEYER 1665 E 18TH ST TUCSON AZ 85719-4045				8. DELIVERY [ ] FOB ORIGIN [ X ] OTHER (See below)		
				9. DISCOUNT FOR PROMPT PAYMENT Net 30 Days		
				10. SUBMIT INVOICES (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN:		ITEM
CODE 1KP83		FACILITY CODE		12. PAYMENT WILL BE MADE BY DFAS - COLUMBUS CENTER WEST ENTITLEMENT OPERATIONS PO BOX 182238 COLUMBUS OH 43218-2381		
11. SHIP TO/MARK FOR  <b>See Schedule</b>		CODE	CODE HQ0339			
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: [ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )				14. ACCOUNTING AND APPROPRIATION DATA <b>See Schedule</b>		
15A. ITEM NO.	15B. SUPPLIES/ SERVICES		15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT
<b>SEE SCHEDULE</b>						
<b>15G. TOTAL AMOUNT OF CONTRACT</b>						<b>\$353,671.59</b>
16. TABLE OF CONTENTS						
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION
<b>PART I - THE SCHEDULE</b>				<b>PART II - CONTRACT CLAUSES</b>		
X	A	SOLICITATION/ CONTRACT FORM	1	X	I	CONTRACT CLAUSES
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2 3	<b>PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS</b>		
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	4	X	J	LIST OF ATTACHMENTS
X	D	PACKAGING AND MARKING	5	<b>PART IV - REPRESENTATIONS AND INSTRUCTIONS</b>		
X	E	INSPECTION AND ACCEPTANCE	6	K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	7		L	INSTRS., CONDS., AND NOTICES TO OFFERORS
X	G	CONTRACT ADMINISTRATION DATA	8 10	M	EVALUATION FACTORS FOR AWARD	
X	H	SPECIAL CONTRACT REQUIREMENTS	11			
<b>CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE</b>						
17. [ X ] CONTRACTOR'S NEGOTIATED AGREEMENT (Contractor is required to sign this document and return [ ] 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. [ ] AWARD (Contractor is not required to sign this document.) Your offer on Solicitation Number _____		
19A. NAME AND TITLE OF SIGNER (Type or print)				20A. NAME AND TITLE OF CONTRACTING OFFICER VALERIE TOLAN / CONTRACTING OFFICER TEL: 703-432-4165 EMAIL: valerie.tolan@usmc.mil		
19B. NAME OF CONTRACTOR		19C. DATE SIGNED		20B. UNITED STATES OF AMERICA		20C. DATE SIGNED
BY _____ (Signature of person authorized to sign)				BY  (Signature of Contracting Officer)		27 Apr 2009

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	Phase 1 - BAA 009 CPFF Laser Based Flow Modification to Achieve Non-lethal Control of Aircraft Flight Path. Support shall be performed in accordance with the offeror's proposal and the attached statement of work. FOB: Destination PURCHASE REQUEST NUMBER: N0001409RC20107		Each		(b) (4)
				ESTIMATED COST	(b) (4)
				FIXED FEE	(b) (4)
				TOTAL EST COST + FEE	(b) (4)
	ACRN AA CIN: N0001409RC20107				

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0002 OPTION	Phase 2 - BAA 009 CPFF Laser Based Flow Modification to Achieve Non-lethal Control of Aircraft Flight Path. Support shall be performed in accordance with the offeror's proposal and the attached statement of work. FOB: Destination		Each		(b) (4)
				ESTIMATED COST	(b) (4)
				FIXED FEE	(b) (4)
				TOTAL EST COST + FEE	(b) (4)

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0003	Phase 3 - BAA 009		Each		(b) (4)
OPTION	CPFF				
	Laser Based Flow Modification to Achieve Non-lethal Control of Aircraft Flight Path. Support shall be performed in accordance with the offeror's proposal and the attached statement of work.				
	FOB: Destination				
				ESTIMATED COST	(b) (4)
				FIXED FEE	(b) (4)
				TOTAL EST COST + FEE	(b) (4)

Section C - Descriptions and Specifications

STATEMENT OF WORK

All work shall be performed in accordance with the offeror's proposal and attached statement of work.

Section D - Packaging and Marking

ADDITIONAL INFORMATION

D1. All deliverables under this contract shall be prepared, packaged and marked in accordance with best commercial practice to ensure safe delivery at destination.

D2. Marking of all deliverables shall be in accordance with the contractor's best commercial practices, using the latest version of MIL STD 129 as guidance.

Each shipment of material and/or data shall be clearly marked to show the following information:

MARK FOR: Contract Number: M67854-09-C-7008  
Item Number: As applicable (0001, 0002, 0003)

D3. Classified Matter: Classified matter, if applicable, will be packed and shipped in accordance with transmission instructions contained in the "Industrial Security Manual for Safeguarding Classified Information" and Applicable Security Requirements Guide.

## Section E - Inspection and Acceptance

## INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	Government	Destination	Government
0002	Destination	Government	Destination	Government
0003	Destination	Government	Destination	Government

## CLAUSES INCORPORATED BY REFERENCE

52.242-15 Alt I	Stop-Work Order (Aug 1989) - Alternate I	APR 1984
52.246-8	Inspection Of Research And Development Cost Reimbursement	MAY 2001
52.247-34	F.O.B. Destination	NOV 1991

## Section F - Deliveries or Performance

## DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 27-APR-2009 TO 26-APR-2010	N/A	N/A FOB: Destination	
0002	POP 27-APR-2010 TO 26-APR-2011	N/A	N/A FOB: Destination	
0003	POP 27-APR-2011 TO 26-APR-2012	N/A	N/A FOB: Destination	

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 1791319W2DV 000 RA309 0 068342 2D 000000 00002000JN20  
COST CODE: 00002000JN20  
AMOUNT: \$353,671.59  
CIN N0001409RC20107: \$353,671.59

ADDITIONAL INFORMATION

G1. Points of Contacts

Contracting Officer:

(b) (6)

M and AM Research

(b) (6)

PM & AM Financial POC:

(b) (6)

Technical POC @ JNLWD:

(b) (6)

Financial POC @ JNLWD:

(b) (6)

(b) (6)

G2. Accounting Classification Reference Number (ACRN)

The Accounting Classification Reference Number (ACRN) is the double letter prefix to the long line accounting classification citation number contained in the accounting data sheet attached to the contract, or listed below. It is used as a method for tracking expenditures against individual contract line items. In instances where multiple long line accounting classification numbers are applicable to single line items, each will be prefixed by a separate ACRN. Each line item, subline item, task and/or subtask listed in the schedule or statement of work shall have an accounting classification reference number assigned at the time of award.

G3. Invoicing Instructions

MARCORSYSCOM WAWF INSTRUCTIONS TO CONTRACTORS

ELECTRONIC INVOICING PROCEDURES (MARCORSYSCOM Feb 2006)

In compliance with DFARS 252.232-7003, "Electronic Submission of Payment Request (May 2006)", the United States Marine Corps (USMC) utilizes WAWF-RA to electronically process vendor request for payment. The contractor is required to utilize this system when processing invoices and receiving reports under this contract.

The contractor shall (i) ensure an Electronic Business Point of Contract (POC) is designated in Central Contractor Registration at <http://www.ccr.gov> and (ii) register to use WAWF-RA at the <https://wawf.eb.mil/> within ten (10) days after award of the contract or modification incorporating WAWF-RA into the contract. Step by step procedures to register are available at the <https://wawf.eb.mil/>.

The USMC WAWF-RA point of contact for this contract is (b) (6)

The contractor is directed to use the Cost Voucher format when processing invoices and receiving reports for cost type / reimburseable contracts. For all requirements, unless specifically directed otherwise, the contractor shall use the Marine Corps Systems Command DODAAC (M67854) as the DODAAC for all shipping addresses, even if the ship-to address is other than the Marine Corps Systems Command.

Data entry information in WAWF:  
Payment Office DoDAAC: please refer to block 12 of the SF26  
Issue By DoDAAC: M67854  
Admin Office DoDAAC: please refer to block 6 of the SF26

Ship To/Service Acceptor DoDAAC: M67854  
Contract Number: please refer to block 2 of the SF26

Before closing out of an invoice session in WAWF-RA, but after submitting your document or documents, the contractor will be prompted to send additional email notifications. The contractor shall click on “ Send Additional Email Notifications” block on the page that appears. Add the primary point of contact’s email address in the first email address block and add the alternate point of contact’s email address in the following block. This additional notification to the government is important to ensure the appropriate point of contact is aware that the invoice documents have been submitted into the WAWF-RA system.

NOTE: The POC identified above is for WAWF issues only. Any other contracting questions/problems should be addressed to the ACO identified in block 6 of the contract cover page.

## Section H - Special Contract Requirements

### ADDITIONAL INFORMATION

#### H1. Contractor Notice Regarding Late Delivery

In the event that the contractor, for any reason, anticipates or encounters difficulty in complying with the contract delivery schedule or date, or in meeting any of the other requirements of the contract, they shall immediately notify the ACO and PCO in writing, providing all of the pertinent details. This data shall be informational only in character and its receipt by the Government shall not be construed as a waiver by the Government of (i) any delivery schedule or date, (ii) compliance with any other contract requirement by the contractor, or (iii) any other rights or remedies belonging to the Government under law or otherwise in this contract.

#### H2. Incorporation of Representation and Certifications by Reference

All representations and certifications and other written statements by the contractor in response to the Representations and Certifications completed via the Online Representations and Certifications Application (ORCA) website or at the request of the contracting officer, incident to the award of the contract or modification of this contract, are hereby incorporated by reference with the same force and effect as if they were given in full text.

#### H3. Contract Changes

No order, statement, or conduct of Government personnel who might visit the contractor's facility or in any other manner communicate with contractor personnel during the performance of this contract shall constitute a change under the "Changes" clause of this contract.

No understanding or agreement, contract modification, change order, or other matter deviating from or constituting an alteration or change of the terms of the contract shall be effective or binding upon the Government unless formalized by contractual documents executed by the contracting officer or his or her designated representative.

The Contracting Officer is the only person authorized to approve changes in any of the requirements of this contract and notwithstanding provisions contained elsewhere in the contract, the said authority remains solely with the Contracting Officer. In the event that the contractor effects any change at the direction of any person other than the Contracting Officer, the change will be considered to have been made without authority at the contractor's expense, and no adjustment shall be made in the contract price or other contract terms and conditions as consideration for the aforementioned unauthorized change. Further, should the unauthorized change be to the Government's detriment, the contractor may be held financially responsible for its correction.

#### H4. Responsibility in Subcontracting

The contractor will be fully responsible for assuring that all appropriate contractual provisions and clauses are passed down to its subcontractors, and that those provisions are enforced.

#### H5. Central Contractor Registration

The contractor must ensure that his/her company is registered in the Central Contractor Registration database. This is mandatory for award of any Government contract. To register, go on-line to <http://ccr.edi.disa.mil>

## Section I - Contract Clauses

## CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-6	Restrictions On Subcontractor Sales To The Government	SEP 2006
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	SEP 2007
52.204-2	Security Requirements	AUG 1996
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.204-7	Central Contractor Registration	APR 2008
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	SEP 2006
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-9	Changes or Additions to Make-or-Buy Program	OCT 1997
52.215-10	Price Reduction for Defective Cost or Pricing Data	OCT 1997
52.215-11	Price Reduction for Defective Cost or Pricing Data-- Modifications	OCT 1997
52.215-14	Integrity of Unit Prices	OCT 1997
52.215-17	Waiver of Facilities Capital Cost of Money	OCT 1997
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	JUL 2005
52.215-19	Notification of Ownership Changes	OCT 1997
52.215-20	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data	OCT 1997
52.215-21	Requirements for Cost or Pricing Data or Information Other Than Cost or Pricing Data--Modifications	OCT 1997
52.216-8	Fixed Fee	MAR 1997
52.216-15	Predetermined Indirect Cost Rates	APR 1998
52.219-6	Notice Of Total Small Business Set-Aside	JUN 2003
52.219-8	Utilization of Small Business Concerns	MAY 2004
52.222-1	Notice To The Government Of Labor Disputes	FEB 1997
52.222-3	Convict Labor	JUN 2003
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	JUL 2005
52.222-20	Walsh-Healey Public Contracts Act	DEC 1996
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-39	Notification of Employee Rights Concerning Payment of Union Dues or Fees	DEC 2004

52.222-50	Combating Trafficking in Persons	AUG 2007
52.223-6	Drug-Free Workplace	MAY 2001
52.223-14	Toxic Chemical Release Reporting	AUG 2003
52.225-8	Duty-Free Entry	FEB 2000
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.226-1	Utilization Of Indian Organizations And Indian-Owned Economic Enterprises	JUN 2000
52.227-1 Alt I	Authorization And Consent (Dec 2007) - Alternate I	APR 1984
52.227-2	Notice And Assistance Regarding Patent And Copyright Infringement	DEC 2007
52.227-10	Filing Of Patent Applications--Classified Subject Matter	DEC 2007
52.227-11	Patent Rights--Ownership By The Contractor	DEC 2007
52.227-16	Additional Data Requirements	JUN 1987
52.228-7	Insurance--Liability To Third Persons	MAR 1996
52.230-2	Cost Accounting Standards	OCT 2008
52.230-3	Disclosure And Consistency Of Cost Accounting Practices	OCT 2008
52.230-6	Administration of Cost Accounting Standards	MAR 2008
52.232-9	Limitation On Withholding Of Payments	APR 1984
52.232-17	Interest	OCT 2008
52.232-18	Availability Of Funds	APR 1984
52.232-20	Limitation Of Cost	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-24	Prohibition of Assignment of Claims	JAN 1986
52.232-25	Prompt Payment	OCT 2008
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	OCT 2003
52.233-1 Alt I	Disputes (Jul 2002) - Alternate I	DEC 1991
52.233-3 Alt I	Protest After Award (Aug 1996) - Alternate I	JUN 1985
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-2	Production Progress Reports	APR 1991
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.242-15	Stop-Work Order	AUG 1989
52.243-2 Alt V	Changes--Cost-Reimbursement (Aug 1987) - Alternate V	APR 1984
52.243-6	Change Order Accounting	APR 1984
52.243-7	Notification Of Changes	APR 1984
52.244-2	Subcontracts	JUN 2007
52.244-5	Competition In Subcontracting	DEC 1996
52.244-6	Subcontracts for Commercial Items	DEC 2008
52.245-1	Government Property	JUN 2007
52.245-9	Use And Charges	JUN 2007
52.246-9	Inspection Of Research And Development (Short Form)	APR 1984
52.246-23	Limitation Of Liability	FEB 1997
52.247-63	Preference For U.S. Flag Air Carriers	JUN 2003
52.247-64	Preference for Privately Owned U.S. - Flag Commercial Vessels	FEB 2006
52.249-6	Termination (Cost Reimbursement)	MAY 2004
52.249-14	Excusable Delays	APR 1984
52.251-1	Government Supply Sources	APR 1984
52.252-6	Authorized Deviations In Clauses	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense- Contract-Related Felonies	DEC 2004

252.204-7000	Disclosure Of Information	DEC 1991
252.204-7002	Payment For Subline Items Not Separately Priced	DEC 1991
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.204-7004 Alt A	Central Contractor Registration (52.204-7) Alternate A	SEP 2007
252.204-7005	Oral Attestation of Security Responsibilities	NOV 2001
252.204-7009	Requirements Regarding Potential Access to Export- Controlled Items	JUL 2008
252.205-7000	Provision Of Information To Cooperative Agreement Holders	DEC 1991
252.215-7000	Pricing Adjustments	DEC 1991
252.215-7002	Cost Estimating System Requirements	DEC 2006
252.215-7004	Excessive Pass-Through Charges	MAY 2008
252.223-7004	Drug Free Work Force	SEP 1988
252.225-7001	Buy American Act And Balance Of Payments Program	JUN 2005
252.225-7012	Preference For Certain Domestic Commodities	MAR 2008
252.225-7014	Preference For Domestic Specialty Metals	JUN 2005
252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7013	Rights in Technical Data--Noncommercial Items	NOV 1995
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation	JUN 1995
252.227-7016	Rights in Bid or Proposal Information	JUN 1995
252.227-7019	Validation of Asserted Restrictions--Computer Software	JUN 1995
252.227-7022	Government Rights (Unlimited)	MAR 1979
252.227-7023	Drawings and Other Data to become Property of Government	MAR 1979
252.227-7025	Limitations on the Use or Disclosure of Government- Furnished Information Marked with Restrictive Legends	JUN 1995
252.227-7026	Deferred Delivery Of Technical Data Or Computer Software	APR 1988
252.227-7027	Deferred Ordering Of Technical Data Or Computer Software	APR 1988
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.227-7038	Patent Rights--Ownership by the Contractor (Large Business)	DEC 2007
252.227-7039	Patents--Reporting Of Subject Inventions	APR 1990
252.231-7000	Supplemental Cost Principles	DEC 1991
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	MAR 2008
252.235-7002	Animal Welfare	DEC 1991
252.235-7010	Acknowledgment of Support and Disclaimer	MAY 1995
252.235-7011	Final Scientific or Technical Report	NOV 2004
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.246-7000	Material Inspection And Receiving Report	MAR 2008
252.246-7001	Warranty Of Data	DEC 1991
252.247-7018	Subcontracting	DEC 1991
252.247-7023 Alt III	Transportation of Supplies by Sea (May 2002) Alternate III	MAY 2002

#### CLAUSES INCORPORATED BY FULL TEXT

52.216-7 ALLOWABLE COST AND PAYMENT (DEC 2002)

(a) Invoicing.

(1) The Government will make payments to the Contractor when requested as work progresses, but (except for small business concerns) not more often than once every 2 weeks, in amounts determined to be allowable by the Contracting Officer in accordance with Federal Acquisition Regulation (FAR) subpart 31.2 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 \_\_\_\_\_ (Contracting Officer insert day as prescribed by agency head; if not prescribed, insert "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 the 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 Contractor's payment request to the Government;

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

(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 forms of payment to subcontractors.

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

(i) The Contractor's 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 Contractor's 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 Contractor's 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 Contractor's 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 Contractor's proposal.

(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, the Contractor shall submit a completion invoice or voucher to reflect the settled amounts and rates.

(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)(4) 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 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)

#### 52.217-9 OPTION TO EXTEND THE TERM OF THE CONTRACT (MAR 2000)

(a) The Government may extend the term of this contract by written notice to the Contractor within 365 days after contract award or exercise of previous option period; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least one (1) before the contract expires. The preliminary notice does not commit the Government to an extension.

(b) If the Government exercises this option, the extended contract shall be considered to include this option clause.

(c) The total duration of this contract, including the exercise of any options under this clause, shall not exceed 36 months.

(End of clause)

#### 52.227-23 RIGHTS TO PROPOSAL DATA (TECHNICAL) (JUN 1987)

It is agreed that as a condition of award of this contract, and notwithstanding the conditions of any notice appearing thereon, the Government shall have unlimited rights (as defined in the "Rights in Data--General" clause contained in this contract) in and to the technical data contained in the proposal titled "Laser-Based Flow Modification to Achieve Non-lethal Control of Aircraft Flight Path, upon which this contract is based.

(End of clause)

#### 52.232-22 LIMITATION OF FUNDS (APR 1984)

(a) The parties estimate that performance of this contract will not cost the Government more than (1) the estimated cost specified in the Schedule or, (2) if this is a cost-sharing contract, the Government's share of the estimated cost specified in the Schedule. The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost, which, if this is a cost-sharing contract, includes both the Government's and the Contractor's share of the cost.

(b) The Schedule specifies the amount presently available for payment by the Government and allotted to this contract, the items covered, the Government's share of the cost if this is a cost-sharing contract, and the period of performance it is estimated the allotted amount will cover. The parties contemplate that the Government will allot additional funds incrementally to the contract up to the full estimated cost to the Government specified in the Schedule, exclusive of any fee. The Contractor agrees to perform, or have performed, work on the contract up to the point at which the total amount paid and payable by the Government under the contract approximates but does not exceed the total amount actually allotted by the Government to the contract.

(c) The Contractor shall notify the Contracting Officer in writing whenever it has reason to believe that the costs it expects to incur under this contract in the next 60 days, when added to all costs previously incurred, will exceed 75 percent of (1) the total amount so far allotted to the contract by the Government or, (2) if this is a cost-sharing contract, the amount then allotted to the contract by the Government plus the Contractor's corresponding share. The notice shall state the estimated amount of additional funds required to continue performance for the period specified in the Schedule.

(d) Sixty days before the end of the period specified in the Schedule, the Contractor shall notify the Contracting Officer in writing of the estimated amount of additional funds, if any, required to continue timely performance under the contract or for any further period specified in the Schedule or otherwise agreed upon, and when the funds will be required.

(e) If, after notification, additional funds are not allotted by the end of the period specified in the Schedule or another agreed-upon date, upon the Contractor's written request the Contracting Officer will terminate this contract on that date in accordance with the provisions of the Termination clause of this contract. If the Contractor estimates that the funds available will allow it to continue to discharge its obligations beyond that date, it may specify a later date in its request, and the Contracting Officer may terminate this contract on that later date.

(f) Except as required by other provisions of this contract, specifically citing and stated to be an exception to this

clause--

(1) The Government is not obligated to reimburse the Contractor for costs incurred in excess of the total amount allotted by the Government to this contract; and

(2) The Contractor is not obligated to continue performance under this contract (including actions under the Termination clause of this contract) or otherwise incur costs in excess of (i) the amount then allotted to the contract by the Government or, (ii) if this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, until the Contracting Officer notifies the Contractor in writing that the amount allotted by the Government has been increased and specifies an increased amount, which shall then constitute the total amount allotted by the Government to this contract.

(g) The estimated cost shall be increased to the extent that (1) the amount allotted by the Government or, (2) if this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, exceeds the estimated cost specified in the Schedule. If this is a cost-sharing contract, the increase shall be allocated in accordance with the formula specified in the Schedule.

(h) No notice, communication, or representation in any form other than that specified in subparagraph (f)(2) above, or from any person other than the Contracting Officer, shall affect the amount allotted by the Government to this contract. In the absence of the specified notice, the Government is not obligated to reimburse the Contractor for any costs in excess of the total amount allotted by the Government to this contract, whether incurred during the course of the contract or as a result of termination.

(i) When and to the extent that the amount allotted by the Government to the contract is increased, any costs the Contractor incurs before the increase that are in excess of (1) the amount previously allotted by the Government or, (2) if this is a cost-sharing contract, the amount previously allotted by the Government to the contract plus the Contractor's corresponding share, shall be allowable to the same extent as if incurred afterward, unless the Contracting Officer issues a termination or other notice and directs that the increase is solely to cover termination or other specified expenses.

(j) Change orders shall not be considered an authorization to exceed the amount allotted by the Government specified in the Schedule, unless they contain a statement increasing the amount allotted.

(k) Nothing in this clause shall affect the right of the Government to terminate this contract. If this contract is terminated, the Government and the Contractor shall negotiate an equitable distribution of all property produced or purchased under the contract, based upon the share of costs incurred by each.

(l) If the Government does not allot sufficient funds to allow completion of the work, the Contractor is entitled to a percentage of the fee specified in the Schedule equalling the percentage of completion of the work contemplated by this contract.

(End of clause)

#### 52.243-7 NOTIFICATION OF CHANGES (APR 1984)

(a) Definitions.

"Contracting Officer," as used in this clause, does not include any representative of the Contracting Officer.

"Specifically authorized representative (SAR)," as used in this clause, means any person the Contracting Officer has so designated by written notice (a copy of which shall be provided to the Contractor) which shall refer to this subparagraph and shall be issued to the designated representative before the SAR exercises such authority.

(b) Notice. The primary purpose of this clause is to obtain prompt reporting of Government conduct that the

Contractor considers to constitute a change to this contract. Except for changes identified as such in writing and signed by the Contracting Officer, the Contractor shall notify the Administrative Contracting Officer in writing, within five (5) calendar days from the date that the Contractor identifies any Government conduct (including actions, inactions, and written or oral communications) that the Contractor regards as a change to the contract terms and conditions. On the basis of the most accurate information available to the Contractor, the notice shall state--

- (1) The date, nature, and circumstances of the conduct regarded as a change;
  - (2) The name, function, and activity of each Government individual and Contractor official or employee involved in or knowledgeable about such conduct;
  - (3) The identification of any documents and the substance of any oral communication involved in such conduct;
  - (4) In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;
  - (5) The particular elements of contract performance for which the Contractor may seek an equitable adjustment under this clause, including--
    - (i) What contract line items have been or may be affected by the alleged change;
    - (ii) What labor or materials or both have been or may be added, deleted, or wasted by the alleged change;
    - (iii) To the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performance have been or may be caused by the alleged change;
    - (iv) What adjustments to contract price, delivery schedule, and other provisions affected by the alleged change are estimated; and
  - (6) The Contractor's estimate of the time by which the Government must respond to the Contractor's notice to minimize cost, delay or disruption of performance.
- (c) Continued performance. Following submission of the notice required by (b) above, the Contractor shall diligently continue performance of this contract to the maximum extent possible in accordance with its terms and conditions as construed by the Contractor, unless the notice reports a direction of the Contracting Officer or a communication from a SAR of the Contracting Officer, in either of which events the Contractor shall continue performance; provided, however, that if the Contractor regards the direction or communication as a change as described in (b) above, notice shall be given in the manner provided. All directions, communications, interpretations, orders and similar actions of the SAR shall be reduced to writing and copies furnished to the Contractor and to the Contracting Officer. The Contracting Officer shall countermand any action which exceeds the authority of the SAR.
- (d) Government response. The Contracting Officer shall promptly, within ten (10) calendar days after receipt of notice, respond to the notice in writing. In responding, the Contracting Officer shall either--
- (1) Confirm that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance;
  - (2) Countermand any communication regarded as a change;
  - (3) Deny that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance; or
  - (4) In the event the Contractor's notice information is inadequate to make a decision under (1), (2), or (3) above, advise the Contractor what additional information is required, and establish the date by which it should be furnished

and the date thereafter by which the Government will respond.

(e) Equitable adjustments.

(1) If the Contracting Officer confirms that Government conduct effected a change as alleged by the Contractor, and the conduct causes an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether changed or not changed by such conduct, an equitable adjustment shall be made--

(i) In the contract price or delivery schedule or both; and

(ii) In such other provisions of the contract as may be affected.

(2) The contract shall be modified in writing accordingly. In the case of drawings, designs or specifications which are defective and for which the Government is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the defective drawings, designs or specifications before the Contractor identified, or reasonably should have identified, such defect. When the cost of property made obsolete or excess as a result of a change confirmed by the Contracting Officer under this clause is included in the equitable adjustment, the Contracting Officer shall have the right to prescribe the manner of disposition of the property. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided, respectively, in (b) and (c) above.

Note: The phrases "contract price" and "cost" wherever they appear in the clause, may be appropriately modified to apply to cost-reimbursement or incentive contracts, or to combinations thereof.

(End of clause)

#### 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

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

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

(End of clause)

#### 252.232-7007 LIMITATION OF GOVERNMENT'S OBLIGATION (MAY 2006)

(a) Contract line item(s) To Be Determined (TBD) are incrementally funded. For these item(s), the sum of \$TBD of the total price is presently available for payment and allotted to this contract. An allotment schedule is set forth in paragraph (j) of this clause.

(b) For items(s) identified in paragraph (a) of this clause, the Contractor agrees to perform up to the point at which the total amount payable by the Government, including reimbursement in the event of termination of those item(s) for the Government's convenience, approximates the total amount currently allotted to the contract. The Contractor is not authorized to continue work on those item(s) beyond that point. The Government will not be obligated in any event to reimburse the Contractor in excess of the amount allotted to the contract for those item(s) regardless of anything to the contrary in the clause entitled "TERMINATION FOR THE CONVENIENCE OF THE

GOVERNMENT." As used in this clause, the total amount payable by the Government in the event of termination of applicable contract line item(s) for convenience includes costs, profit and estimated termination settlement costs for those item(s).

(c) Notwithstanding the dates specified in the allotment schedule in paragraph (j) of this clause, the Contractor will notify the Contracting Officer in writing at least 90 days prior to the date when, in the Contractor's best judgment, the work will reach the point at which the total amount payable by the Government, including any cost for termination for convenience, will approximate 85 percent of the total amount then allotted to the contract for performance of the applicable item(s). The notification will state (1) the estimated date when that point will be reached and (2) an estimate of additional funding, if any, needed to continue performance of applicable line items up to the next scheduled date for allotment of funds identified in paragraph (j) of this clause, or to a mutually agreed upon substitute date. The notification will also advise the Contracting Officer of the estimated amount of additional funds that will be required for the timely performance of the item(s) funded pursuant to this clause, for subsequent period as may be specified in the allotment schedule in paragraph (j) of this clause, or otherwise agreed to by the parties. If after such notification additional funds are not allotted by the date identified in the Contractor's notification, or by an agreed substitute date, the Contracting Officer will terminate any item(s) for which additional funds have not been allotted, pursuant to the clause of this contract entitled "TERMINATION FOR THE CONVENIENCE OF THE GOVERNMENT".

(d) When additional funds are allotted for continued performance of the contract line item(s) identified in paragraph (a) of this clause, the parties will agree as to the period of contract performance which will be covered by the funds. The provisions of paragraph (b) through (d) of this clause will apply in like manner to the additional allotted funds and agreed substitute date, and the contract will be modified accordingly.

(e) If, solely by reason of failure of the Government to allot additional funds, by the dates indicated below, in amounts sufficient for timely performance of the contract line item(s) identified in paragraph (a) of this clause, the Contractor incurs additional costs or is delayed in the performance of the work under this contract and if additional funds are allotted, an equitable adjustment will be made in the price or prices (including appropriate target, billing, and ceiling prices where applicable) of the item(s), or in the time of delivery, or both. Failure to agree to any such equitable adjustment hereunder will be a dispute concerning a question of fact within the meaning of the clause entitled "disputes."

(f) The Government may at any time prior to termination allot additional funds for the performance of the contract line item(s) identified in paragraph (a) of this clause.

(g) The termination provisions of this clause do not limit the rights of the Government under the clause entitled "DEFAULT." The provisions of this clause are limited to work and allotment of funds for the contract line item(s) set forth in paragraph (a) of this clause. This clause no longer applies once the contract is fully funded except with regard to the rights or obligations of the parties concerning equitable adjustments negotiated under paragraphs (d) or (e) of this clause.

(h) Nothing in this clause affects the right of the Government to this contract pursuant to the clause of this contract entitled "TERMINATION FOR CONVENIENCE OF THE GOVERNMENT."

(i) Nothing in this clause shall be construed as authorization of voluntary services whose acceptance is otherwise prohibited under 31 U.S.C. 1342.

(j) The parties contemplate that the Government will allot funds to this contract in accordance with the following schedule: TBD.

(End of clause)

Section J - List of Documents, Exhibits and Other Attachments

Exhibit/Attachment Table of Contents

DOCUMENT TYPE	DESCRIPTION	PAGES	DATE
Attachment 1	Statement of Work	6	27-APR-2009

PM & AM Research Government Proprietary  
FOUO - For Official Use Only - FOUO

## **Statement of Work (SOW)**

**FOR**

### **Laser-Based Flow Modification to Achieve Non-Lethal Control of Aircraft Flight Path**

**FISCAL YEAR 2009 SCIENCE AND TECHNOLOGY (FY09 S&T, BA-2)**

Distribution Statement D: Distribution authorized to DoD Department of Defense and U.S. DoD contractors only. This document contains pre-decisional information for deliberative use in support of the Joint Non-Lethal Weapons Program (JNLWP). The information in this document is exempt from public disclosure in accordance with Title 5 USC § 552(b)(5) (Freedom of Information Act (FOIA) Exemption (b)(5)). This document may also contain technical data exempt from public disclosure in accordance with Title 5 USC § 552(b)(3). Request for disclosure of any information contained in this brief under FOIA should be forwarded to the Joint Non-Lethal Weapons Directorate, Quantico, Virginia.

## 2.0 SCOPE:

### 2.1 Scope:

The scope of the FY09 RDT&E effort will involve scientific exploration to develop the ability to (b) (4) in order (b) (4), exploring field scenarios/applications in future phases. (b) (4) will be performed along (b) (4) in the presence of (b) (4) (b) (4) introduced to (b) (4) in response to the (b) (4) will be measured, analyzed, and characterized. This information will be extrapolated to determine the effect on example (b) (4) under realistic (b) (4) conditions. The effort will make use of expertise and capabilities in (b) (4) (b) (4) testing, as well as the necessary facilities and experience in (b) (4) programs.

## 3.0 TECHNICAL REQUIREMENTS:

### 3.1 Performance Requirements: Quantitative Assessment and Projection

3.1.1 Assessments/Projections: **The performer shall** establish the desired (b) (4) systems, as vital elements in (b) (4) approaches.

3.1.1.1 **The performer shall** interface with the Technical POC to discuss the operationally envisioned (b) (4) and measurement techniques.

3.1.1.2 **The performer shall** interface with HECOIE to discuss envisioned (b) (4) and measurement techniques as related to risk of injury (primarily (b) (4)).

3.1.2 (b) (4) Model Development: **The performer shall develop** the (b) (4) required to perform the (b) (4) measurements.

3.1.2.1 Prepare (b) (4) Facility for Studies: **The performer shall** prepare the (b) (4) facility for the necessary (b) (4) conditions and measurements.

3.1.2.2 Develop (b) (4) Diagnostic: **The performer shall design and build** the (b) (4) diagnostic to measure and resolve the anticipated (b) (4).

3.1.2.3 Build (b) (4) Incorporating Diagnostics: **The performer shall construct** the (b) (4) test component, incorporating the desired (b) (4) diagnostic(s).

3.1.2.4 Test Model and Diagnostics: **The performer shall test** the (b) (4) model and diagnostic/measurement tools, under the desired (b) (4) conditions.

3.1.3 (b) (4): **The performer shall** develop (b) (4) techniques, suited for the desired (b) (4) tests.

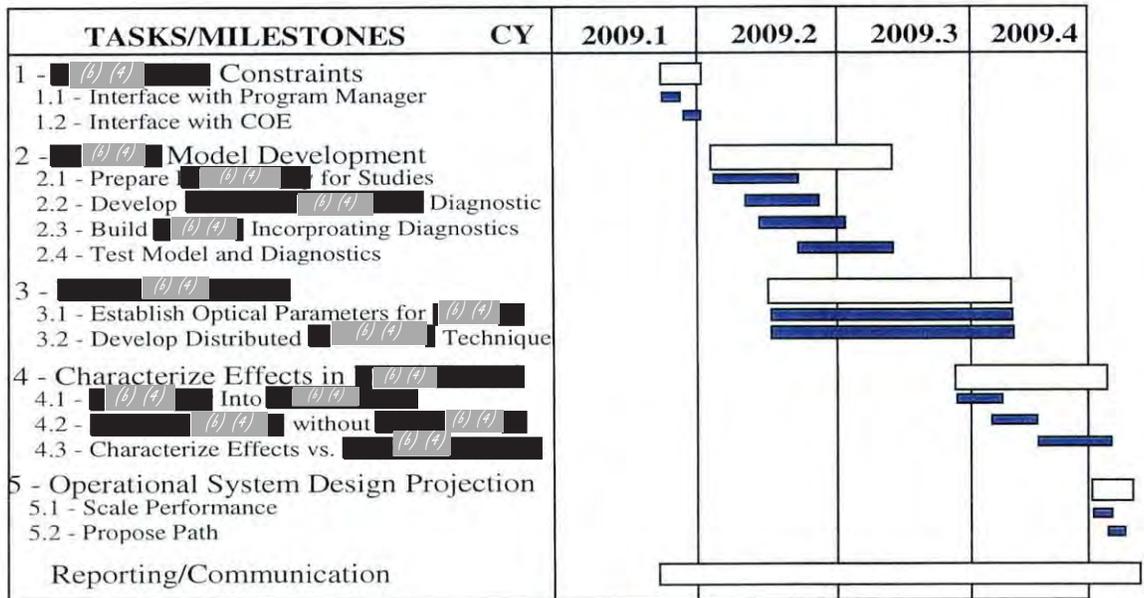
3.1.3.1 Establish (b) (4) Parameters for (b) (4): Based on the target determination, **the performer shall determine** (b) (4) levels that will generate an (b) (4) anticipated to (b) (4) the (b) (4) along the (b) (4). A test plan shall be developed and approved by the JNLWD OPR to ensure that all of the desired data is being recorded.

3.1.3.2 Develop Distributed (b) (4) Technique: **The performer shall devise** an (b) (4) technique to distribute (b) (4) across a (b) (4), in a scalable fashion.

3.1.4 Characterize Effects in (b) (4): **The performer shall characterize** the effects of interest under the desired (b) (4) conditions.

3.1.4.1 (b) (4) into (b) (4): **The performer shall** devise an effective technique to (b) (4) the (b) (4) into the (b) (4).

- 3.1.4.2 [redacted] without [redacted]. The performer shall optimize the [redacted] without [redacted].
- 3.1.4.3 Characterize Effects vs. [redacted]: The performer shall measure the [redacted] characteristics of the [redacted] under the desired range of [redacted] conditions.
- 3.1.5 Operational System Design Projection: The performer shall develop a preliminary conceptual [redacted] system design to achieve the operational goals.
  - 3.1.5.1 Scale Performance: Based on the measured effects, the performer shall scale the performance to establish the components of a system, capable of achieving the desired non-lethal [redacted] effects.
  - 3.1.5.2 Propose Path: The performer shall complete a program plan with 3<sup>rd</sup> order work break down structure necessary to develop an advanced [redacted] system prototype that will mature this technology to milestone C.



3.2 Program support:

- 3.2.1 The performer shall interact with the JNLWD OPR for program management and oversight tasks including monitoring technical, cost, and schedule performance.
- 3.2.2 The performer shall exercise good management practices to monitor the technical progress of the effort and completing monthly progress reports.
- 3.2.3 The performer shall develop presentation materials to include video, high speed or otherwise, for conveying the effects of the [redacted] to non-technical audiences.
- 3.2.4 The performer shall communicate promptly to the JNLWD any issues affecting progress and ensure that deliveries are made in accordance with the terms and conditions of this SOW.
- 3.2.5 The performer shall provide written monthly status and financial reports (using JNLWD provided templates).

- 3.2.6 The performer shall conduct quarterly program reviews with the JNLWD to review the technical progress and issues, schedules and program cost.
- 3.2.7 The performer shall provide reports, abstracts, briefings, etc., on JNLWP-funded efforts to the JNLWD for concurrence on distribution prior to public release.
- 3.2.8 The performer shall attend and provide a program status briefing at JNLWP meetings, to include semi-annual JNLW program reviews.
- 3.2.9 The performer shall assist the Human Effects Center Of Excellence (HECOE) and JNLWD by providing test design, data collection, instrumentation guidance and general program support to other JNLWP-supported efforts. This assistance shall be a consultant type of support offering guidance and advice as requested.

4.0 **SCHEDULE, DELIVERABLES, REPORTS, and DATA:** Listed deliverables apply to all requirements under Section 3.0. Documents (i.e., POA&M, RDOEPP, monthly technical and financial reports, and annual reports) shall be submitted.

The performer shall deliver:

- 4.1 Quad Chart of project. Due semi-annually.
- 4.2 PowerPoint presentations on project for semi-annual JNLWD Program Reviews. Due semi-annually.
- 4.3 Monthly financial status reports on JNLWD-provided template. Due by the 10<sup>th</sup> of each month. By exception and only upon the request of JNLWD government personnel, the performer shall provide invoices to support reported financial status.
- 4.4 On-site or video teleconference brief of the program's quarterly progress. Due one month after 1<sup>st</sup>, 2<sup>nd</sup>, and 3<sup>rd</sup> quarters of the fiscal year.
- 4.5 Monthly technical progress reports summarizing work completed in previous month and that to be completed in upcoming month. Due by the 10<sup>th</sup> of each month.
- 4.6 Measurement and (b) (4) Test Plan that describes in detail the approach to completing Requirement 3.1 to include full performance specifications of all test instrumentation packages. Due no later than three months after receipt of funding.
- 4.7 Documentation package that provides the test design for the Measurement effort in 3.1. Due by the end of the period of performance.
  - 4.7.1 Documentation is to include a 3<sup>rd</sup> order work breakdown structure and program plan that supports further maturation of this technology development plan and supports a program plan that matures this technology to a Technology Readiness Level (TRL) of 6.
- 4.8 Annual report and supporting materials on FY09 tasks to include the test plan, data, and analysis in the measurement effort in 3.1. Due by the end of the period of performance.
- 4.9 Presentation of Results and demonstration at contractor site or subcontractor site at the end of the technical effort.
- 4.10 Provide reports, abstracts, briefings, etc., on JNLWP-funded efforts to the JNLWD for approval of distribution statement.
- 4.11 Copies of peer-reviewed journal publications, proceedings publications and/or technical reports generated by the above tasks.

Deliverable	SOW Task	Description	Due Date
1	1,2,3,4,5	Quad Charts	Semiannually as requested
2	1,2,3,4,5	PowerPoint	Semiannually as

		Presentations	requested
3	1,2,3,4,5	Monthly financial/status reports	10th of every month
4	1,2,3,4,5	Brief of the project's effects measurement program's quarterly progress	One month after each quarter of the fiscal year
5	1,2,3,4,5	Monthly technical progress reports	By the 10th of every month
6	1,2,3	Detailed Measurement and (b) (4) Plan	3 Months after receipt of funding
7	1,2,3,4,5	Test design documentation package	End of Period of Performance
8	1,2,3,4,5	Annual report and supporting materials	End of Period of Performance
9	1,2,3,4,5	Presentation and demonstration	End of Technical Effort
10	1,2,3,4,5	Pre-release communications for approval of distribution statement	Before release
11	1,2,3,4,5	Related Publications	Upon receipt

**5.0 RESERVED**

**6.0 GOVERNMENT FURNISHED PROPERTY/MATERIAL**

N/A

**7.0 CONTRACTOR FURNISHED PROPERTY/MATERIAL**

N/A

**8.0 TRAVEL**

Long distance travel is authorized. Travel shall not be taken without advanced approval of the JNLWD Technical POC. For cost estimation purposes, quarterly progress review meetings will alternate between contractor and government facilities. Anticipated travel may include remote site data collection for source characterization, conferences and workshops, and trips for program reviews.

**9.0 SECURITY**

PM&AM shall use Security Classification Guidance document titled (b) (4). Data generated as a result of this project will likely be UNCLASSIFIED; however, until release approval is granted by the JNLWD all data shall be FOR OFFICIAL USE ONLY and shall be protected in accordance with applicable security regulations. As such, all documents should be marked and distributed according to *Distribution Statement D: Distribution authorized to Department of Defense (DoD) and U.S. DoD contractors only. Other requests shall be referred to the Joint Non-Lethal Weapons Directorate, Quantico, VA.*

**10.0 PLACE AND PERIOD OF PERFORMANCE**

The effort described in this statement of work will be conducted within 12 months of receipt of funding, with deliverables provided as stated in Section 4.0.

**11.0 INSPECTION AND ACCEPTANCE**

Inspection and acceptance shall be performed by JNLWD OPR as identified below.

<b>AWARD/CONTRACT</b>		1. THIS CONTRACT IS A RATED ORDER UNDER DPAS (15 CFR 350)			RATING	PAGE OF PAGES 1   18	
2. CONTRACT (Proc. Inst. Ident.) NO. M67854-09-C-7030		3. EFFECTIVE DATE 13 Apr 2009		4. REQUISITION/PURCHASE REQUEST/PROJECT NO. L3			
5. ISSUED BY MCSC CONTRACT NG OFFICES CODE: CT-JNLWD 2200 LESTER ST QUANTICO VA 22134		CODE M67854	6. ADMINISTERED BY (If other than Item 5) DCMA SAN D EGO 7675 DAGGET STREET SUITE 200 SAN D EGO CA 92111-2241			CODE S0514A	
7. NAME AND ADDRESS OF CONTRACTOR (No., street, city, county, state and zip code) L-3 SERVICES, NC. NICOLE STANGLE 10770 WATER DGE CIR STE 200 SAN D EGO CA 92121-1002				8. DELIVERY [ ] FOB ORIGIN [ X ] OTHER (See below)			
				9. DISCOUNT FOR PROMPT PAYMENT Net 30 Days			
				10. SUBMIT INVOICES 1 (4 copies unless otherwise specified) TO THE ADDRESS SHOWN IN:			ITEM
CODE 1BXT1		FACILITY CODE					
11. SHIP TO/MARK FOR  <b>See Schedule</b>		CODE	12. PAYMENT WILL BE MADE BY DFAS - CLEVELAND-CHARLESTON CLEVELAND-CHARLESTON PO BOX 998022 CLEVELAND OH 44199-8022			CODE N68342	
13. AUTHORITY FOR USING OTHER THAN FULL AND OPEN COMPETITION: [ ] 10 U.S.C. 2304(c)( ) [ ] 41 U.S.C. 253(c)( )				14. ACCOUNTING AND APPROPRIATION DATA <b>See Schedule</b>			
15A. ITEM NO.	15B. SUPPLIES/ SERVICES		15C. QUANTITY	15D. UNIT	15E. UNIT PRICE	15F. AMOUNT	
<b>SEE SCHEDULE</b>							
<b>15G. TOTAL AMOUNT OF CONTRACT</b>						<b>\$499,848.00</b>	
16. TABLE OF CONTENTS							
(X)	SEC.	DESCRIPTION	PAGE(S)	(X)	SEC.	DESCRIPTION	PAGE(S)
<b>PART I - THE SCHEDULE</b>				<b>PART II - CONTRACT CLAUSES</b>			
X	A	SOLICITATION/ CONTRACT FORM	1	X	I	CONTRACT CLAUSES	12 - 18
X	B	SUPPLIES OR SERVICES AND PRICES/ COSTS	2	<b>PART III - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS</b>			
X	C	DESCRIPTION/ SPECS./ WORK STATEMENT	3		J	LIST OF ATTACHMENTS	
X	D	PACKAGING AND MARKING	4	<b>PART IV - REPRESENTATIONS AND INSTRUCTIONS</b>			
X	E	INSPECTION AND ACCEPTANCE	5 - 6		K	REPRESENTATIONS, CERTIFICATIONS AND OTHER STATEMENTS OF OFFERORS	
X	F	DELIVERIES OR PERFORMANCE	7		L	INSTRS., CONDS., AND NOTICES TO OFFERORS	
X	G	CONTRACT ADMINISTRATION DATA	8 - 10		M	EVALUATION FACTORS FOR AWARD	
X	H	SPECIAL CONTRACT REQUIREMENTS	11				
<b>CONTRACTING OFFICER WILL COMPLETE ITEM 17 OR 18 AS APPLICABLE</b>							
17 [ X ] CONTRACTOR'S NEGOTIATED AGREEMENT Contractor is required to sign this document and return _____ 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 [ ] AWARD (Contractor is not required to sign this document) Your offer 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 offer, and (b) this award/contract. No further contractual document is necessary.			
19A. NAME AND TITLE OF SIGNER (Type or print)				20A. NAME AND TITLE OF CONTRACTING OFFICER PEGGY L. SMITH / CONTRACTING OFFICER TEL: 703-432-0894 EMAIL: peggy.l.smith1@usmc.mil			
19B. NAME OF CONTRACTOR		19C. DATE SIGNED		20B. UNITED STATES OF AMERICA  		20C. DATE SIGNED 13-Apr-2009	
BY _____ (Signature of person authorized to sign)				BY _____ (Signature of Contracting Officer)			

Section B - Supplies or Services and Prices

ITEM NO	SUPPLIES/SERVICES	QUANTITY	UNIT	UNIT PRICE	AMOUNT
0001	Shock Wave Based Injury Model CPFF Shock Wave Based Injury Model for mTBI in Rates in accordance with the offeror's proposal and the attached statement of work FOB: Destination MILSTRIP: N0001409RC20101 PURCHASE REQUEST NUMBER: L3		Each		(b) (4)
				ESTIMATED COST	(b) (4)
				FIXED FEE	
				TOTAL EST COST + FEE	
	ACRN AA CIN: 00000000000000000000000000000000				

e

Section C - Descriptions and Specifications

ADDITIONAL INFORMATION

STATEMENT OF WORK

All work shall be performed in accordance with the offeror's proposal and attached statement of work.

Section D - Packaging and Marking

ADDITIONAL INFORMATION  
INSTRUCTIONS

D1. All deliverables under this contract shall be prepared, packaged and marked in accordance with best commercial practice to ensure safe delivery at destination.

D2. Marking of all deliverables shall be in accordance with the contractor's best commercial practices, using the latest version of MIL STD 129 as guidance.

Each shipment of material and/or data shall be clearly marked to show the following information:

MARK FOR: Contract Number: M67854-09-C-7030  
Item Number: As applicable (0001)

D3. Classified Matter: Classified matter, if applicable, will be packed and shipped in accordance with transmission instructions contained in the "Industrial Security Manual for Safeguarding Classified Information" and Applicable Security Requirements Guide.

## Section E - Inspection and Acceptance

## INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

CLIN	INSPECT AT	INSPECT BY	ACCEPT AT	ACCEPT BY
0001	Destination	Government	Destination	Government

## CLAUSES INCORPORATED BY REFERENCE

52.246-8	Inspection Of Research And Development Cost Reimbursement	MAY 2001
52.247-34	F.O.B. Destination	NOV 1991

## CLAUSES INCORPORATED BY FULL TEXT

52.242-15 STOP-WORK ORDER (AUG 1989) - ALTERNATE I (APR 1984)

(a) The Contracting Officer may, at any time, by written order to the Contractor, require the Contractor to stop all, or any part, of the work called for by this contract for a period of 90 days after the order is delivered to the Contractor, and for any further period to which the parties may agree. The order shall be specifically identified as a stop-work order issued under this clause. Upon receipt of the order, the Contractor shall immediately comply with its terms and take all reasonable steps to minimize the incurrence of costs allocable to the work covered by the order during the period of work stoppage. Within a period of 90 days after a stop-work is delivered to the Contractor, or within any extension of that period to which the parties shall have agreed, the Contracting Officer shall either--

(1) Cancel the stop-work order; or

(2) Terminate the work covered by the order as provided in the Termination clause of this contract.

(b) If a stop-work order issued under this clause is canceled or the period of the order or any extension thereof expires, the Contractor shall resume work. The Contracting Officer shall make an equitable adjustment in the delivery schedule, the estimated cost, the fee, or a combination thereof, and in any other terms of the contract that may be affected, and the contract shall be modified, in writing, accordingly, if--

(1) The stop-work order results in an increase in the time required for, or in the Contractor's cost properly allocable to, the performance of any part of this contract; and

(2) The Contractor asserts its right to the adjustment within 30 days after the end of the period of work stoppage; provided, that, if the Contracting Officer decides the facts justify the action, the Contracting Officer may receive and act upon the claim submitted at any time before final payment under this contract.

(c) If a stop-work order is not canceled and the work covered by the order is terminated for the convenience of the Government, the Contracting Officer shall allow reasonable costs resulting from the stop-work order in arriving at the

termination settlement.

(d) If a stop-work order is not canceled and the work covered by the order is terminated for default, the Contracting Officer shall allow, by equitable adjustment or otherwise, reasonable costs resulting from the stop-work order.

(End of clause)

Section F - Deliveries or Performance

DELIVERY INFORMATION

CLIN	DELIVERY DATE	QUANTITY	SHIP TO ADDRESS	UIC
0001	POP 15-APR-2009 TO 14-APR-2010	N/A	N/A FOB: Destination	

Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

AA: 1791319W2DV 000 RA309 0 068342 2D 000000 00002000JN20

(b) (4)

ADDITIONAL INFORMATION

G1. Points of Contacts

Contracting Officer:

(b) (4)

Administrative Contracting Office:

DCMA SAN DIEGO  
7675 DAGGET STREET  
SUITE 200  
SAN DIEGO, CA 92111-2241

(b) (6)

A grey rectangular box containing the text "(b) (6)" in white, indicating a redacted section of the document.

JNLWD Financial POC:

A grey rectangular box containing the text "(b) (6)" in white, indicating a redacted section of the document.

JNLWD Technical POC:

A grey rectangular box containing the text "(b) (6)" in white, indicating a redacted section of the document.

## G2. Accounting Classification Reference Number (ACRN)

The Accounting Classification Reference Number (ACRN) is the double letter prefix to the long line accounting classification citation number contained in the accounting data sheet attached to the contract, or listed below. It is used as a method for tracking expenditures against individual contract line items. In instances where multiple long line accounting classification numbers are applicable to single line items, each will be prefixed by a separate ACRN. Each line item, subline item, task and/or subtask listed in the schedule or statement of work shall have an accounting classification reference number assigned at the time of award.

## G3. Marine Corps Systems Command (MARCORSYSCOM) Wide Area Workflow (WAWF) Instructions to Contractors

### ELECTRONIC INVOICING PROCEDURES (MARCORSYSCOM Feb 2006)

In compliance with DFARS 252.232-7003, "Electronic Submission of Payment Request (May 2006)", the United States Marine Corps (USMC) utilizes WAWF-RA to electronically process vendor request for payment. The contractor is required to utilize this system when processing invoices and receiving reports under this contract.

The contractor shall (i) ensure an Electronic Business Point of Contract (POC) is designated in Central Contractor Registration at <http://www.ccr.gov> and (ii) register to use WAWF-RA at the <https://wawf.eb.mil/> within ten (10) days after award of the contract or modification incorporating WAWF-RA into the contract. Step by step procedures to register are available at the <https://wawf.eb.mil/>.

The USMC WAWF-RA point of contact for this contract is MCSC DFM MAO and can be reached on 703-432-4443 or via email at [MCSC\\_DFM\\_MAO@usmc.mil](mailto:MCSC_DFM_MAO@usmc.mil).

The contractor is directed to use the Cost Voucher format when processing invoices and receiving reports for cost type / reimburseable contracts. For all requirements, unless specifically directed otherwise, the contractor shall use the

Marine Corps Systems Command DODAAC (M67854) as the DODAAC for all shipping addresses, even if the ship-to address is other than the Marine Corps Systems Command.

Data entry information in WAWF:

Payment Office DoDAAC: please refer to block 12 of the SF26

Issue By DoDAAC: M67854

Admin Office DoDAAC: please refer to block 6 of the SF26

Ship To/Service Acceptor DoDAAC: M67854

Contract Number: please refer to block 2 of the SF26

Before closing out of an invoice session in WAWF-RA, but after submitting your document or documents, the contractor will be prompted to send additional email notifications. The contractor shall click on " Send Additional Email Notifications" block on the page that appears. Add the primary point of contact's email address in the first email address block and add the alternate point of contact's email address in the following block. This additional notification to the government is important to ensure the appropriate point of contact is aware that the invoice documents have been submitted into the WAWF-RA system.

**NOTE: The POC identified above is for WAWF issues only. Any other contracting questions/problems should be addressed to the POC identified in Section A of the contract.**

## Section H - Special Contract Requirements

### ADDITIONAL INFORMATION

#### H1. Contractor Notice Regarding Late Delivery

In the event that the contractor, for any reason, anticipates or encounters difficulty in complying with the contract delivery schedule or date, or in meeting any of the other requirements of the contract, they shall immediately notify the ACO and PCO in writing, providing all of the pertinent details. This data shall be informational only in character and its receipt by the Government shall not be construed as a waiver by the Government of (i) any delivery schedule or date, (ii) compliance with any other contract requirement by the contractor, or (iii) any other rights or remedies belonging to the Government under law or otherwise in this contract.

#### H2. Incorporation of Representation and Certifications by Reference

All representations and certifications and other written statements by the contractor in response to the Representations and Certifications or at the request of the contracting officer, incident to the award of the contract or modification of this contract, are hereby incorporated by reference with the same force and effect as if they were given in full text.

#### H3. Contract Changes

No order, statement, or conduct of Government personnel who might visit the contractor's facility or in any other manner communicate with contractor personnel during the performance of this contract shall constitute a change under the "Changes" clause of this contract.

No understanding or agreement, contract modification, change order, or other matter deviating from or constituting an alteration or change of the terms of the contract shall be effective or binding upon the Government unless formalized by contractual documents executed by the contracting officer or his or her designated representative.

The Contracting Officer is the only person authorized to approve changes in any of the requirements of this contract and notwithstanding provisions contained elsewhere in the contract, the said authority remains solely with the Contracting Officer. In the event that the contractor effects any change at the direction of any person other than the Contracting Officer, the change will be considered to have been made without authority at the contractor's expense, and no adjustment shall be made in the contract price or other contract terms and conditions as consideration for the aforementioned unauthorized change. Further, should the unauthorized change be to the Government's detriment, the contractor may be held financially responsible for its correction.

#### H4. Responsibility in Subcontracting

The contractor will be fully responsible for assuring that all appropriate contractual provisions and clauses are passed down to its subcontractors, and that those provisions are enforced.

#### H5. Central Contractor Registration

The contractor must ensure that his/her company is registered in the Central Contractor Registration database. This is mandatory for award of any Government contract. To register, go on-line to <http://ccr.edi.disa.mil>.

#### H7. Consent for Subcontracts

The Procuring Contracting Officer hereby consents for all subcontracts identified in the L3 competitive proposal.

## Section I - Contract Clauses

## CLAUSES INCORPORATED BY REFERENCE

52.202-1	Definitions	JUL 2004
52.203-3	Gratuities	APR 1984
52.203-5	Covenant Against Contingent Fees	APR 1984
52.203-7	Anti-Kickback Procedures	JUL 1995
52.203-8	Cancellation, Rescission, and Recovery of Funds for Illegal or Improper Activity	JAN 1997
52.203-10	Price Or Fee Adjustment For Illegal Or Improper Activity	JAN 1997
52.203-12	Limitation On Payments To Influence Certain Federal Transactions	SEP 2007
52.204-1	Approval of Contract	DEC 1989
52.204-4	Printed or Copied Double-Sided on Recycled Paper	AUG 2000
52.204-7	Central Contractor Registration	APR 2008
52.209-6	Protecting the Government's Interest When Subcontracting With Contractors Debarred, Suspended, or Proposed for Debarment	SEP 2006
52.215-2	Audit and Records--Negotiation	JUN 1999
52.215-8	Order of Precedence--Uniform Contract Format	OCT 1997
52.215-9	Changes or Additions to Make-or-Buy Program	OCT 1997
52.215-10	Price Reduction for Defective Cost or Pricing Data	OCT 1997
52.215-11	Price Reduction for Defective Cost or Pricing Data--Modifications	OCT 1997
52.215-12	Subcontractor Cost or Pricing Data	OCT 1997
52.215-13	Subcontractor Cost or Pricing Data--Modifications	OCT 1997
52.215-14	Integrity of Unit Prices	OCT 1997
52.215-18	Reversion or Adjustment of Plans for Postretirement Benefits (PRB) Other than Pensions	JUL 2005
52.215-19	Notification of Ownership Changes	OCT 1997
52.216-7	Allowable Cost And Payment	DEC 2002
52.216-8	Fixed Fee	MAR 1997
52.216-15	Predetermined Indirect Cost Rates	APR 1998
52.217-9	Option To Extend The Term Of The Contract	MAR 2000
52.219-9	Small Business Subcontracting Plan	APR 2008
52.222-1	Notice To The Government Of Labor Disputes	FEB 1997
52.222-2	Payment For Overtime Premiums	JUL 1990
52.222-3	Convict Labor	JUN 2003
52.222-4	Contract Work Hours and Safety Standards Act - Overtime Compensation	JUL 2005
52.222-20	Walsh-Healey Public Contracts Act	DEC 1996
52.222-21	Prohibition Of Segregated Facilities	FEB 1999
52.222-26	Equal Opportunity	MAR 2007
52.222-35	Equal Opportunity For Special Disabled Veterans, Veterans of the Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-36	Affirmative Action For Workers With Disabilities	JUN 1998
52.222-37	Employment Reports On Special Disabled Veterans, Veterans Of The Vietnam Era, and Other Eligible Veterans	SEP 2006
52.222-39	Notification of Employee Rights Concerning Payment of Union Dues or Fees	DEC 2004
52.222-50	Combating Trafficking in Persons	AUG 2007
52.223-6	Drug-Free Workplace	MAY 2001

52.223-14	Toxic Chemical Release Reporting	AUG 2003
52.225-8	Duty-Free Entry	FEB 2000
52.225-13	Restrictions on Certain Foreign Purchases	JUN 2008
52.226-1	Utilization Of Indian Organizations And Indian-Owned Economic Enterprises	JUN 2000
52.227-1 Alt I	Authorization And Consent (Dec 2007) - Alternate I	APR 1984
52.227-11	Patent Rights--Ownership By The Contractor	DEC 2007
52.228-7	Insurance--Liability To Third Persons	MAR 1996
52.230-3	Disclosure And Consistency Of Cost Accounting Practices	OCT 2008
52.230-6	Administration of Cost Accounting Standards	MAR 2008
52.232-17	Interest	OCT 2008
52.232-18	Availability Of Funds	APR 1984
52.232-20	Limitation Of Cost	APR 1984
52.232-23	Assignment Of Claims	JAN 1986
52.232-25	Prompt Payment	OCT 2008
52.232-33	Payment by Electronic Funds Transfer--Central Contractor Registration	OCT 2003
52.233-1 Alt I	Disputes (Jul 2002) - Alternate I	DEC 1991
52.233-3 Alt I	Protest After Award (Aug 1996) - Alternate I	JUN 1985
52.242-1	Notice of Intent to Disallow Costs	APR 1984
52.242-2	Production Progress Reports	APR 1991
52.242-3	Penalties for Unallowable Costs	MAY 2001
52.242-4	Certification of Final Indirect Costs	JAN 1997
52.242-13	Bankruptcy	JUL 1995
52.243-2 Alt V	Changes--Cost-Reimbursement (Aug 1987) - Alternate V	APR 1984
52.243-6	Change Order Accounting	APR 1984
52.243-7	Notification Of Changes	APR 1984
52.244-2	Subcontracts	JUN 2007
52.244-5	Competition In Subcontracting	DEC 1996
52.244-6	Subcontracts for Commercial Items	DEC 2008
52.245-1	Government Property	JUN 2007
52.246-9	Inspection Of Research And Development (Short Form)	APR 1984
52.246-23	Limitation Of Liability	FEB 1997
52.247-63	Preference For U.S. Flag Air Carriers	JUN 2003
52.247-64	Preference for Privately Owned U.S. - Flag Commercial Vessels	FEB 2006
52.249-6	Termination (Cost Reimbursement)	MAY 2004
52.249-14	Excusable Delays	APR 1984
52.251-1	Government Supply Sources	APR 1984
52.252-4	Alterations in Contract	APR 1984
52.253-1	Computer Generated Forms	JAN 1991
252.203-7001	Prohibition On Persons Convicted of Fraud or Other Defense-Contract-Related Felonies	DEC 2004
252.204-7003	Control Of Government Personnel Work Product	APR 1992
252.209-7004	Subcontracting With Firms That Are Owned or Controlled By The Government of a Terrorist Country	DEC 2006
252.211-7003	Item Identification and Valuation	AUG 2008
252.215-7000	Pricing Adjustments	DEC 1991
252.215-7002	Cost Estimating System Requirements	DEC 2006
252.223-7004	Drug Free Work Force	SEP 1988
252.225-7012	Preference For Certain Domestic Commodities	MAR 2008
252.225-7013	Duty-Free Entry	OCT 2006
252.225-7014	Preference For Domestic Specialty Metals	JUN 2005

252.226-7001	Utilization of Indian Organizations and Indian-Owned Economic Enterprises, and Native Hawaiian Small Business Concerns	SEP 2004
252.227-7014	Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation	JUN 1995
252.227-7016	Rights in Bid or Proposal Information	JUN 1995
252.227-7019	Validation of Asserted Restrictions--Computer Software	JUN 1995
252.227-7020	Rights In Data--Special Works	JUN 1995
252.227-7025	Limitations on the Use or Disclosure of Government-Furnished Information Marked with Restrictive Legends	JUN 1995
252.227-7030	Technical Data--Withholding Of Payment	MAR 2000
252.227-7037	Validation of Restrictive Markings on Technical Data	SEP 1999
252.227-7039	Patents--Reporting Of Subject Inventions	APR 1990
252.231-7000	Supplemental Cost Principles	DEC 1991
252.232-7003	Electronic Submission of Payment Requests and Receiving Reports	MAR 2008
252.235-7002	Animal Welfare	DEC 1991
252.235-7010	Acknowledgment of Support and Disclaimer	MAY 1995
252.235-7011	Final Scientific or Technical Report	NOV 2004
252.236-7000	Modification Proposals-Price Breakdown	DEC 1991
252.237-7006	Subcontracting	DEC 1991
252.242-7004	Material Management And Accounting System	NOV 2005
252.243-7001	Pricing Of Contract Modifications	DEC 1991
252.243-7002	Requests for Equitable Adjustment	MAR 1998
252.247-7023	Alt III Transportation of Supplies by Sea (May 2002) Alternate III	MAY 2002
252.247-7024	Notification Of Transportation Of Supplies By Sea	MAR 2000
252.251-7000	Ordering From Government Supply Sources	NOV 2004

#### CLAUSES INCORPORATED BY FULL TEXT

##### 52.232-22 LIMITATION OF FUNDS (APR 1984)

(a) The parties estimate that performance of this contract will not cost the Government more than (1) the estimated cost specified in the Schedule or, (2) if this is a cost-sharing contract, the Government's share of the estimated cost specified in the Schedule. The Contractor agrees to use its best efforts to perform the work specified in the Schedule and all obligations under this contract within the estimated cost, which, if this is a cost-sharing contract, includes both the Government's and the Contractor's share of the cost.

(b) The Schedule specifies the amount presently available for payment by the Government and allotted to this contract, the items covered, the Government's share of the cost if this is a cost-sharing contract, and the period of performance it is estimated the allotted amount will cover. The parties contemplate that the Government will allot additional funds incrementally to the contract up to the full estimated cost to the Government specified in the Schedule, exclusive of any fee. The Contractor agrees to perform, or have performed, work on the contract up to the point at which the total amount paid and payable by the Government under the contract approximates but does not exceed the total amount actually allotted by the Government to the contract.

(c) The Contractor shall notify the Contracting Officer in writing whenever it has reason to believe that the costs it expects to incur under this contract in the next 60 days, when added to all costs previously incurred, will exceed 75 percent of (1) the total amount so far allotted to the contract by the Government or, (2) if this is a cost-sharing contract, the amount then allotted to the contract by the Government plus the Contractor's corresponding share. The notice shall state the estimated amount of additional funds required to continue performance for the period specified in the Schedule.

(d) Sixty days before the end of the period specified in the Schedule, the Contractor shall notify the Contracting Officer in writing of the estimated amount of additional funds, if any, required to continue timely performance under the contract or for any further period specified in the Schedule or otherwise agreed upon, and when the funds will be required.

(e) If, after notification, additional funds are not allotted by the end of the period specified in the Schedule or another agreed-upon date, upon the Contractor's written request the Contracting Officer will terminate this contract on that date in accordance with the provisions of the Termination clause of this contract. If the Contractor estimates that the funds available will allow it to continue to discharge its obligations beyond that date, it may specify a later date in its request, and the Contracting Officer may terminate this contract on that later date.

(f) Except as required by other provisions of this contract, specifically citing and stated to be an exception to this clause--

(1) The Government is not obligated to reimburse the Contractor for costs incurred in excess of the total amount allotted by the Government to this contract; and

(2) The Contractor is not obligated to continue performance under this contract (including actions under the Termination clause of this contract) or otherwise incur costs in excess of (i) the amount then allotted to the contract by the Government or, (ii) if this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, until the Contracting Officer notifies the Contractor in writing that the amount allotted by the Government has been increased and specifies an increased amount, which shall then constitute the total amount allotted by the Government to this contract.

(g) The estimated cost shall be increased to the extent that (1) the amount allotted by the Government or, (2) if this is a cost-sharing contract, the amount then allotted by the Government to the contract plus the Contractor's corresponding share, exceeds the estimated cost specified in the Schedule. If this is a cost-sharing contract, the increase shall be allocated in accordance with the formula specified in the Schedule.

(h) No notice, communication, or representation in any form other than that specified in subparagraph (f)(2) above, or from any person other than the Contracting Officer, shall affect the amount allotted by the Government to this contract. In the absence of the specified notice, the Government is not obligated to reimburse the Contractor for any costs in excess of the total amount allotted by the Government to this contract, whether incurred during the course of the contract or as a result of termination.

(i) When and to the extent that the amount allotted by the Government to the contract is increased, any costs the Contractor incurs before the increase that are in excess of (1) the amount previously allotted by the Government or, (2) if this is a cost-sharing contract, the amount previously allotted by the Government to the contract plus the Contractor's corresponding share, shall be allowable to the same extent as if incurred afterward, unless the Contracting Officer issues a termination or other notice and directs that the increase is solely to cover termination or other specified expenses.

(j) Change orders shall not be considered an authorization to exceed the amount allotted by the Government specified in the Schedule, unless they contain a statement increasing the amount allotted.

(k) Nothing in this clause shall affect the right of the Government to terminate this contract. If this contract is terminated, the Government and the Contractor shall negotiate an equitable distribution of all property produced or purchased under the contract, based upon the share of costs incurred by each.

(l) If the Government does not allot sufficient funds to allow completion of the work, the Contractor is entitled to a percentage of the fee specified in the Schedule equalling the percentage of completion of the work contemplated by this contract.

(End of clause)

52.243-7 NOTIFICATION OF CHANGES (APR 1984)

(a) Definitions.

"Contracting Officer," as used in this clause, does not include any representative of the Contracting Officer.

"Specifically authorized representative (SAR)," as used in this clause, means any person the Contracting Officer has so designated by written notice (a copy of which shall be provided to the Contractor) which shall refer to this subparagraph and shall be issued to the designated representative before the SAR exercises such authority.

(b) Notice. The primary purpose of this clause is to obtain prompt reporting of Government conduct that the Contractor considers to constitute a change to this contract. Except for changes identified as such in writing and signed by the Contracting Officer, the Contractor shall notify the Administrative Contracting Officer in writing, within (5) calendar days from the date that the Contractor identifies any Government conduct (including actions, inactions, and written or oral communications) that the Contractor regards as a change to the contract terms and conditions. On the basis of the most accurate information available to the Contractor, the notice shall state--

- (1) The date, nature, and circumstances of the conduct regarded as a change;
- (2) The name, function, and activity of each Government individual and Contractor official or employee involved in or knowledgeable about such conduct;
- (3) The identification of any documents and the substance of any oral communication involved in such conduct;
- (4) In the instance of alleged acceleration of scheduled performance or delivery, the basis upon which it arose;
- (5) The particular elements of contract performance for which the Contractor may seek an equitable adjustment under this clause, including--
  - (i) What contract line items have been or may be affected by the alleged change;
  - (ii) What labor or materials or both have been or may be added, deleted, or wasted by the alleged change;
  - (iii) To the extent practicable, what delay and disruption in the manner and sequence of performance and effect on continued performance have been or may be caused by the alleged change;
  - (iv) What adjustments to contract price, delivery schedule, and other provisions affected by the alleged change are estimated; and
- (6) The Contractor's estimate of the time by which the Government must respond to the Contractor's notice to minimize cost, delay or disruption of performance.

(c) Continued performance. Following submission of the notice required by (b) above, the Contractor shall diligently continue performance of this contract to the maximum extent possible in accordance with its terms and conditions as construed by the Contractor, unless the notice reports a direction of the Contracting Officer or a communication from a SAR of the Contracting Officer, in either of which events the Contractor shall continue performance; provided, however, that if the Contractor regards the direction or communication as a change as described in (b) above, notice shall be given in the manner provided. All directions, communications, interpretations, orders and similar actions of the SAR shall be reduced to writing and copies furnished to the Contractor and to the Contracting Officer. The Contracting Officer shall countermand any action which exceeds the authority of the SAR.

(d) Government response. The Contracting Officer shall promptly, within (10) calendar days after receipt of

notice, respond to the notice in writing. In responding, the Contracting Officer shall either--

- (1) Confirm that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance;
- (2) Countermand any communication regarded as a change;
- (3) Deny that the conduct of which the Contractor gave notice constitutes a change and when necessary direct the mode of further performance; or
- (4) In the event the Contractor's notice information is inadequate to make a decision under (1), (2), or (3) above, advise the Contractor what additional information is required, and establish the date by which it should be furnished and the date thereafter by which the Government will respond.

(e) Equitable adjustments.

(1) If the Contracting Officer confirms that Government conduct effected a change as alleged by the Contractor, and the conduct causes an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, whether changed or not changed by such conduct, an equitable adjustment shall be made--

- (i) In the contract price or delivery schedule or both; and
- (ii) In such other provisions of the contract as may be affected.

(2) The contract shall be modified in writing accordingly. In the case of drawings, designs or specifications which are defective and for which the Government is responsible, the equitable adjustment shall include the cost and time extension for delay reasonably incurred by the Contractor in attempting to comply with the defective drawings, designs or specifications before the Contractor identified, or reasonably should have identified, such defect. When the cost of property made obsolete or excess as a result of a change confirmed by the Contracting Officer under this clause is included in the equitable adjustment, the Contracting Officer shall have the right to prescribe the manner of disposition of the property. The equitable adjustment shall not include increased costs or time extensions for delay resulting from the Contractor's failure to provide notice or to continue performance as provided, respectively, in (b) and (c) above.

Note: The phrases "contract price" and "cost" wherever they appear in the clause, may be appropriately modified to apply to cost-reimbursement or incentive contracts, or to combinations thereof.

(End of clause)

#### 52.252-2 CLAUSES INCORPORATED BY REFERENCE (FEB 1998)

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

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

(End of clause)

#### 252.246-7001 WARRANTY OF DATA (DEC 1991)

- (a) Definition. "Technical data" has the same meaning as given in the clause in this contract entitled, Rights in Technical Data and Computer Software.
- (b) Warranty. Notwithstanding inspection and acceptance by the Government of technical data furnished under this contract, and notwithstanding any provision of this contract concerning the conclusiveness of acceptance, the Contractor warrants that all technical data delivered under this contract will at the time of delivery conform with the specifications and all other requirements of this contract. The warranty period shall extend for three years after completion of the delivery of the line item of data (as identified in DD Form 1423, Contract Data Requirements List) of which the data forms a part; or any longer period specified in the contract.
- (c) Contractor Notification. The Contractor agrees to notify the Contracting Officer in writing immediately of any breach of the above warranty which the Contractor discovers within the warranty period.
- (d) Remedies. The following remedies shall apply to all breaches of the warranty, whether the Contractor notifies the Contracting Officer in accordance with paragraph (c) of this clause or if the Government notifies the Contractor of the breach in writing within the warranty period:
- (1) Within a reasonable time after such notification, the Contracting Officer may--
- (i) By written notice, direct the Contractor to correct or replace at the Contractor's expense the nonconforming technical data promptly; or
- (ii) If the Contracting Officer determines that the Government no longer has a requirement for correction or replacement of the data, or that the data can be more reasonably corrected by the Government, inform the Contractor by written notice that the Government elects a price or fee adjustment instead of correction or replacement.
- (2) If the Contractor refuses or fails to comply with a direction under paragraph (d)(1)(i) of this clause, the Contracting Officer may - within a reasonable time of the refusal or failure--
- (i) By contract or otherwise, correct or replace the nonconforming technical data and charge the cost to the Contractor; or
- (ii) Elect a price or fee adjustment instead of correction or replacement.
- (3) The remedies in this clause represent the only way to enforce the Government's rights under this clause.
- (e) The provisions of this clause apply anew to that portion of any corrected or replaced technical data furnished to the Government under paragraph (d)(1)(i) of this clause.

(End of clause)

STATEMENT OF WORK

Mild Traumatic Brain Injury (TBI) Shockwave  
(BA-2) SCIENCE AND TECHNOLOGY (S&T)

Prepared by:  
The Joint Non-Lethal Weapons Directorate  
Human Effects Office

15 April 09

Distribution Statement C: Distribution authorized to U.S. Government Agencies and their contractors (To protect information and technical data that advance current technology or describe new technology in an area of significant or potentially significant military application or that relate to a specific military deficiency of a potential adversary.) Requests for this document shall be referred to the Joint Non-Lethal Weapons Directorate, Quantico, Virginia.

FOR OFFICIAL USE ONLY - Freedom of Information Act (FOIA) Exemption (Title 5 USC 552(b)(5) and/or (b)(30).

Statement of Work for  
Shock Wave Based Injury Model

## 1.0 INTRODUCTION

This Statement of Work (SOW) defines the activities required of L3 Services, Inc. (L3) to model traumatic brain injury (TBI) during fiscal year 2009 (FY09) with work continuing into early FY10. The Joint Non-Lethal Weapons Human Effects Center of Excellence (HECOE), as the project's Portfolio Manager, is responsible for the program management and oversight of stated tasks and deliverables defined within the SOW.

## 2.0 SCOPE

This SOW defines the requirements for research to determine the threshold and risk (dosage) curves for cognitive dysfunction and mild traumatic brain injury due to shock waves from low yield blasts. Small animal surrogates will be subjected to blasts similar to those produced by flash bang grenades, then their cognitive function and neurological damage will be evaluated. In-vivo magnetic resonance spectroscopy (MRS) measures brain injury markers while high resolution electron microscopy (EM) quantifies structural damage in brain tissue not visible using light microscopy or traditional histology. The cognitive observations, MRS and EM data will be correlated with computed brain tissue strain to establish the model for brain injury due to small blast.

The effect blast overpressure has on cognitive function is not well understood. "A Review of CNS/Cognitive Effects due to Blast" by Rigby et al. [13.1] reported that blast overpressure causes significant cognition dysfunction in test animals which was linked to hippocampus damage in the brain. The cognitive dysfunction seen from these animals is very similar to that produced in other traumatic brain injury (TBI) models. Veterans returning with blast injuries are also exhibiting post concussion symptoms similar to those seen in other forms of TBI. The review recommended pursuing definitive characterization of CNS/cognitive effects due to blast. Small animals should be used as a first step in studying mechanisms of immediate and midterm executive-deficit effects due to blasts at levels produced by current and evolving flashbang devices.

In the November 2005 report "Analysis of 2005 Flashbang Test Data for Assessment of Blast, Burn and Noise Injuries" by Chan et al. [13.2], it is reported that the blast pressure from flashbang devices may reach up to 800 kPa. While this pressure wave does not pose a threat to the lung, it is sufficient to cause head acceleration of over 300 g. The Wayne State Tolerance Curve predicts a threshold of 60 to 80 g for concussion. Pellman et al. [13.3] found the peak acceleration in concussion-causing impacts in professional American football to be 98 ± 28 g. Both of these criteria are based on much longer impact durations (20-50 msec) than those produced from flashbang devices (1

Statement of Work for  
Shock Wave Based Injury Model

msec). Using logistic regression analysis, Zhang et al. [13.4] reported a 5% probability of mild TBI (mTBI) when the head reaches an acceleration of 50 g. Ono et al. reported concussion at 200 g using a 1.5 msec impact. Accelerations greater than 80 g are capable of lowering the contrecoup pressure in the brain to a point where cavitation occurs and the collapse of the vapor bubbles can lead to large and damaging forces. It is unknown how short duration blasts from flashbang devices correlate with the current thresholds for concussion and mild TBI.

While rapid acceleration of the head is thought to be one of the primary causes of TBI from blasts, blast shockwave alone may cause brain injury through other pathways. An FY08 study isolated test subjects (rodents) from the other effects of blast by applying a rapid mechanical acceleration to the head. The next step is to perform shock tube tests by exposing the full body of the rat to a range of low-level shock waves. In addition to validating the FY08 acceleration-based injury model, the FY09 effort's findings will indicate if there are other significant pathways to mTBI from blast. The significance of acceleration as the primary risk for blast-induced mTBI will be tested against shock-tube data.

The cognitive function of injured subjects will be measured using startle box and elevated plus-maze tests for behavioral assessments. In-vivo high-resolution MRS scanning will detect immediate neurochemical injury markers for the entire brain. MRS has provided correlates with cognitive decline in the aging brain; with cognitive outcomes in children; with the Wechsler Memory Scale. MRS has correlated with neurochemical changes in warfighters returning from the battlefield with post-traumatic-stress-disorder as well as correlated changes in N-acetyl-L-aspartic acid/creatine (NAA/Cr) levels in lab animals injured using traditional TBI techniques. The proposed research builds upon this foundation by focusing on TBI caused by high pressure/short duration events (blast). A brain injury threshold can be developed by correlating observed changes in neurochemical markers measured using MRS and tissue stress/strain caused by the insult. Brain tissue stress and strain is used for injury correlation because it is a fundamental biomechanical metric that is species independent. This threshold must be determined to support the development of future non-lethal weapons and an evaluation of current ones.

### 3.0 TECHNICAL REQUIREMENTS, Basic Period:

3.1 Develop and Validate Testing Equipment: The performer shall:

3.1.1 Develop small shock tube and rat test fixture. This task will develop a small shock tube to be used at

Statement of Work for  
Shock Wave Based Injury Model

University of California San Diego to expose the rats to shock waves similar to those of flash bang grenades. These tasks should take approximately eight weeks to complete.

- 3.2 Collect Brain Injury Data - The performer shall collect cognitive dysfunction data as well as MRS and EM data on injured rats. This task will take approximately 6 months (24 weeks) to complete:
  - 3.2.1 Subject rats to low energy shock waves to cause mTBI. Rats will be subjected to shock waves similar to those of flash bang grenades.
  - 3.2.2 Collect cognitive deficient data. The injured rats will perform elevated plus maze and airpuff startle tests to quantify change in cognitive function. Tests will be administered at multiple times to track time-history changes.
  - 3.2.3 Collect MRS data. MRS scans will be conducted on the rat brains to measure change in cognitive dysfunction markers in the brain. Multiple scans will be performed over a period of time to collect time-history data.
  - 3.2.4 Collect Electron Microscope data. Brain tissue will be examined for any structural damage to brain cells caused by blast. A 3-D model of a pre and post blast synapse will also be constructed.
- 3.3 Predict Tissue Strain in Brain During Insult - The performer shall determine brain tissue strain during insult using validated rat head finite element models. This effort will take eight weeks to complete.
- 3.4 Develop Injury Criteria - The performer shall correlate observed experimental injury data with surrogate brain data to develop injury criteria for shock wave induced cognitive dysfunction. The rat injury criteria will be scaled up to humans using rat and human head finite element model simulations. This task will take approximately 8 weeks to complete.
- 3.5 Deliver final documentation - The performer shall prepare and deliver documentation on the final injury criteria obtained from tasks 3.1,3.2,3.3 and 3.4.
- 3.6 L3 Program Management shall:
  - 3.6.1 Interact with the HECOE for program management and oversight tasks through the assigned Portfolio Manager / Project Lead, who is recommended by the HECOE and approved by the JNLWD Health Effects Officer.

Statement of Work for  
Shock Wave Based Injury Model

- 3.6.2 Comply with the requirements of SECNAVINST 3900.38C, regarding the use of animals in DoD-sponsored research.
- 3.6.3 Exercise good management practices to monitor the technical progress of the Shock Wave Based Injury Model S&T program by reviewing monthly progress against cost and schedule plans.
- 3.6.4 Communicate promptly to the JNLWD, in close coordination with the HECOE Portfolio Manager, any issues affecting progress and ensure that deliveries are made in accordance with the terms and conditions of the SOW.
- 3.6.5 Conduct quarterly program reviews with the JNLWD to review the technical progress and issues, schedules and program cost.
- 3.6.6 Prepare monthly status reports according to the JNLWD templates, which shall be provided by the JNLWD, describing the technical accomplishments, schedule and financial status of the effort.
- 3.6.7 By exception and only upon the request of JNLWD government personnel, the performer shall provide invoices to support reported financial status.
- 3.6.8 Attend and present effort at JNLWP meetings, to include semi-annual JNLWP reviews, relevant HEAP reviews and JNLWD technology summits.
- 3.6.9 Submit all technical reports to the Defense Technology Information Center (DTIC) for inclusion in the DoD Science and Technology Information (STINFO) database. Note these technical reports will require proper distribution statement markings and labels and must be approved for release using the JNLWP's standard document/information release process. All unclassified working documents should be marked as "For Official Use Only" until they have been approved for release by the JNLWD Commander).

**4.0 SCHEDULE, DELIVERABLES, REPORTS, DATA:**

4.1 Schedule of Major Events:

- 4.1.1 4QFY09 - Device validation, confirm that the device has the ability to produce the necessary acceleration to a rat head to cause mild TBI.
- 4.1.2 4QFY09 - Complete rat cognitive dysfunction data collection.
- 4.1.3 1FYQ10 - Complete tissue strain assessment/prediction.
- 4.1.4 2QFY10 - Complete Injury Criteria.

Statement of Work for  
Shock Wave Based Injury Model

- 4.1.5 2QFY10 - Produce final report to demonstrate the ability to correlate cognitive disfunction with brain tissue stress/strain.
- 4.2 Plan of Action & Milestones (POA&M) for all TBI S&T tasks under 3.0. Due at receipt of funding.
- 4.3 Research and Development Obligation / Expenditure Phasing Plan (RDOEPP) and monthly financial status reports on JNLWD-provided template. RDOEPP due at receipt of funding status reports and thereafter by the 10<sup>th</sup> of each month.
- 4.4 UCSD and DoD Animal Use Protocols must be submitted, to include all support documents, and approved by DoD before commencement of task 3.2.
- 4.5 Monthly technical progress reports summarizing work completed in previous month and that which is to be completed in the upcoming month. Due by the 10<sup>th</sup> of each month.
- 4.6 PowerPoint presentations on Shock Wave Based Injury Model research efforts for semi-annual Program Reviews - due semi-annually.
- 4.7 A quad chart of Shock Wave Based Injury Model research efforts - due semi-annually.
- 4.8 On-site or VTC brief of Shock Wave Based Injury Model program's quarterly progress. Due one month after 2<sup>nd</sup>, 3<sup>rd</sup> and 4<sup>th</sup> quarters of the fiscal year.
- 4.9 Reports, abstracts, briefings, etc., on JNLWP-funded efforts to the JNLWD for concurrence and final approval with respect to a final document distribution statement. The JNLWD review shall follow the L3 review and distribution approval, but these documents will not be released until they have been approved by the JNLWD Commander.
- 4.10 Final report of methods, results, and conclusions from tasks outlined in this S&T SOW due at the end of the period of performance.
- 5.0 **Funding:** The funding required to perform this S&T SOW in FY09 and FY10 is (b) (4) as shown in the attached RDOEPP.
- 6.0 **GOVERNMENT FURNISHED PROPERTY/MATERIAL:** N/A
- 7.0 **CONTRACTOR FURNISHED PROPERTY/MATERIAL:** N/A
- 8.0 **TRAVEL:** Long distance travel, including foreign travel, shall not be taken without advanced approval of the JNLWD Health

Statement of Work for  
Shock Wave Based Injury Model

Effects Officer. For cost estimation purposes, quarterly progress review meetings will alternate between contractor and government facilities. Anticipated travel may include conferences and workshops, and trips for program reviews.

9.0 **SECURITY:** This work will be unclassified, categorized for official use only. All documents should be marked and distributed according to *Distribution Statement D: Distribution authorized to DoD Department of Defense and U.S. DoD contractors only. Other requests shall be referred to the Joint Non-Lethal Weapons Directorate, Quantico, VA.*

10.0 **PLACE AND PERIOD OF PERFORMANCE:** L3 in San Diego, California, will complete the tasks described herein between 15 April 2009 - 14 April 2010.

11.0 **INSPECTION AND ACCEPTANCE:** Inspection and acceptance will be performed by:

(b) (4)

(b) (4)

12.0 **APPLICABLE DOCUMENTS:**

- 12.1 Rigby, P. and P. Chan (2006). "A Review of CNS/Cognitive Effects due to Blast". L-3 Communications, Technical Report J0189-06-295.
- 12.2 Chan, P. and K. Ho (2005). "Analysis of 2005 Flashbang Test Data for Assessment of Blast, Burn and Noise Injuries". L-3 Communications, Technical Report J0189-05-267.
- 12.3 Pellman, E. J., D. C. Viano, A. M. Tucker, I. R. Casson and J. F. Waeckerle (2003). "Concussion in professional football: reconstruction of game impacts and injuries." Neurosurgery. 53(4): 799-812; discussion 812-4.
- 12.4 Zhang, L., K. H. Yang and A. I. King (2004). "A proposed injury threshold for mild traumatic brain injury." J Biomech Eng 126(2): 226-36.
- 12.5 Fijalkowski, R. J., B. D. Stemper, B. M. Ellingson, N. Yoganandan, F. Pintar and T. Gennarelli (2006). Inducing Mild Traumatic Brain Injury in the Rodent Through Coronal Plane Angular Acceleration. IRCOBI Conference, Madrid, Spain.
- 12.6 Menon, P. M., H. A. Nasrallah, R. R. Reeves and J. A. Ali (2004). "Hippocampal dysfunction in Gulf War Syndrome. A proton MR spectroscopy study." Brain Res. 1009(1-2): 189-94.
- 12.7 Vagnozzi, R., S. Signoretti, B. Tavazzi, M. Cimatti, A. M. Amorini, S. Donzelli, R. Delfini and G. Lazzarino (2005). "Hypotheses of the postconcussive vulnerable brain: experimental evidence of its metabolic occurrence." Neurosurgery. 57(1): 164-71; discussion 164-71.

Statement of Work for  
Shock Wave Based Injury Model

12.8 DoD Directive 3216.1, "Use of Laboratory Animals in DoD Programs," Apr 17, 1995, Certified current as of December 1, 2003.

12.9 SECNAVINST 3900.38C, The Care and Use of Laboratory Animals in DoD Programs," 1 December 2003.

13.0 POINTS CO CONTACT

Document Addressee:

(b) (6)

Comptroller POC:

Financial POC

Administrative POC:

Technical POC:

Statement of Work for  
Shock Wave Based Injury Model

(b) (6)

JNLWD Financial POC:

JNLWD Technical POC:

JNLWD Monitor:

