

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT		1. CONTRACT ID CODE U	PAGE OF PAGES 1 5
2. AMENDMENT/MODIFICATION NO. 03	3. EFFECTIVE DATE 25-May-2010	4. REQUISITION/PURCHASE REQ. NO. N00174-10-PR-1049	5. PROJECT NO. (If applicable) N/A
6. ISSUED BY NSWC, INDIAN HEAD DIVISION 4072 North Jackson Road, Suite 132 Indian Head MD 20640-5115 mary.sandy@navy.mil 301-744-6648	CODE N00174	7. ADMINISTERED BY (If other than Item 6) DCMA MARYLAND 217 EAST REDWOOD STREET, SUITE 1800 BALTIMORE MD 21202-5299	CODE S2101A

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DCMA MARYLAND
217 EAST REDWOOD STREET, SUITE 1800
BALTIMORE MD 21202-5299

8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State, and Zip Code) Advanced Technology & Research Corporation 6650 Eli Whitney Drive Suite 400 Columbia MD 21046-1701	9A. AMENDMENT OF SOLICITATION NO.
	9B. DATED (SEE ITEM 11)
	10A. MODIFICATION OF CONTRACT/ORDER NO. N00178-04-D-4004-FG01
	10B. DATED (SEE ITEM 13) 18-Dec-2009
CAGE CODE 7S553	FACILITY CODE 016565277

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended. Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods: (a) By completing Items 8 and 15, and returning one (1) copy of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGEMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)
SEE SECTION G

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS, IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

<input type="checkbox"/>	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
<input type="checkbox"/>	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
<input checked="" type="checkbox"/>	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: Mutual Agreement of Both Parties and 5252.232-9104, Allotment of Funds (Jan 2008)
<input type="checkbox"/>	D. OTHER (Specify type of modification and authority)

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

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)
SEE PAGE 2

15A. NAME AND TITLE OF SIGNER (Type or print) David Lupi, Director of Contracts		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print) Ruth D Adams, Contracting Officer	
15B. CONTRACTOR/OFFEROR /s/David Lupi (Signature of person authorized to sign)	15C. DATE SIGNED 25-May-2010	16B. UNITED STATES OF AMERICA BY /s/Ruth D Adams (Signature of Contracting Officer)	16C. DATE SIGNED 25-May-2010

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GENERAL INFORMATION

The purpose of this modification is to add additional technical instructions, revise the period of performance for technical instructions 001 and 006, and revise the list attachments. Accordingly, said Task Order is modified as follows:

1. The following Technical Instructions (TI) 009 through 014 are hereby forwarded to the Contractor for action.

TI 009

Technical Instruction (TI) 009 is issued in accordance with the terms and conditions of the referenced Task Order under Section I, Clause Technical Instructions and provides clarification to Section C of the Task Order, paragraph 2.2i and Attachment 12. This TI may be modified for both cost and tasking through issuance of modification to this task order.

400010 01047836 15000.00
 LLA :
 AK 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PE7002
 FUNDING TI 009

400011 01047837 10000.00
 LLA :
 AL 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PED002
 FUNDING TI 009

400012 01047838 10000.00
 LLA :
 AM 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PAD002
 FUNDING TI 009

TI 010

Technical Instruction (TI) 010 is issued in accordance with the terms and conditions of the referenced Task Order under Section I, Clause Technical Instructions and provides clarification to Section C of the Task Order, paragraph 2.12 and Attachment 13. This TI may be modified for both cost and tasking through issuance of modification to this task order.

400013 01090288 7550.00
 LLA :
 AN 97X4930 NH1F 000 77777 0 000174 2F 000000 808003DVMCON
 FUNDING TI 010

600009 01090289 125.00
 LLA :
 AN 97X4930 NH1F 000 77777 0 000174 2F 000000 808003DVMCON
 FUNDING TI 010

TI 011

Technical Instruction (TI) 011 is issued in accordance with the terms and conditions of the referenced Task Order under Section I, Clause Technical Instructions and provides clarification to Section C of the Task Order, paragraph 2.2i and Attachment 14. This TI may be modified for both cost and tasking through issuance of modification to this task order.

400014 01047871 2892.00
 LLA :

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AP 97X4930 NH1F 000 77777 0 000174 2F 000000 808004D3R001
FUNDING TI 011

TI 012

Technical Instruction (TI) 012 is issued in accordance with the terms and conditions of the referenced Task Order under Section I, Clause Technical Instructions and provides clarification to Section C of the Task Order, paragraph 2.3q and Attachment 15. This TI may be modified for both cost and tasking through issuance of modification to this task order.

400015 01110470 97912.00
LLA :
AQ 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PJW002
FUNDING TI 012

600010 01110471 2088.00
LLA :
AQ 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PJW002
FUNDING TI 012

TI 013

Technical Instruction (TI) 013 is issued in accordance with the terms and conditions of the referenced Task Order under Section I, Clause Technical Instructions and provides clarification to Section C of the Task Order, paragraphs 2.2a, 2.2i, 2.2m and Attachment 16. This TI may be modified for both cost and tasking through issuance of modification to this task order.

400016 01241576 28927.05
LLA :
AE 97X4930 NH1F 000 77777 0 000174 2F 000000 808003POU002
FUNDING TI 013

600011 01241577 4676.80
LLA :
AE 97X4930 NH1F 000 77777 0 000174 2F 000000 808003POU002
FUNDING TI 013

TI 014

Technical Instruction (TI) 014 is issued in accordance with the terms and conditions of the referenced Task Order under Section I, Clause Technical Instructions and provides clarification to Section C of the Task Order, paragraph 2.2i and Attachment 17. This TI may be modified for both cost and tasking through issuance of modification to this task order.

400017 01302159 1611.00
LLA :
AR 97X4930 NH1F 000 77777 0 000174 2F 000000 808003MX2002
FUNDING TI 014

The total amount of funds obligated to the task is hereby increased by \$180,781.85 from \$645,393.28 to \$826,175.13.

3. The following table reflects the period of performance for technical instructions issued against this task order.

The period of performance for technical instructions 001 and 006 have been revised as reflected below.

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Technical Instruction	Effective Date	Period of Performance End Date
001	February 16, 2010	April 30, 2010
002	February 16, 2010	April 30, 2010
003	February 16, 2010	December 17, 2010
004	February 16, 2010	April 30, 2010
005	February 16, 2010	December 17, 2010
006	February 16, 2010	May 31, 2010
007	March 22, 2010	September 30, 2010
008	March 22, 2010	September 30, 2010
009	May 3, 2010	November 30, 2010
010	May 3, 2010	August 31, 2010
011	May 3, 2010	July 31, 2010
012	May 3, 2010	December 17, 2010
013	May 10, 2010	August 30, 2010
014	May 19, 2010	July 23, 2010

4. 5252.232-9104 ALLOTMENT OF FUNDS (JAN 2008) paragraph (a) is revised as follows:

(a) This contract is incrementally funded with respect to both cost and fee. The amount(s) presently available and allotted to this contract for payment of fee for incrementally funded contract line item number/contract subline item number (CLIN/SLIN), subject to the clause entitled "FIXED FEE" (FAR 52.216-8) or "INCENTIVE FEE" (FAR 52.216-10), as appropriate, is specified below. The amount(s) presently available and allotted to this contract for payment of cost for incrementally funded CLINs/SLINs is set forth below. As provided in the clause of this contract entitled "LIMITATION OF FUNDS" (FAR 52.232-22), the CLINs/SLINs covered thereby, and the period of performance for which it is estimated the allotted amount(s) will cover are as follows:

CLIN CEILING	FUNDED	UNFUNDED
4000	\$2,883,774.00	\$806,513.33 \$2,077,260.67
6000	\$20,420.00	\$19,661.80 \$758.20

The Technical Instructions (TI) covered thereby, and the funding period of performance for which it is estimated the allotted amount(s) will cover are as follows:

Technical Instruction	Allotment of Funds (Cumulative)	Funding Period of Performance
001	\$50,396.00	April 30, 2010
002	\$6,657.00	April 30, 2010
003	\$84,568.00	June 15, 2010
004	\$10,023.28	April 30, 2010
005	\$350,000.00	August 30, 2010
006	\$4,850.00	May 31, 2010
007	\$65,203.00	September 30, 2010
008	\$73,696.00	September 30, 2010
009	\$35,000.00	November 30, 2010
010	\$7,675.00	August 31, 2010
011	\$2,892.00	July 31, 2010
012	\$100,000.00	December 17, 2010

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013	\$33,603.85	August 30, 2010
014	\$1,611.00	July 23, 2010

5 Section J List of Attachment is revised to include the following:

Attachment 12 - Technical Instruction 009 - 2 Pages

Attachment 13 - Technical Instruction 010 - 2 Pages

Attachment 14 - Technical Instruction 011 - 1 Page

Attachment 15 - Technical Instruction 012 - 2 Pages

Attachment 16 - Technical Instruction 013 - 1 Page

Attachment 17 - Technical Instruction 014 - 1 Page

A conformed copy of this Task Order is attached to this modification for informational purposes only.

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SECTION B SUPPLIES OR SERVICES AND PRICES

CLIN - SUPPLIES OR SERVICES

For Cost Type Items:

Item	Supplies/Services Qty	Unit	Est. Cost	Fixed Fee	CPFF

4000	Base Year--Engineering , Technical, and Analytical Support Services (TBD)	1.0 Lot	\$2,694,051.00	\$189,693.00	\$2,883,744.00
400001	FUNDING TI 001 (RDT&E)				
400002	FUNDING TI 002 (OTHER)				
400003	FUNDING TI 003 (OTHER)				
400004	FUNDING TI 004 (OTHER)				
400005	FUNDING TI 005 (OTHER)				
400006	FUNDING TI 006 (OTHER)				
400007	FUNDING TI 008 (OTHER)				
400008	FUNDING TI 007 (OTHER)				
400009	FUNDING TI 005 (OTHER)				
400010	FUNDING TI 009 (OTHER)				
400011	FUNDING TI 009 (OTHER)				
400012	FUNDING TI 009 (OTHER)				
400013	FUNDING TI 010 (OTHER)				
400014	FUNDING TI 011 (OTHER)				
400015	FUNDING TI 012 (OTHER)				
400016	FUNDING TI 013 (OTHER)				

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400017 FUNDING TI 014
(OTHER)

4001	Option I--Engineering, Technical, and Analytical Support Services (TBD) Option	1.0 Lot	\$2,711,557.00	\$190,523.00	\$2,902,080.00
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4002	Option II--Engineering, Technical, and Analytical Support Services (TBD) Option	1.0 Lot	\$2,817,308.00	\$197,954.00	\$3,015,262.00
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4003	Option III--Engineering, Technical, and Analytical Support Services (TBD) Option	1.0 Lot	\$2,927,186.00	\$205,674.00	\$3,132,860.00
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4004	Option IV--Engineering, Technical, and Analytical Support Services (TBD) Option	1.0 Lot	\$3,041,347.00	\$213,695.00	\$3,255,042.00
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For ODC Items:

Item	Supplies/Services	Qty	Unit	Est. Cost
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6000	Base Year--ODCs (TBD)	1.0 Lot		\$20,420.00
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600001 FUNDING TI 001
(OTHER)

600002 FUNDING TI 004
(OTHER)

600003 FUNDING TI 006
(OTHER)

600004 FUNDING TI 003
(OTHER)

600005 FUNDING TI 005
(OTHER)

600006 FUNDING TI 008
(OTHER)

600007 FUNDING TI 007
(OTHER)

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600008 FUNDING TI 005
(OTHER)

600009 FUNDING TI 010
(OTHER)

600010 FUNDING TI 012
(OTHER)

600011 FUNDING TI 013
(OTHER)

6001 Option I--ODCs 1.0 Lot \$20,529.00
(TBD)
Option

6002 Option II--ODCs 1.0 Lot \$20,642.00
(TBD)
Option

6003 Option III--ODCs 1.0 Lot \$20,760.00
(TBD)
Option

6004 Option IV--ODCs 1.0 Lot \$20,882.00
(TBD)
Option

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SECTION C DESCRIPTIONS AND SPECIFICATIONS

PERFORMANCE BASED

STATEMENT OF WORK

ENGINEERING, TECHNICAL AND ANALYTICAL

SUPPORT SERVICES

1.0 INTRODUCTION

The contractor shall provide engineering, technical and analytical services as ordered, in support of the various research and development programs and projects at the Carderock, Dahlgren, Panama City, and Indian Head Divisions of the Naval Surface Warfare Center (NSWC). These projects and programs include the following and their derivatives.

- Advanced Underwater Warheads
- Magnetic and Non-magnetic material formulation
- Magnetic Silencing
- Shipboard Shock Effects
- Stainless Steel Monohul
- Continuous Rod Warhead
- Numerical Modeling of Ship Structures
- Explosive Safety
- Extended Range Guided Munition
- Thermobaric Warhead Effects
- Damage resistant hull and structure designs
- Strategic systems re-entry vehicles materials and guidance systems
- Radiation Safety
- Immediate Multi-sensor Perimeter and Area Security System (IMPASS)
- Mine Vulnerability
- Assault Breaching Systems
- Airborne Mine Neutralization
- Mission Responsive Ordnance
- Reactive Material Enhanced Warhead
- Rolling Airframe Missile
- Electromagnetic sensors and signal processing
- Far Term Assault Breaching Systems
- Electromagnetic Effects
- Rapid Airborne Mine Countermeasure System (RAMICS)
- Bomb Effects
- Directed Blast
- Advanced Projectile Penetrator
- High Speed Ordnance
- Marine Composite Material Applications
- Advanced Ordnance Section

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- Directed Energy
- Evolved Sea Sparrow Missile
- Mine Countermeasures
- Conventional Fuzing
- Long Range Land Attack Projectile
- Technology Transfer

The following section provides a general outline of the scope of the work and the representative types of tasks that the Contractor may be required to perform as relates to the above projects, programs and their derivatives. These descriptions are general and would not be adequate for initiation of Contractor performance. The contract is an Indefinite Delivery, Indefinite Quantity, with a period of performance of 12 months, and provisions for four 12-month option periods. Detailed task specifications and requirements for Contractor performance shall be provided via the issuance of individual task orders under this contract. The contractor shall advise and assist the Government, but shall not make final decisions or certifications on behalf of the Government nor perform any inherently Governmental functions. The contractor and its employees shall not represent the Government nor appear to represent the Government in performance of these contract services.

2.0 REQUIREMENTS

2.1 GENERAL TECHNICAL ADMINISTRATIVE SUPPORT

- a. Plan, organize and execute the logistical support and/or leadership functions of meetings, seminars, workshops, conferences or training classes.
- b. Make announcements, outlines, agendas or syllabus as required.
- c. Mail announcements, log attendees, provide meeting space for up to approximately 25 attendees within the Washington DC metro area and generally coordinate logistics for conferences and events for up to several hundred attendees.
- d. Provide support to assemble, maintain, file and administer program office plans, documentation, files and correspondence and general operations as assigned.

2.2 WEAPON AND SHIPBOARD SYSTEMS

The Contractor shall provide the necessary engineering, technical, programmatic and analytical services, as ordered, in support of the development and production of weapon and shipboard systems. This work addresses, but is not limited to, system requirements analysis, the design, fabrication, development, test plan preparation, test management, test, evaluation, modeling and simulation, virtual prototyping, packaging, and other support required for weapon and component development. The Contractor shall perform the tasks as detailed below:

- a. Design of components, preparation of drawing layouts/detailed drawings and specifications, design system control software, perform virtual prototyping in a synthetic environment, fabrication of hardware and software.
- b. Perform static and dynamic analyses of weapon/component structures, and prediction of failure modes. Develop preventative maintenance techniques through relevant diagnostic techniques such as fault tree analysis and both parametric and non-parametric statistical analyses.
- c. Develop and maintain work breakdown structures.
- d. Develop and maintain Configuration Management Plans.
- e. Perform analysis of weapon systems and subsystems design disclosure documentation. This type of analysis includes data package of performance specifications, drawings and other data used to define a component, subsystem or system.
- f. Design and analysis of fuze and safe and arming systems.

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- g. Perform design and fabrication of fabric structures such as nets, parachutes, sea anchors, etc. These types of structures are for the purpose of retardation, position keeping, and area coverage; e.g., air dropped weapon speed reduction before water impact or coverage.
- h. Prepare and/or review test plans, procedures, and test equipment requirements. Design and fabricate required test fixtures.
- i. Prepare and/or review, edit, or critique technical reports and programmatic documentation.
- j. Test material, components, and systems to ensure conformance to the technical data package. Record, analyze and assess test data.
- k. Perform trade-off studies and analyses and other system engineering related tasks, i.e., reliability, maintainability, and producibility studies, and weapon system safety studies for government evaluation.
- l. Conduct studies and or analyses of weapon system and subsystem interfaces, characteristics, and performance.
- m. Fabricate development test hardware.
- n. Conduct technology studies, assess, and recommend electrochemical power sources for weapon system or subsystem applications.
- o. Prepare draft and/or review weapons specification and quality assurance plans and provide recommendations
- p. Review technical manuals and recommend improvements.
- q. Assess the warhead effects and target response using a fully coupled eulerian/lagrangian hydrocode such as DYSMAS (Dynamic System Mechanics Advanced Simulation), test plans, and experiments.
- r. Develop and demonstrate applications of robotics, automation, and real time control systems technology.
- s. Provide programmatic and meeting/workshop support.
- t. Design and fabricate models and other items for demonstration and training purposes.
- u. Support design reviews by reviewing technical data packages; analyze data for accuracy, test plans, and test reports.
- v. Develop, maintain, and support electronic data bases and document management systems.
- w. Assist in the development of system engineering plans as they relate to weapon/system specifications flowed down from weapon/system requirements. These will include such plans as program master plan, test plans, logistic support plans, system safety plans that are derived to characterize the system.

2.3 WEAPONS EFFECTS TESTS

The Contractor shall provide support for engineering, technical and analytical services, as required, in support of weapons effects testing programs at NSWC. This work addresses the testing and certification process to ensure that platforms and combat systems under development and being introduced into the fleet will meet the requirement of being operational after being exposed to weapons effects. Weapons effects refer to effects such as warhead terminal effects such as blast, shock, fragment, penetrator impact, and end-effect reaction.

- a. Design a warhead arena for fragment testing, gelatin blocks for arena testing, metal plates and holding fixtures for projectile tests, plates on fixtures for explosive testing in small scale facilities or a derivative of these fixtures.

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- b. Participate in the generation of the test plan and test schedule, conduct of tests, data reduction, signal processing, data analysis, and reporting of results.
- c. Conduct failure analysis and recommend design changes.
- d. Develop and use analysis tools for non-linear structural response to dynamic loads, including failure and rupture.
- e. Predict damage from weapons effects.
- f. Develop protection concepts to mitigate warhead effects.
- g. Develop design methods for ships to resist weapons effects.

2.4 SUBMARINE AND SURFACE SHIP SURVIVABILITY

In support of submarine and surface ship warfare and survivability, the contractor shall provide NSWC with the necessary engineering, technical, analytical, developmental, testing, and programmatic services, as ordered, to support the designs of warheads and ship hulls. This support refers to all types of Navy submarines and surface ships existing and developmental, specific classes shall be specified in task orders.

- a. Support submarine and surface ship survivability by developing methods to protect the hull envelope against the effects of underwater or air explosions (water-tight integrity).
- b. Support submarine and surface ship survivability by developing methods to protect equipment, internal and external, against weapons effects.
- c. Support submarine and surface ship survivability by developing and operating instrumentation systems to assess loading environment and structural response to ships and submarines to explosives or impact.
- d. Develop methods to predict hull damage from mines (hull whipping damage similar to data archived from previous test.) Develop analytical methods to predict damage to hull, internal isolation systems, and propulsors from mine explosions.
- e. Develop enabling technology required for effective research into design concepts for survivable and affordable ships and submarines.
- f. Apply enabling technology to gain insight into ship/submarine underwater explosion response/failure, including the design and assembly of unique ship simulation test fixtures/equipment such as the Modular Ship Motion Simulator located at NSWC Carderock
- g. Develop and apply computational methods to assess the vulnerability of ships and submarines.

2.5 WARHEADS, ENERGETIC-MATERIAL DEVICES AND DELIVERY SYSTEMS

The Contractor shall provide research and engineering support in the development of new warheads (conventional and strategic), distributed explosives techniques, kinetic energy devices, shaped charges, and other energetic-material devices and their delivery systems.

Support will be required in research, engineering, modeling and simulation, testing and generation of performance, reliability and safety requirements, test plans, document management, and equipment requirements for technical and tactical manuals and handbooks. The types of weapons systems covered include bombs, rockets, decoys, projectiles, mines and mine clearance devices, torpedoes, surf zone clearance devices, special purpose, SEAL ordnance devices, and air and surface launched missiles and strategic systems. The Contractor shall perform the tasks as detailed below:

2.5.1 Design/Analyze and Optimize Projectiles and other delivery systems

- a. Design and optimize projectiles for penetration, drag, stability, integrity and payload. Typical designs include inert mine and hull penetrating projectiles wherein the key characteristics might be kinetic energy available as a

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function of projectile flight range.

- b. Analyze and improve penetration capabilities against multi-layered metal/water targets.
- c. Develop analytical models for projectiles to be used in computing their structural integrity and survivability.
- d. Analyze and assess the effectiveness and safety of distributed explosive delivery systems in accordance with safety standards. The safety standards are the standards of the DOD Explosive Safety Program and DON Explosive Safety Program.
- e. Develop computer animation and virtual reality productions of deployments using engagement data. This requirement shall be fulfilled via computer generated images that show the dynamics of computational results such as projectile flights or warhead gas bubble expansions or pressure field expansions.
- f. Attend and provide recommendations during design reviews in support of acquisition milestones.
- g. Assist in development of test plans and procedures.
- h. Review test models, test methods, procedures and equipment for accuracy.
- i. Collect program reports, presentation, and briefing materials. Provide re-formatting of materials to convert from one media, e.g. paper, to another, e.g. electronic copies. Maintain them in a library for access, editing, revision, or distribution.

2.5.2 Evaluate performance of explosives and other energetic materials.

- a. Conduct evaluation studies of conventional or strategic warheads or vehicles, shaped charges, distributed explosives systems, kinetic energy warheads, and other energetic materials, including reactive materials. The evaluation studies shall consist of engineering analysis of the ability of the items to meet their performance parameters. Examples include ablative erosion, gas jet propagation, induced shock, overpressure, kinetic energy deposition, and reaction energy. Reactive materials refers to materials that chemically react when subjected to environmental changes such as violent impact with other metals or liquids, or contact with other materials that are inherently chemically reactive with them such as acids with metals.
- b. Assist in the development of test plans.
- c. Perform optimization studies such as ablation rate versus temperature, projectile penetration through metal thickness, and blast wave versus stand-off range
- d. Develop theory for detonation of non-ideal explosives such as design of warheads for maximum blast overpressure, when using explosives that are mixtures of different explosives.
- e. Evaluate bubble performance of underwater explosives/explosions for the maximization of warhead design for blast overpressure.
- f. Perform modeling and simulations of explosive behavior for the maximization of warhead design for blast overpressure.

2.5.3 Perform structural dynamic analysis by finite element and finite element difference methods. This tasking requires specialized computer codes or the use of finite element mathematical theories/techniques to perform analyses including structures responding to impulsive loads such as warhead blast effects; vibration response such as "hull whipping" damage criteria such as cracks for ruptures; and margins to allow for the survival against damage from whipping, cracks or rupture.

- a. Develop finite element and finite difference models of complex stiffened-shell structures.
- b. Complete vibration responses of structural elements.
- c. Provide consultation on structural damage criteria.

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d. Evaluate engineering designs and establish margins of safety.

2.5.4 Model projectiles, fuzes, explosives and their derivatives for impact problems

a. Compare predictions against test results.

b. Make damage determinations (i.e., stress and deformation analysis).

2.5.5 Warhead, distributed explosive, kinetic energy, and energetic material designs

a. Review and provide comments and guidance on advanced concept warheads, distributed explosive techniques, kinetic energy warheads, shaped charges and other energetic material designs. This guidance shall include effectiveness, producibility, storage, handling, maintenance, shelf life, weapons compatibility, and platform compatibility.

b. Support performance improvements.

c. Review test methods, procedures and equipment requirements.

d. Compare predictions with test results.

2.5.6 Design weapon delivery systems, including aerodynamic retardation systems, that will provide warhead terminal ballistics as required for warhead effectiveness and survivability.

a. Provide system analyses and system component designs as required.

b. Review test methods, assist in writing of test plans, and participate in tests.

c. Analyze test results and compare with system predictions.

2.5.7 Mine Vulnerability Studies

a. Perform hydrocode, finite element and finite difference modeling as appropriate to study vulnerability of mines to underwater explosions and in-air explosions.

b. Assist in preparing test plans in terms of design of tests, design of test procedures, design of test fixtures, design of test articles and design of data analysis.

c. Provide statistical and computational analysis (e.g. finite element model results) of both empirical tests and computational model analysis of mines and target effects.

d. Provide nondeterministic analysis of mine vulnerability test data.

e. Provide comprehensive vulnerability assessment of mines. Assessing mine vulnerability from multiple parameters such as: failure of the fuze, failure of the booster charge, failure of the sensor, failure of the main charge all due to such influences as pressure, fragment impact, or chemical reaction with an impacting projectile.

f. Perform scientific studies of phenomena associated with mine vulnerability. Assessing mine vulnerability from multiple parameters such as: failure of the fuze, failure of the booster charge, failure of the sensor, failure of the main charge all due to such influences as pressure, fragment impact, or chemical reaction with an impacting projectile such as in the Advanced Mine countermeasure systems like Venom Penetrator to include more advanced techniques such as kinetic energy disruption, as in the RAMICS high speed gun launched inert projectile, and specific studies that might be limited to component vice whole mine vulnerability.

2.6 RESEARCH AND ANALYSIS OF MATERIALS PROGRAM

The Contractor shall provide research, engineering, technical and prototyping services, as required, in support of specific materials applications to Navy and DOD needs. The general nature of the work involves materials research,

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engineering analysis, design, specifications, prototyping, and fabrication of test fixtures and tooling. Covered are metallic and non-metallic materials and coatings including composites. The work also includes synthesis, characterization and evaluation of various magnetic materials. The contractor facilities required to support the limited sample quantities for this tasking area is a well equipped machine shop. The Contractor shall perform the tasks as detailed below:

- a. Design components, test fixtures, and tooling.
- b. Prepare/review drawings, specification, test plans, and schedules.
- c. Fabricate components, test fixtures and tooling.
- d. Conduct static and dynamic analysis of structures and prediction of failure modes.
- e. Support the preparation of composite structures.
- f. Test and evaluate metallic, non-metallic, and magnetic material sample components and specimens.
- g. Record and analyze test data.
- h. Locate vendors or suppliers of composites.

2.7 RADIOLOGICAL SAFETY PROGRAM

The contractor shall furnish support for radiological safety programs as described below:

- a. Provide technical advice and training on formulation and execution of site radiological safety programs to comply with Navy, DOD, and pertinent federal, state, and local regulations and laws. The contractor shall assist the Navy in determining if these safety programs are in compliance and when determined that they are not, assist in ensuring that they become compliant.
- b. Assist in conducting the personnel and environmental dosimetry program, required for operations that use ionizing radiation.
- c. Perform radiation safety inspections, inventories, surveys and reviews of standard operating procedures and instrument readings to analyze air, fluid and work area samples to determine any release of radioactive material to the environment. Record and report findings to the government Radiation Safety Officer.
- d. Utilize Navy, NRC, and DOT directives and regulations for receipt, possession, and use of radioactive materials. Disposal of radioactive materials shall be performed by Navy personnel.

2.8 MAGNETIC SILENCING PROGRAM

- a. The contractor shall provide engineering, technical, and programmatic efforts to support laboratory and field tests, instrumentation, special component design and assembly, test fixtures/equipment. Review and provide guidance and comments on deperming procedures, degaussing coil design and special test procedures.
- b. Assist in development of analysis techniques for magnetic signatures and the effectiveness of on-board systems for Navy platforms.
- c. Provide design recommendations for existing magnetic silencing test fixtures/equipment
- d. Provide support for the development and evaluation of physical and mathematical magnetic models.
- e. Assist in laboratory test programs and test fixture/equipment maintenance.
- f. Support field operations of the testing of various elements of the magnetic silencing program.
- g. Develop and maintain management information systems for the magnetic silencing program, documenting findings.

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2.9 SUPPLY CONTRACT TRACKING SYSTEM

The contractor shall provide the necessary technical, analyst, and administrative support for office financial management support and the supply contract tracking system to perform the tasks as detailed below:

- a. Provide software maintenance, user support, network administrative support, office administrative support, training, and software upgrades at the NSWC Divisions as required for non-Navy Marine Corps Intranet (NMCI) legacy systems. This support has include such supply tracking systems as WINSCATS, a Microsoft Access based system.

2.10 OPERATIONAL ENVIRONMENTAL SIMULATION PROGRAM

The contractor shall provide technical and program support to accomplish tasks similar to the following:

- a. Provide recommendations as to how to modify, design, fabricate, operate, and locate environmental testing facilities.
- b. Develop operational environmental criteria for specified ordnance systems. The operational environment shall consider temperature, pressure, humidity, and acceleration of the systems. Focusing on what an ordnance item is likely to "see" as it moves through its stockpile-to-target sequence.

2.11 PULSE POWER SYSTEM

The contractor shall provide research, engineering, and test support for the development of pulse power systems for new Navy electromechanical and other high voltage applications.

- a. Design, build and test various prototypes of pulse power systems.
- b. Design high voltage Marx generators, pulse forming lines and loads.
- c. Perform analytical calculations to support design.
- d. Develop electromechanical shock systems in support of underwater shock simulation.

2.12 The contractor shall provide documentation support to cognizant scientific, engineering and management staff members for various technical and administrative programs.

- *Technical writing* includes independent development of original descriptive and procedural manuscripts using Government-furnished information such as drawings, specifications, and interviews with staff members.
- *Editing* includes review of Government-prepared documents for grammar, usage and format, as well as identification of potential technical anomalies.
- *Graphic preparation* includes determination of appropriate illustrations, composition and layout of photographs, drawings, charts, diagrams, etc.
- *Publishing* includes all necessary electronic word, graphic and archival processing, and coordination of the document approval, printing, and distribution functions.

Formats may include manuals, reports, specifications, standards, programmatic documents, journal articles, conference papers, theses, brochures and visuals for oral presentations. The contractor shall follow Government, industry or professional society standards for document content and format as required.

2.13 STRATEGIC SYSTEMS MATERIALS, STRUCTURAL ANALYSIS, AEROTHERMAL ANALYSIS AND FLIGHT MECHANICS ANALYSIS SUPPORT TO NAVY RE-ENTRY BODY PROGRAMS

The contractor shall provide expert consultation, review, analysis and training to support Navy Reentry Systems

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Programs in the areas of analysis and design of reentry body thermal protection systems including nosetips, flaps/control-surfaces, heatshields and antenna windows and structural and thermal performance of advanced materials as applied to the development and design of advanced Navy reentry systems and the life extension of current Navy reentry systems. Finally, the contractor will also provide similar expert consultation on the development of high temperature composite materials for propulsion applications on tactical missiles. The areas of expertise will include high temperature materials development, thermostructural analysis & design, development of analysis methods and nonlinear constitutive equations for high temperature composite materials, aerothermal analysis and design, flight mechanics analysis, ground testing, flight testing and training of young Navy engineers pursuing a career in reentry systems.

The expert analysis and review will include for example:

- Ensure that the overall technical approach is feasible and the technical risks are consistent with the goals of Navy reentry programs.
- Based on a review of material characterization data, ground test data, flight test data and aerothermal & thermostructural performance predictions of state-of-the-art materials, recommend improvements where appropriate for fabricating and testing advanced materials which are optimized for cost and/or performance to include: alternate fibers, weave designs, densification procedures, and test specimen & test fixture designs.
- Ensure that the Navy reentry program plans include the fabrication of necessary material configurations and quantities to support a comprehensive material evaluation process and that proper milestones and selection criteria are established for down select between competing material concepts.
- Ensure that all the necessary elements of the evaluation process: material characterization, ground testing, flight testing, material modeling, flight mechanics analysis, aerothermal analysis and thermostructural analysis performance predictions are adequately addressed in the overall plan and make recommendations for improving the evaluation process as the work progresses.
- At appropriate stages of the material development/evaluation cycle identify the most promising of the competing material concepts and recommend further improvements for the next fabrication cycle.
- Assist Navy reentry systems programs in upgrading the thermostructural analysis capability for advanced composite nosetips/flaps in the areas of non-linear constitutive equations, material modeling from characterization data, definition of material allowables from characterization data and development of an overall analysis and results interpretation strategy.
- Prepare presentations and participate in program technical reviews and material working group meetings with sponsors, system contractors, material fabricators, material testers and ground test facility representatives.
- The contractor shall provide training of younger Navy engineers pursuing a career in aerothermal analysis and flight mechanics to include defining and coordinating training assignments for young engineers and providing mentoring.

2.14 EXPLOSIVE SAFETY AND OCCUPATIONAL SAFETY AND HEALTH

The contractor shall provide expert consultation, review and document preparation in the areas of Explosive Safety and Occupational Safety and Health.

The expert analysis and review will include for example:

- Interpret and apply the directives of NAVSEA OP-5 Ammunition and Explosives Ashore for daily explosive operation safety.
- Review operations and documentation for compliance to DOD and Navy guidance documents.
- Provide Explosive Safety Self Assessments in compliance with NOSSA Instruction 8020.14C.
- Assist in preparing MOUs for Explosive Safety Operations between a region host and a tenant.
- Prepare Standard Operating Procedures in compliance with NOSSA Instruction 8023.11A.
- Prepare Explosive Qualification and Certification and assemble a Qual/Cert procedure that meets the intent of NAVSEAINST 8020.9C.
- In the area of Occupational Safety and Health, assemble a Draft OSH Manual for a Navy activity using OPNAVINST 5100.23(Series) and write and prepare local amplification guidance for programs such as Fall Protection. Prepare an OSH self assessment for a Naval Activity.

3.0 DELIVERABLES

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Data shall be delivered in accordance with the individual technical instructions (TIs). All deliverables associated with this SOW are “unclassified” unless otherwise specified in the individual TIs. All reports required as deliverables under this contract are the property of the U.S. Government.

Unless specified otherwise above or by direction of the Government, the following distribution of each deliverable is required:

Task Order Manager (TOM) and Technical Point of Contact (TPOC)

Terrie Green
Code E143
4072 N. Jackson Rd., Building 841
Indian Head, MD 20640-5058
301-744-6554
terrie.green@navy.mil

3.1 DISCLAIMER STATEMENT

Any reports resulting from this task order shall contain the following disclaimer statement on the cover of such reports:

"The views, opinion and findings contained in this report are those of the author(s) and should not be construed as an official Department of Defense position, policy, or decision, unless so designated by other official documentation."

4.0 TRAVEL

The contractor shall be required to travel in performance of this task order. The numbers of trips and types of personnel traveling shall be limited to the minimum required to accomplish work requirements and shall be coordinated before hand with the Government Project Officer and the Task Order Manager for each individual task.

5.0 SECURITY

Key Personnel associated with this task order may be required to have a DoD “secret” clearance. The contractor may have access to information and compartments with a “Secret” classification. The contractor must be capable of securely storing up to “Secret” level information in their facility. All deliverables associated with this task order are “unclassified” unless otherwise specified.

6.0 MEDICAL CERTIFICATIONS

Contractor personnel performing ammunitions and explosive handling tasks under the scope of the contract at government facilities or property must meet the medical certification requirements of “Manual of the Medical Department”, NAVMED P-117, paragraph 15-71B(3)(a)-(i) and “Medical Surveillance Procedures Manual and Medical Matrix”, NEHC-TM OM 6260. The term “civilian personnel” shall mean “contractor personnel”. Contractor personnel assigned to such duties are responsible to report to their contractor supervisor any physical condition, which may pose a health or safety hazard to self, coworkers, or which degrades the safety of the working environment. Contractors are responsible to direct their employees thought to have a physical impairment, which may pose a health or safety hazard, to the appropriate medical practitioner for examination.

7.0 QUALITY ASSURANCE SURVEILLANCE PLAN (QASP)

To comply with NAVSEA directives to facilitate performance-based services contracting, Indian Head Division / NSWC shall incorporate performance requirements based upon the Contractor Performance Assessment Reporting System (CPARS) and Best-value performance measurement factors into our Task Orders. Contractor performance will be assessed on a continuing basis by review of deliverables, technical meetings, and general contacts with the contractor. Informal contract management performance reviews will be conducted quarterly and a formal Quality Performance Review will be conducted at the conclusion of each Task Order. A CPARS-type evaluation of all Task

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Orders performed (in whole or in part) under a given contract will be conducted on an annual basis.

The QASP provides for contractor performance evaluation in five (5) general areas. Each performance assessment will contain the following three elements: Performance Objective(s), Performance Measurement Factors, and Performance Rating Definitions. When taken in the aggregate, these elements constitute the performance evaluation under the QASP of the individual Task Orders issued under the related contracts. A brief description of each of the three (3) elements is as follows:

Performance Objective – The contract or Task Order delineation of Deliverables and/or overall objective(s) as described under the Scope.

Performance Measurement Factor (PMF) – The critical key characteristics or aspects of achieving the objective(s) that will be monitored by the Government (IHDIV / NSWC, SPT), those matters about which the Government will be gathering data. Each objective will likely have one or more performance measurement factors.

Performance Rating and Definitions – An adjectival and/or numerical rating with definition of the meaning of each rating level when applied to each performance measurement factor. The technical monitor (COR) has the responsibility for identification of the applicable PMFs and their relevant incorporation into the specific tasking of a contract. Individual Task Orders may specify a minimum acceptable rating, target rating, or range of performance ratings on subtasks for certain PMFs.

When numerical ratings are employed for PMFs, or sub factors within a PMF, the rating numbers will be summed together and averaged to arrive at a single numerical value for each PMF and overall value of all relevant PMFs averaged. Failure of the Contractor to meet the required performance measure specified for an individual Task Order will result at a minimum in the Contractor correcting any deficiencies at no additional cost to the Government.

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SECTION D PACKAGING AND MARKING

All Deliverables shall be packaged and marked IAW Best Commercial Practice.

MARK FOR:

DODAAC--N00174

Task Order Manager

Name: **Terrie Green**

Code: **E143**

Address: **4072 N. Jackson Rd., Building 841, Indian Head, MD 20640-5058**

Phone: **301-744-6554**

Email: **terrie.green@navy.mil**

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SECTION E INSPECTION AND ACCEPTANCE

Inspection and acceptance shall be performed at destination by the Government.

MARK FOR:

DODAAC--N00174

Task Order Manager

Name: **Terrie Green**

Code: **E143**

Address: **4072 N. Jackson Rd., Building 841, Indian Head, MD 20640-5058**

Phone: **301-744-6554**

Email: **terrie.green@navy.mil**

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SECTION F DELIVERABLES OR PERFORMANCE

PERIOD OF PERFORMANCE INFORMATION

CLINS 4000 & 6000--From the award date of the task order to 365 days thereafter.

CLINS 4001 & 6001--From the first day after CLIN 4000's & 6000's expiration date to 365 days thereafter.

CLINS 4002 & 6002--From the first day after CLIN 4001's & 6001's expiration date to 365 days thereafter.

CLINS 4003 & 6003--From the first day after CLIN 4002's & 6002's expiration date to 365 days thereafter.

CLIN 4004 & 6004--From the first day after CLIN 4003's & 6003's expiration date to 365 days thereafter.

Option years shall be exercised if deemed in the best interest of the Government.

DELIVERY INFORMATION

Deliverables shall be made in accordance with the Statement of Work in Section C of this document.

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SECTION G CONTRACT ADMINISTRATION DATA

TASK ORDER MANAGER (TOM)

(a) The Task Order Manager for this task order is:

Terrie Green
Code E143
4072 N. Jackson Rd., Building 841
Indian Head, MD 20640-5058
301-744-6554
terrie.green@navy.mil

(b) The TOM will act as the Contracting Officer's representative for technical matters, providing technical direction and discussion, as necessary, with respect to the specification or statement of work, and monitoring the progress and quality of contractor performance. The TOM is not an Administrative Contracting Officer and does not have authority to direct the accomplishment of effort which is beyond the scope of the statement of work in the task order.

(c) When, in the opinion of the contractor, the TOM requests effort outside the existing scope of the task order, the contractor shall promptly notify the contracting officer (or ordering officer) in writing. No action shall be taken by the contractor under such direction until the contracting officer has issued a modification to the task order, until the ordering officer has issued a modification to the task order; or until the issue has been otherwise resolved.

(d) In the event that the TOM named above is absent due to leave, illness or official business, all responsibility and functions assigned to the TOM will be the responsibility of the alternate TOM.

TASK ORDER POINTS OF CONTACT

The following contacts are provided for this contract:

Contract Administrator: **Mary Sandy**
Phone Number: **301-744-6648**
Email: **mary.sandy@navy.mil**

Payments/Invoicing: **Tenisha Heyward**
Phone Number: **301-744-6367**
Email: **tenisha.heyward@navy.mil**

Task Order Manager: **Terrie Green**
Phone Number: **301-744-6554**
Email: **terrie.green@navy.mil**

Any concerns regarding your task order, should be directed to the above mentioned personnel, or the Ordering Officer Ruth Adams at 301-744-6655.

IHD 76 - INDIAN HEAD DIVISION, NAVAL SEA SYSTEMS COMMAND, HOURS OF OPERATION AND HOLIDAY SCHEDULE (NAVSEA/IHD) APR 2005

1. The policy of this station is to schedule periods of reduced operations or shutdown during holiday periods. Deliveries will not be accepted on Saturdays, Sundays or Holidays except as specifically requested by the Naval Sea Systems Command. All goods or services attempted to be delivered on a Saturday, Sunday or Holiday without

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specific instructions from the Contracting Officer or a duly appointed representative will be returned to the contractor at their expense with no cost or liability to the U.S. Government.

2. The following days are scheduled holidays for Indian Head Division, Naval Sea Systems Command.

New Year's Day

Birthday of Martin Luther King, Jr.

Washington's Birthday

Memorial Day

Independence Day

Labor Day

Columbus Day

Veterans Day

Thanksgiving Day

Christmas Day

Generally, if the holiday falls on a Saturday, it will be observed the preceding Friday, and if the holiday falls on a Sunday, the observance will be on the following Monday.

For a specific calendar year, the actual date of observance for each of the above holidays may be obtained from the OPM website at OPM.GOV or by using the following direct link: <http://www.opm.gov/fedhol/index.asp>.

3. The hours of operation for the Procurement Department and Receiving Branch are as follows:

<u>AREA</u>	<u>FROM</u>	<u>TO</u>
Procurement Dept. (BLDG. 1558)	7:30 A.M.	4:00 P.M.

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Receiving Branch (BLDG. 116)	7:30 A.M	11:00 A.M
	12:30 P.M.	2:00 P.M.

If you intend to visit the Procurement Department, please call for an appointment at least 24 hours in advance.

IHD 77 – CPFF WAWF INVOICE INSTRUCTIONS (NSWCIHD) (AUG 2008)

(a) In accordance with the clause of this contract entitled "Electronic Submission of Payments Requests and Receiving Reports" (DFARS 252.232-7003), the Indian Head Division, Naval Surface Warfare Center will utilize the DoD Wide Area Workflow Receipt and Acceptance (WAWF) system to accept supplies/services delivered under this contract. This web-based system located at <https://wawf.eb.mil> provides the technology for government contractors and authorized Department of Defense (DoD) personnel to generate, capture, and process receipt and payment-related documentation in a paperless environment. Submission of hard copy DD250/invoices may no longer be accepted for payment.

(b) It is recommended that the person in your company designated as the Central Contractor Registration (CCR) Electronic Business (EB) Point of Contact and anyone responsible for the submission of invoices, use the online training system for WAWF at <http://wawftraining.com>. The Vendor, Group Administrator (GAM), and sections marked with an asterisk in the training system should be reviewed. Vendor Quick Reference Guides are also available at <http://acquisition.navy.mil/navyaos/content/view/full/3521/>. The most useful guides are "Getting Started for Vendors" and "WAWF Vendor Guide".

(c) The designated CCR EB point of contact is responsible for activating the company's CAGE code on WAWF by calling 1-866-618-5988. Once the company is activated, the CCR EB point of contact will self-register under the company's CAGE code on WAWF and follow the instructions for a group administrator. After the company is set-up on WAWF, any additional persons responsible for submitting invoices must self-register under the company's CAGE code at <https://wawf.eb.mil>.

(d) The following information regarding payment request routing is provided for completion of the document in WAWF:

Look at the bottom of the first page of your contract or order (basic, not modification) to find the form number, and then use the chart below that corresponds to your contract type (i.e., firm fixed price or cost plus fixed fee). This chart is a guide to finding information necessary for creating a payment request. In most cases, the chart points to a block number on a contract form or a particular section within the contract. In the WAWF system only use the DoDAAC ext. field if specifically directed, otherwise leave blank.

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Use Cost Vouchers for Cost Plus Fixed Fee Contracts/Orders	
Contract Number	N00178-04-D-4004-FG01
Delivery Order	N/A
CAGE Code/Ext.	7S553
Pay DoDAAC	HQ0338
Issue date	SEE PAGE 1 BLOCK 3
IssueBy DoDAAC	N00174
Admin DoDAAC	S2101A
DCAA Auditor DoDAAC/Ext.	HAA719
Service Approver/Ext.	N/A

(e) Attachments created in any Microsoft Office product may be attached to the WAWF invoice, e.g., backup documentation, timesheets, etc. Maximum limit for size of each file is 2 megabytes. Maximum limit for size of files per invoice is 5 megabytes.

(f) Before closing out of an invoice session in WAWF, but after submitting your document(s), you will be prompted to send additional email notifications. Click on "Send More Email Notifications" and add the following email address (es):

Technical Representative: terrie.green@navy.mil

Contract Administrator: mary.sandy@navy.mil

This additional notification to the government is necessary to make the acceptor aware that the invoice has been submitted in WAWF. Without this notification, the government may be unable to process your submission in a timely manner, which will delay payment.

(g) When shipping material, it is strongly recommended the contractor print a completed copy of the receiving report from WAWF and include this with the shipping paperwork. This assists receiving personnel with matching received material to your payment request, which can speed your payment.

(h) The contractor shall submit invoices for payment per contract terms and the government shall process invoices for payment per contract terms.

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(i) If you have any questions regarding WAWF, please contact Dan Twombly at 301-744-6648 or daniel.twombly@navy.mil or Georgia Warder at 301 744-6679 or georgia.warder@navy.mil.

Accounting Data
 SLINID PR Number Amount

 400001 93504622 50000.00
 LLA :
 AA 1791319 W4FP 000 RA9R5 0 068342 2D 000000 02293000R010
 Standard Number: N0001409WX30377
 For Technical Instruction 001

BASE Funding 50000.00
 Cumulative Funding 50000.00

MOD 01

400002 00187162 6657.00
 LLA :
 AC 97X4930 NH1F 000 77777 0 000174 2F 000000 808003DT9454
 Funding TI 002

400003 00361261 82358.00
 LLA :
 AD 97X4930 NH1C 000 77777 0 000167 2F 000000 992606001620
 Standard Number: N0016710WX00016
 Funding TI 003

400004 00471577 9907.28
 LLA :
 AE 97X4930 NH1F 000 77777 0 000174 2F 000000 808003POU002
 Funding TI 004

400005 00471568 97000.00
 LLA :
 AF 97X4930 NH1E 000 77777 0 000178 2F 000000 21K2510BA001
 Standard Number: N0017810WX00151
 Funding TI 005

400006 00552541 4800.00
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 AG 97X4930 NH1F 000 77777 0 000174 2F 000000 808003P05002
 Funding TI 006

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 LLA :
 AB 97X4930 NH1F 000 77777 0 000174 2F 000000 808005P8A002
 Funding TI 001

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 LLA :
 AE 97X4930 NH1F 000 77777 0 000174 2F 000000 808003POU002
 Funding TI 004

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 LLA :
 AG 97X4930 NH1F 000 77777 0 000174 2F 000000 808003P05002
 Funding TI 006

MOD 01 Funding 201284.28
 Cumulative Funding 251284.28

MOD 02

CONTRACT NO.	DELIVERY ORDER NO.	AMENDMENT/MODIFICATION NO.	PAGE	FINAL
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400007 00522101 63203.00
 LLA :
 AH 97X4930 NH1C 000 77777 0 000167 2F 000000 995350001332
 Standard Number: N0016710WX00025
 FUNDING TI 008

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 LLA :
 AJ 97X4930 NH1C 000 77777 0 000167 2F 000000 995350000932
 Standard Number: N0016710WX00024
 FUNDING TI 007

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 LLA :
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 Standard Number: N0017810WX00151
 FUNDING TI 005

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 Standard Number: N0016710WX00016
 FUNDING TI 003

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 Standard Number: N0017810WX00151
 FUNDING TI 005

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 Standard Number: N0016710WX00025
 FUNDING TI 008

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 AJ 97X4930 NH1C 000 77777 0 000167 2F 000000 995350000932
 Standard Number: N0016710WX00024
 FUNDING TI 008

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 AF 97X4930 NH1E 000 77777 0 000178 2F 000000 21K2510BA001
 Standard Number: N0017810WX00151
 FUNDING TI 005

MOD 02 Funding 394109.00
 Cumulative Funding 645393.28

MOD 03

400010 01047836 15000.00
 LLA :
 AK 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PE7002
 FUNDING TI 009

400011 01047837 10000.00
 LLA :
 AL 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PED002
 FUNDING TI 009

400012 01047838 10000.00
 LLA :
 AM 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PAD002
 FUNDING TI 009

400013 01090288 7550.00
 LLA :
 AN 97X4930 NH1F 000 77777 0 000174 2F 000000 808003DVMCON
 FUNDING TI 010

400014 01047871 2892.00
 LLA :

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AP 97X4930 NH1F 000 77777 0 000174 2F 000000 808004D3R001
 FUNDING TI 011

400015 01110470 97912.00

LLA :

AQ 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PJW002
 FUNDING TI 012

400016 01241576 28927.05

LLA :

AE 97X4930 NH1F 000 77777 0 000174 2F 000000 808003POU002
 FUNDING TI 013

400017 01302159 1611.00

LLA :

AR 97X4930 NH1F 000 77777 0 000174 2F 000000 808003MX2002
 FUNDING TI 014

600009 01090289 125.00

LLA :

AN 97X4930 NH1F 000 77777 0 000174 2F 000000 808003DVMCON
 FUNDING TI 010

600010 01110471 2088.00

LLA :

AQ 97X4930 NH1F 000 77777 0 000174 2F 000000 808005PJW002
 FUNDING TI 012

600011 01241577 4676.80

LLA :

AE 97X4930 NH1F 000 77777 0 000174 2F 000000 808003POU002
 FUNDING TI 013

MOD 03 Funding 180781.85
 Cumulative Funding 826175.13

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SECTION H SPECIAL CONTRACT REQUIREMENTS

H-XX NOTIFICATION CONCERNING DETERMINATION OF SMALL BUSINESS SIZE STATUS

For the purposes of FAR clauses 52.219-6, NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE, 52.219-3, NOTICE OF TOTAL HUBZONE SET-ASIDE, 52.219-18, NOTIFICATION OF COMPETITION LIMITED TO ELIGIBLE 8(A) CONCERNS, and 52.219-27 NOTICE OF TOTAL SERVICE-DISABLED VETERAN-OWNED SMALL BUSINESS SET-ASIDE, the determination of whether a small business concern is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the size standards in this solicitation, and further, meets the definition of a HUBZone small business concern, a small business concern certified by the SBA for participation in the SBAs 8(a) program, or a service disabled veteran-owned small business concern, as applicable, shall be based on the status of said concern at the time of award of the SeaPort-e MACs and as further determined in accordance with Special Contract Requirement H-19.

52.219-6 NOTICE OF TOTAL SMALL BUSINESS SET-ASIDE (JUN 2003)

(a) Definition.

"Small business concern," as used in this clause, means a concern, including its affiliates, that is independently owned and operated, not dominant in the field of operation in which it is bidding on Government contracts, and qualified as a small business under the size standards in this solicitation.

(b) General. (1) Offers are solicited only from small business concerns. Offers received from concerns that are not small business concerns shall be considered nonresponsive and will be rejected.

(2) Any award resulting from this solicitation will be made to a small business concern.

(c) Agreement. A small business concern submitting an offer in its own name shall furnish, in performing the contract, only end items manufactured or produced by small business concerns in the United States or its outlying areas. If this procurement is processed under simplified **acquisition** procedures and the total amount of this contract does not exceed \$25,000, a small business concern may furnish the product of any domestic firm. This paragraph does not apply to construction or service contracts.

(End of clause)

CONTRACTOR PERFORMANCE ASSESSMENT RATING SYSTEM (CPARS) NAVSEA/IHD (JAN 2001)

(a) Pursuant to FAR 42.1502, this contract is subject to DoD's Contractor Performance Assessment System (CPARS). CPARS is an automated centralized information system accessible via the Internet that maintains reports of contractor performance for each contract. CPARS is located at <https://cpars.csd.disa.mil> Further information on CPARS is available at that web-site.

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(b) Under CPARS, the Government will conduct annual evaluations of the contractor's performance. The contractor has thirty (30) days after the Government's evaluation is completed to comment on the evaluation. The opportunity to review and comment is limited to this time period and will not be extended. Failure to review the report at this time will not prevent the Government from using the report.

(c) The contractor may request a meeting to discuss the CPARS. The meeting is to be requested via e-mail to the CPARS Program Manager no later than seven days following receipt of the CPAR. A meeting will then be held during the contractor's 30-day review period.

(d) The CPARS system requires the Government to assign the contractor a UserID and password in order to view and comment on the evaluation. Provide the name(s) of at least one individual (not more than three) that will be assigned as your Defense Contractor Representative for CPARS.

<u>Name</u>	<u>Phone</u>	<u>E-mail Address (optional)</u>
Dr. Jackson Yang	443-766-7868	jyang@atrcorp.com
Mr. Mike Gresco	443-766-7980	mgresco@atrcorp.com
Mr. David Lupi	443-766-7862	dlupi@atrcorp.com

(end of clause)

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SECTION I CONTRACT CLAUSES

In addition to the clauses in the basic contract, the following clauses are incorporated into the subject task order:

OPTION TO EXTEND THE TERM OF THE TASK ORDER

(a) The Government may extend the term of this contract by written notice to the Contractor within 365 days of award or exercise of previous option; provided that the Government gives the Contractor a preliminary written notice of its intent to extend at least 60 days before the task order expires. The preliminary notice does not commit the Government to an extension.

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

(c) The total duration of this task order, including the exercise of any options under this clause, shall not exceed 5 years.

TECHNICAL INSTRUCTIONS

(a) Performance of the work hereunder will be subject to written technical instructions signed by the Ordering Officer specified in Section G of this task order. As used herein, technical instructions are defined to include the following:

(1) Directions to the Contractor which suggest pursuit of certain lines of inquiry, shift work emphasis, fill in details or otherwise serve to accomplish the contractual statement of work.

(2) Guidelines to the Contractor which assist in the interpretation of drawings, specifications or technical portions of work description.

(b) Technical instructions must be within the general scope of work stated in the task order. Technical instructions may not be used to:

(1) assign additional work under the task order;

(2) direct a change as defined in the "CHANGES" clause of the basic contract;

(3) increase or decrease the task order price or estimated task order amount (including fee), as applicable, the level of effort, or the time required for task order performance; or

(4) change any of the terms, conditions or specifications of the task order.

(c) If, in the opinion of the Contractor, any technical instruction calls for effort outside the scope of the task order or is inconsistent with this requirement, the Contractor shall notify the Ordering Officer in writing within ten (10) working days after the receipt of any such instruction. The Contractor shall not proceed with the work affected by the technical instruction unless and until the Contractor is notified by the Ordering Officer that the technical instruction is within the scope of this task order.

(d) Nothing in the foregoing paragraph shall be construed to excuse the Contractor from performing that portion of the contractual work statement which is not affected by the disputed technical instruction.

5252.232-9104 ALLOTMENT OF FUNDS (JAN 2008)

(a) This contract is incrementally funded with respect to both cost and fee. The amount(s) presently available and allotted to this contract for payment of fee for incrementally funded contract line item number/contract subline item number (CLIN/SLIN), subject to the clause entitled "FIXED FEE" (FAR 52.216-8) or "INCENTIVE FEE" (FAR 52.216-

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10), as appropriate, is specified below. The amount(s) presently available and allotted to this contract for payment of cost for incrementally funded CLINs/SLINs is set forth below. As provided in the clause of this contract entitled "LIMITATION OF FUNDS" (FAR 52.232-22), the CLINs/SLINs covered thereby, and the period of performance for which it is estimated the allotted amount(s) will cover are as follows:

CLIN	CEILING	FUNDED	UNFUNDED
4000	\$2,883,774.00	\$806,513.33	\$2,077,260.67
6000	\$20,420.00	\$19,661.80	\$758.20

(b) The parties contemplate that the Government will allot additional amounts to this contract from time to time for the incrementally funded CLINs/SLINs by unilateral contract modification, and any such modification shall state separately the amount(s) allotted for cost, the amount(s) allotted for fee, the CLINs/SLINs covered thereby, and the period of performance which the amount(s) are expected to cover.

(c) CLINs/SLINs _____ are fully funded and performance under these CLINs/SLINs is subject to the clause of this contract entitled "LIMITATION OF COST" (FAR 52.232-20).

(d) The Contractor shall segregate costs for the performance of incrementally funded CLINs/SLINs from the costs of performance of fully funded CLINs/SLINs.

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SECTION J LIST OF ATTACHMENTS

Attachment 1 - Wage Determination - 17 Pages

Attachment 2 - Task Order Administration Plan - 2 Pages

Attachment 3 - DD254 - 2 Pages

Attachment 4 - Technical Instruction 001 - 2 Pages

Attachment 5 - Technical Instruction 002 - 2 Pages

Attachment 6 - Technical Instruction 003 - 3 Pages

Attachment 7 - Technical Instruction 004 - 1 Page

Attachment 8 - Technical Instruction 005 - 3 Pages

Attachment 9 - Technical Instruction 006 - 2 Pages

Attachment 10 - Technical Instruction 007 - 3 Pages

Attachment 11 - Technical Instruction 008 - 3 Pages

Attachment 12 - Technical Instruction 009 - 2 Pages

Attachment 13 - Technical Instruction 010 - 2 Pages

Attachment 14 - Technical Instruction 011 - 1 Page

Attachment 15 - Technical Instruction 012 - 2 Pages

Attachment 16 - Technical Instruction 013 - 1 Page