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<th>DESCRIPTION</th>
<th>PAGE(S)</th>
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<td></td>
<td></td>
</tr>
</tbody>
</table>

17. CONTRACT OFFICER WILL COMPLETE ITEM 17 (SEALED-BID OR NEGOTIATED PROCUREMENT) OR 18 (SEALED-BID PROCUREMENT) AS APPLICABLE

18. SEALED-BID AWARD (Contractor is not required to sign this document)

Your bid or Solicitation Number

including the additions or changes made by you which additions or changes are set forth in full above, is hereby accepted as

The following documents: 

(a) The Government's solicitation and your bid, and 

(b) This award contract. No further contract document is necessary. (Block II should be checked only when awarding a sealed-bid contract)

19A. NAME AND TITLE OF SIGNER (Type or print)

19B. NAME OF CONTRACTOR

19C. DATE SIGNED

20A. NAME OF CONTRACTING OFFICER

20B. UNITED STATES OF AMERICA

20C. DATE SIGNED

AUTHORIZED FOR LOCAL REPRODUCTION

STANDARD FORM 20 (REV. 5/2010)

Previous edition is NOT usable

Prescribed by OASA - FAR (48 CFR) 53.210a
Section A - Solicitation/Contract Form

COOPERATIVE AGREEMENT AWARD
Cooperative Agreement Award

Agreement No: HQ0034-15-2-0007
Effective Date: March 12th, 2015

1. Authority: 10 USC 2358, Research and Development Projects

2. Total Agreement Ceiling: $100,000,000.00


4. Brief Synopsis of the Scope of the CA: To develop and manage research and development, projects for maintenance and sustainment for the Department of Defense.

5. Period of Performance: March 12th, 2015 - March 11th, 2020

6. Electronic Funds Transfer: Pursuant to 32 CFR 22.810(b)(2), Electronic Funds Transfer (EFT) shall be used to make payments under this award.

7. Parties: This Cooperative Agreement is entered into between the United States of America, represented by the Washington Headquarters Services Acquisition Directorate (hereafter called the Government), and the National Center for Manufacturing Sciences, Inc. (NCMS) pursuant to and under US Federal law.

Execution of the Cooperative Agreement

For the Recipient
National Center for Manufacturing Sciences, Inc.
3025 Boardwalk St, Suite 250
Ann Arbor, MI 48108-3266

For the United States of America
Washington Headquarters Services
Acquisition Directorate
1155 Defense Pentagon
Washington, DC 20301-1155

(Signature) (Signature)

(Name) (Name)
Cooperative Agreement Schedule

1. Terms and Conditions: By signing (acceptance) of this Cooperative Agreement, the Recipient certifies that it will perform all activities and projects as set forth in its Application for Federal Assistance, and comply with the terms and condition of this Cooperative Agreement.

2. Cooperative Agreement Term: This Cooperative Agreement shall run for a period of five years, from March 12th, 2015 to March 11th, 2020, subject to the availability of funds to sustain this program.

3. Order of Precedence: Inconsistencies or conflicts in the terms and conditions of this Cooperative Agreement shall be resolved according to the following order of precedence:
   a. 10 USC 2358
   b. 2 CFR Part 200 - Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards
   c. DoD 3210.6-R
   d. The Cooperative Agreement
   e. NCMS Commercial Technologies for Maintenance Activities (CTMA) Proposal dated December 2014
   f. The Recipient’s Application for Federal Assistance (SF 424), Budget Information (SF 424), and Budget Narrative are incorporated herein by reference with the same force and effect as if set forth in full text.

4. Audit: The Comptroller General and the Inspector General of the Department of Defense shall have direct access to sufficient records and information of the Recipient, as they determine, to ensure accountability for Federal Funds.

5. Funding Limitations and Accounting and Appropriation Data: There is no Government minimum funding obligation for this Cooperative Agreement. The ceiling for the total lifecycle of the Cooperative Agreement is $100,000,000.00. Nothing in this Cooperative Agreement will be interpreted to require obligations or payments by the Federal Government in violation of the Anti-Deficiency Act (31 USC 1341).

6. Advance Payment: Upon acceptance of the terms and conditions of this Cooperative Agreement, and the submission of a Request for Advance or Reimbursement (SF 270) in an original and one copy to the Administrative Grants Officer (AGO), the Recipient shall be entitled to quarterly payments the first of which may be submitted as early as fifteen days after award. Initial payment is expected to cover work performed during the first three months of the Base Funding Period. Subsequent requests for advanced payment shall be in the SF 270 submission or additional information provided by the Recipient, per 32 CFR 32.22 and 32 CFR 32.52.
7. Budgets: The total amount of the Government’s share each project on the Cooperative Agreement, as approved by the Government, will be the maximum amount for which the Government is obligated to pay to the Recipient for costs incurred under the Cooperative Agreement. The Government’s share (maximum funding obligation) and the Recipient’s share is as follows:

<table>
<thead>
<tr>
<th>Project #</th>
<th>DATES</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

8. Payment Schedules

a. Original requests for payment shall be submitted to the Administrative Grants Officer via the Wide Area Workflow. The AGO may adjust payment amounts based on the date contained in the SF 270 submissions or additional information provided by the Recipient. Reference is made to 32 CFR 34.10, 32 CFR 34.11, 32 CFR 34.12 and 32 CFR 34.41.

b. Invoicing instructions are included as a separate clause. All invoices shall be submitted through Wide Area Workflow (WAWF).

c. System of Award Management (SAM) information for Electronic Funds Transfer (EFT) is incorporated as follows:

<table>
<thead>
<tr>
<th>DUNS Number</th>
<th>TIN/EIN</th>
<th>Cage Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>180035768</td>
<td>38-2761126</td>
<td>OLW56</td>
</tr>
</tbody>
</table>

9. Payment Office: The Defense Finance and Accounting Service (DFAS) Office responsible for making payments under this Cooperative Agreements is DFAS Indianapolis (HQ0347)

10. Deliverables/Schedule: Written reports shall display the type of report, the period covered by the report, the name and address of the Recipient, and the Cooperative Agreement Number. Performance reports are as follows:

a. Interim and Final Performance Reports: This report shall keep the Government Program Officer informed of the effort set forth in the Recipients “Budget Narrative.”

b. Financial Reports/Schedule: Reports shall be prepared in accordance with OMB Circular A-110 and are required in accordance with the following schedule. The Recipient will report program outlays and program income on an accrual basis. If the Recipient’s accounting records are not normally kept on an accrual basis, the Recipient shall develop such accrual information through an analysis of the documentation on hand.

<table>
<thead>
<tr>
<th>Report</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interim Performance Report</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Final Performance Report</td>
<td>Determined per the PoP of each project</td>
</tr>
<tr>
<td>Financial Report</td>
<td>Quarterly</td>
</tr>
</tbody>
</table>
c. The recipient shall make distribution of all Performance and Financial Reports as follows:

<table>
<thead>
<tr>
<th>Addressee</th>
<th>Address</th>
<th>Reports</th>
<th>Original Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants Officer</td>
<td>Washington Headquarters Services, Acquisition Directorate</td>
<td>Performance Reports</td>
<td>1 Copy</td>
</tr>
<tr>
<td></td>
<td>ATTN: Mr. D Wes Bennett, Jr</td>
<td>Interim Report</td>
<td>1 Copy</td>
</tr>
<tr>
<td></td>
<td>1225 S Clark Street, Suite 901</td>
<td>Final Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arlington VA, 22202</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Grants Officer</td>
<td>ONR Chicago Regional Office</td>
<td>Performance Reports</td>
<td>Original</td>
</tr>
<tr>
<td></td>
<td>ATTN: Ms. Dildree Ivery</td>
<td>Interim Report</td>
<td>Original</td>
</tr>
<tr>
<td></td>
<td>Federal Building Rm 208</td>
<td>Final Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>536 S Clark Street</td>
<td>Financial Reports</td>
<td>Original</td>
</tr>
<tr>
<td></td>
<td>Chicago, IL 60605-1588</td>
<td>SF 425</td>
<td></td>
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<tr>
<td></td>
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<td>Payments SF 270</td>
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</tr>
<tr>
<td>Government Program Officer</td>
<td>L&amp;MR MP&amp;P</td>
<td>Performance Reports</td>
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<tr>
<td></td>
<td>ATTN: Mr. Greg Kilchenstein</td>
<td>Interim Reports</td>
<td>1 Copy</td>
</tr>
<tr>
<td></td>
<td>3500 Defense Pentagon, Rm 5A712A</td>
<td>Final Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Washington, DC 20301-3500</td>
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</tr>
</tbody>
</table>

11. Equipment and Supplies: Title to equipment and supplies purchased by the Recipient with Cooperative Agreement funds, shall vest in the Recipient in accordance with the provisions of 32 CFR 32.34 (equipment) and 32 CFR 32.35 (supplies).

12. Site Visit: The Grants Officer, or authorized representative, has the right to make site visits to any project on the Cooperative Agreement to review the work on the project and to provide technical assistance as needed.

13. Pre-award Costs: The recipient is authorized pre-award costs for each potential project. Pre-award costs are equal to 5% of the potential amount of the project, and are accrued at the risk of the recipient. Pre-award costs for projects that are not selected will not be paid.

14. Title to Property: Title to equipment and supplies purchased by the Recipient with Cooperative Agreement funds, shall vest in the Recipient in accordance with the provisions of 32 CFR 32.

15. Government and Recipient Representatives:
CTMA PROGRAM PWS
CTMA Program PWS

1.0 BACKGROUND OF THE CTMA

This Office of the Deputy Assistant Secretary of Defense/Maintenance Policy and Programs (ODASD/MP&P) established the Commercial Technologies for Maintenance Activities (CTMA) program for the research, development, evaluation and deployment of technologies to support weapon system and component sustainment, maintenance, obsolescence management, and other relevant technologies that ultimately support the warfighter and weapon system performance for the DoD. The mission of the CTMA program is to advance the state of maintenance and sustainment of equipment to the benefit of the U.S. industry and public and to provide technology development and insertion in support of the reliability and sustainment of ships, submarines, aircraft, land vehicles, non-traditional weapons systems and warfighter support systems.

Agency Technical Priorities: This recipient will develop and manage collaborative project teams from private industry, research organizations, government and academia with the intent of improving processes and technologies for the primary benefit of the U.S. industry and public by using DoD as a test bed for a broad range of sustainment, performance and operational needs. The recipient will provide leadership to improve technology innovations in a broad variety DoD needs for research, development, and deployment of technology.

History of the Program - The CTMA program was authorized under a Congressional mandate in 1994. Since its inception, the Program has partnered with a managing partner through cooperative agreement to find new innovations in the areas of maintenance and sustainment. This field is constantly evolving, and in a time for fiscal constraint, more research is needed to find continued innovations and efficiencies.

Information on past projects: Samples of past projects modified onto the cooperative agreement include the following:

a) Joint Maintenance Data Enterprise Interoperability - This initiative will develop a joint concept of operations (CONOPS) for sharing logistics information across a coalition enterprise in a secured cloud-enabled environment and demonstrate the capability to transmit, receive and manipulate this information between a minimum of two separate maintenance organizations in a logistics exercise that simulates operational conditions.
b) Expeditionary Fluid Analysis Capability - This initiative complements and leverages the efforts of the Expeditionary Fluid Assessment Support Team to develop and identify the specifications and requirement for expeditionary fluid analysis.

c) Test and Evaluation of the Industrial Human Augmentation System for Corrosive Control Application - The focus of this effort is to enable the heavy maintenance community to adopt iHAS-like capabilities to the benefit of their maintainers and business enterprise.

2.0 SCOPE OF COOPERATIVE AGREEMENT
The purpose of this cooperative agreement is to provide an assistance mechanism for the CTMA program to stimulate research, development, evaluation and deployment of maintenance and sustainment of equipment for the public using a broad range of DoD sustainment and warfighter support operations as the test bed. Thus, the goal of CTMA is to leverage and advance commercial developments in maintenance and sustainment technology for the primary benefit of U.S. industry and the public applying the research, development, evaluation, and deployment to DoD issues – to reduce costs, improve system/platform operational availabilities, increase systems reliability, improve logistical support efficiency and effectiveness, improve environmental compliance and increase sustainment personnel safety.

A key goal within the Defense Sustainment Technology Research, Development, and Deployment Program is the establishment of a robust collaborative environment with private industry participants to perform DoD-relevant research, development, evaluation and deployment. To accomplish these objectives, ODASD/M&I is partnering with NCMS who possesses broad, cross-industry experience, specifically in manufacturing, advanced maintenance concepts, tools, technologies and manufacturing performance technologies. The recipient also possesses broad experience working with DoD related maintenance activities and supporting organizations. This recipient will develop and manage collaborative project teams from private industry, research organizations, government and academia with the intent of improving processes and technologies used by the public and DoD for a broad range of sustainment, performance and operational needs. The recipient will provide leadership to improve technology innovations in a broad variety of industry and DoD needs for research, development, and deployment of technology. Since no funding is provided to support this cooperative agreement, it is the recipient's responsibility to coordinate funding commitments from Government sponsors and cost share from industry/academia in support of proposed CTMA initiatives.

**General Program Management/Government Oversight:** This cooperative agreement encompasses a broad research, development, evaluation and deployment program which will include a number of individual research projects which are executed by forming team collaborations between the recipient, private industry/academia participants and the appropriate government representatives. Activities within this cooperative agreement shall be performed within the following programmatic requirements:

a) **Project Identification/Selection:** On an ongoing basis, the recipient shall work with the appropriate government personnel to perform analysis of potential research projects. The purpose of this analysis is to make a determination on which projects to undertake based upon: (1) Perceived Benefit to industry, public, and DoD; (2) Confidence Level in Success of Research Activities; and (3) Available Funding. Throughout each year, CTMA shall solicit potential projects from the DoD community. Based upon this input, the recipient shall develop an individual project concept for selected candidate efforts. Each project concept shall contain:

- Overview of the proposed project: The technology gap and the public purpose
- Background information relevant to the proposed project
- Purpose of the project (which includes a statement of the problem and broad description of the solution being undertaken)
- Relation to DoD research and development goals and either relation to weapon systems/other military needs or the potential interest to the DoD (explains how the project
will help, via R&D, the DoD reach their improvement goals in maintenance or sustainment.

- Scope (includes a more detailed statement on the solution)
- Project deliverables
- Project budget to include other project participants (adequate break down to determine fair and reasonable)
- Period of Performance
- Expected benefits to DoD
- Expected benefits To Industry and the public (how is public/industry primary beneficiary)
- Project Participants and Roles and rationale for final sub awardee participants selection (subject to Government approval)

b) Sub-Awardees – The recipient will ensure that sub-awardees are selected competitively and that their technologies, processes and capabilities represent best value to the sponsoring Government activity. Evaluation criteria and competition parameters used for selection of sub-awardees for each project will be pre-approved by the Government and must at least include a price factor. Final sub-awardee selection and corresponding rationale for the choice must be reviewed and approved by the Government. Additionally, the recipient may not require industry partners pay a consortium fee or dues in order to participate on a collaborative CTMA initiative. Lastly, the recipient will ensure there is a process in place for non-successful sub-awardees to resolve disputes on not being selected as a project participant.

c) Integrated Process Team (IPT): On an ongoing basis, the selection of a project shall be made by the IPT consisting of representatives from ODASD/MP&P and other relevant members of the DoD community as necessary. Decisions on project selections will be based upon the project concept produced by the recipient as well as the funding available. The recipient will only undertake projects selected by the IPT.

d) Project Execution: Upon IPT approval of project plans, the recipient shall form individual collaborative focus teams to perform the work for each project. The recipient shall independently sub-award to each participant within the limits of the available project funding following the aforementioned process. The recipient shall perform all project management functions and provide all project resources to ensure all project efforts meet cost, schedule and deliverables, outlined in the project concept. The recipient shall also manage sub-awards with the project team as well as manage the accounting of all efforts in support of the Cooperative Agreement. The recipient shall include appropriate government personnel at project meetings and provide quarterly project progress reports to the IPT. Upon completion of projects, the recipient shall provide a comprehensive final report detailing the outcome of the project and all deliverables.
Section B - Supplies or Services and Prices

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<thead>
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</table>
Section E - Inspection and Acceptance

INSPECTION AND ACCEPTANCE TERMS

Supplies/services will be inspected/accepted at:

<table>
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<th>CLIN</th>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
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<th>ACCEPT BY</th>
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</table>
Section G - Contract Administration Data

ACCOUNTING AND APPROPRIATION DATA

(b)(4)
Section H - Special Contract Requirements

TERMS AND CONDITIONS

FEDERAL REQUIREMENTS. Federal statutes and regulations take precedence over all terms and conditions of this Cooperative Agreement.

DOD GRANT AND AGREEMENT REGULATIONS (DoD 3210.6-R). Federal regulations, to include but not limited to 32 CFR 32 and DoD 3210.6-R, take precedence over all terms and conditions of this Cooperative Agreement.

National Policy Requirements

Environmental Standards: By signing the agreement or accepting funds under this agreement, the recipient assures that it will:


2. Identify to the awarding agency all impact this award may have on:
   a. The quality of the human environment, and provide help the agency may need to comply with the National Environmental Policy Act (NEPA, at 42 U.S.C. 4321, et. seq.) and to prepare Environmental Impact Statements or other required environmental documentation. In such cases, the recipient agrees to take no action that will have an adverse environmental impact (e.g., physical disturbance of a site such as breaking of ground) until the agency provides written notification of compliance with the environmental impact analysis process.
   b. Flood-prone areas, and provide help the agency may need to comply with the National Flood Insurance Act of 1968 and Flood Disaster Protection Act of 1973 (42 U.S.C. 4001, et. seq.), which require flood insurance, when available, for Federally assisted construction or acquisition in flood-prone areas.
   c. Coastal barriers, and provide help the agency may need to comply with the Coastal Barriers Resource Act (16 U.S.C. 3501, et. seq.), concerning preservation of barrier resources.
   d. All existing or proposed component of the National Wild and Scenic Rivers system, and provide help the agency may need to comply with the Wild and Scenic Rivers Act of 1968 (16 U.S.C. 1271, et seq.). This requirement flows to all sub awards.

3. Anti-Kickback Act. Comply with the Copeland “Anti-Kickback” Act (40 U.S.C. 3145), as supplemented by Department of Labor regulations (29 CFR Part 3, “Contractors and Subcontractors on Public Building or Public Work Financed in Whole or in Part by Loans or Grants from the United States”). The Act provides that each contractor or subrecipient must be prohibited from inducing, by any means, any person employed in the construction, completion, or repair of public work, to give up any part of the compensation to which he or she is otherwise entitled. The non-Federal entity must report all suspected or reported violations to the Federal awarding agency.

REVISION OF BUDGET AND/OR PROGRAM PLANS. The following requirements under 2 CFR 200.308 are waived under this cooperative agreement.

a. The inclusion of costs that approval in accordance with Subpart E—Cost Principles of this part or 45 CFR part 75 Appendix IX, “Principles for Determining Costs Applicable to Research and Development under Awards and Contracts with Hospitals,” or 48 CFR part 31, “Contract Cost Principles and Procedures,” as applicable.

b. The transfer of funds budgeted for participant support costs as defined in §200.75 Participant support costs to other categories of expense.
c. Unless described in the application and funded in the approved Federal awards, the subawarding, transferring or contracting out of any work under a Federal award, including fixed amount subawards as described in §200.332 Fixed amount subawards. This provision does not apply to the acquisition of supplies, material, equipment or general support services.

d. Changes in the approved cost-sharing or matching provided by the non-Federal entity. No other prior approval requirements for specific items may be imposed unless an exception has been approved by OMB. See also §§200.102 Exceptions and 200.407 Prior written approval (prior approval).

DISPUTES AND ALTERNATIVE DISPUTES RESOLUTION (32 CFR 22.815). Disputes between the Recipient and the Grants Officer shall be resolved by mutual agreement at the Grants Officer's level, to the maximum extent practicable. Disputes are written demands or written assertions by one of the parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of terms, or other relief arising under or relating to the award. The dispute shall, at a minimum, contain sufficient information and supporting data to enable the Grants Officer to render an informed decision. Whenever a Recipient submits, in writing, a dispute to the Government, the Grants Officer shall consider the issue(s) and, within 60 calendar days of receipt, either:

(a) Prepare a written decision, which shall include the basis for the decision and shall be documented in the award file; or

(b) Notify the Recipient of a specific date when he or she will render a written decision. The notice shall inform the Recipient of the reason for delaying the decision.

(c) The Recipient shall proceed diligently with performance of the award, pending final resolution of any dispute.

1. Alternative Disputes Resolution (ADR). These procedures include settlement negotiations, mediation, and fact-finding. In the event the Recipient decides to appeal the decision the Recipient is encouraged to enter into ADR procedures with the Grants Officer, as set forth herein:

(a) If the Recipient decides to appeal under ADR, it must within 90 calendar days from the date that it receives the Grants Officer's written decision, mail or otherwise furnish to the Grants Officer notice that an appeal is intended using the ADR procedures herein. The appeal shall include a description of the claim/dispute, reference to the pertinent Cooperative Agreement terms, and a statement of factual areas of agreement and disagreement.

(b) Within 30 calendar days from the date that the Grants Officer is furnished the Recipient's appeal the Grants Officer shall provide all data, documentation, and pertinent information, required for use on a pending appeal to the Office of the Secretary of Defense, Director, Office of Administration and Management.

(c) The Director, Office of Administration and Management shall review the facts pertinent to the dispute or secure assistance from legal and other advisors and issue a written decision with supporting rationale.

(d) If the Recipient chooses not to initiate an appeal using ADR procedures, it may initiate such formal claims as are authorized by 28 U.S.C. 1491, or other applicable statutes.

OFFICIALS NOT TO BENEFIT. No member of or delegate to Congress, or resident commissioner, shall be admitted to any share or part of this Cooperative Agreement, or to any benefit arising from it, in accordance with 41 USC § 22.

RECIPIENT RESPONSIBILITY. The Recipient has full responsibility for the conduct of the effort supported by this Cooperative Agreement, in accordance with the Recipient's Application for Federal Assistance and the terms
and conditions specified in this Cooperative Agreement. The Recipient is encouraged to suggest, or propose to discontinue, or modify unpromising efforts. The Recipient shall submit, within 90 calendar days after the date of expiration of the award, all financial, performance, and other reports as required by the terms and conditions of the award. The Grants Officer may approve extensions when requested by the Recipient.

ACKNOWLEDGEMENT OF SPONSORSHIP. The Recipient agrees that in the release of information relating to this Cooperative Agreement, such release shall include a statement to the effect that: (a) the effort is/was sponsored by the United State Department of Defense, (b) the content of the information does not necessarily reflect the position or policy of the Government; and (c) that no official endorsement should be inferred. "Information" includes news releases, articles, manuscripts, brochures, advertisements, still and motion pictures, speeches, trade association proceedings, symposia, etc.

LIABILITY AND INDEMNITY. Each party hereto shall be responsible for its own activities and those of its agents and employees in carrying out its responsibilities under this Cooperative Agreement. The Government will not be responsible for, and the Recipient will assume, all liability to persons which may be attributable or incident to the Recipient's negligence or breach of this Cooperative Agreement, or by the negligence or breach of the Cooperative Agreement by any of the Recipient's agents and employees. The Recipient further agrees to indemnify, save, hold harmless, and defend the Government, its officers, agents and employees, from and against all suits, claims, demands or actions, liabilities, judgments, costs and attorneys' fees arising out of, or in any manner predicated upon personal injury or death resulting from, related to, caused by or incident to the Recipient's negligence in the carrying out of the terms of this Cooperative Agreement, or breach thereof, or any and all other activities conducted by the Recipient, its agents, employees and contractors incident to this Cooperative Agreement. Any claim against the Government or its employees for damages arising out of negligence, wrongful acts, or wrongful omissions shall be pursued under the Federal Tort Claims Act.

CHANGE OF CIRCUMSTANCES. Each party will promptly notify the other party of any legal impediment, change of circumstances, pending litigation, or any other event or condition that may adversely affect such party's ability to carry out any of its obligations under this Cooperative Agreement.

FOREIGN TRAVEL AND ACTIVITIES ABROAD. The Recipient shall assure that project activities carried on outside the United states are coordinated with appropriate Government authorities and that proper approvals are obtained prior to undertaking such activities. The Government does not assume responsibility for Recipient compliance with laws and regulations of the country in which the activities are to be conducted.

General/Miscellaneous Requirements: By signing or accepting funds under the agreement, the recipient agrees that will comply with the following general national policy requirements:

1. SAM Registration - 2 CFR Part 25. Registration must be renewed annually.

2. Drug Free Workplace - Public Law 100-690 and 41 USC 701 et seq.

3. DUNS number - 2 CFR 25

   a. Civil False Claims Act - 31 USC 2739
   b. Criminal False Claims Act - 18 USC 287 and 1001
   c. Program Fraud and Civil Remedies and False Claims Act - 31 USC 3801, 45 CFR 79

5. Government-wide Debarment and Suspension (Nonprocurement) - 42 USC 1870 (a); Sec. 2455, PL 103-355, 108 Stat. 3327 (31 USC 6101 note); EO 12549 (3 CFR, 1986 Comp., p. 189); EO 12689 (3 CFR, 1989 Comp., p.235)
6. Lobbying Prohibitions 31 USC 1352 - stipulates that (1) No Federal appropriated funds have been paid or will be paid, any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement. (2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal grant or cooperative agreement, the undersigned shall complete and submit the SF Form LLL, "Disclosure of Lobbying Activities", in accordance with its instructions. 31 USC 1352 requires the grantee to include certification language in the award documents for all sub awards at all tiers, including subcontracts, Sub grants.

7. Metric System - 15 USC 205 a-k and Executive Order 12770

8. Misconduct in Science - Policies and responsibilities associated with prevention, detection, and handling of misconduct in science allegations as stipulated in agency implementing regulations.

9. National Historic Preservation - The recipient agrees to identify to the awarding agency all property listed or eligible for listing on the National Register of Historic Places that will be affected by this award, and to provide all the help the awarding agency may need, with respect to the award.

10. Paperwork Reduction Act - Data collection activities, if any, performed under this project are the responsibility of the recipient, and awarding agency support of the project does not constitute approval of any survey design, questionnaire content, or data collection procedures. The recipient shall not represent to respondents that such data are being collected for or in association with the awarding agency without the specific written approval of the cognizant awarding agency official of such data collection plan or instrument. However, this requirement is not intended to preclude mention of awarding agency support of the project in response to an inquiry or acknowledgment of such support in any publication of these data.


12. US Flag Air Carriers - 49 USC 40118 See also General Services Administration amendment to the Federal Travel Regulations, Federal Register (Vol. 63, No. 219, 63417-63421)

13. Trafficking in Persons - By signing or accepting funds under the agreement, the recipient agrees that it will comply with Trafficking Victims Protection Act of 2000 (22 U.S.C. 7104(g)) as implemented by 2 CFR 175.
   a. Associated with performance under this award; or
   b. Imputed to you or the sub recipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, "OMB Guidelines to Agencies on Government wide Debarment and Suspension (Nonprocurement)," as implemented by the agency in its regulatory implementation of the OMB guidelines in 2 CFR part 180. Provision applicable to a recipient other than a private entity. We as the Federal awarding agency may unilaterally terminate this award, without penalty, if a sub recipient that is a private entity--
      1. Is determined to have violated an applicable prohibition in paragraph a.1 of this award term; or
      2. Has an employee who is determined by the agency official authorized to terminate the award to have violated an applicable prohibition in paragraph a.1 of this award term through conduct that is either--
         i. Associated with performance under this award; or
ii. Imputed to the sub recipient using the standards and due process for imputing the conduct of an individual to an organization that are provided in 2 CFR part 180, "OMB Guidelines to Agencies on Government wide Debarment and Suspension (Nonprocurement)," as implemented by our agency.

c. Provisions applicable to any recipient.

1. You must inform us immediately of any information you receive from any source alleging a violation of a prohibition in paragraph a.1 of this award term.

2. Our right to terminate unilaterally that is described in paragraph a.2 or b of this section:

   i. Implements section 106(g) of the Trafficking Victims Protection Act of 2000 (TVPA), as amended (22 U.S.C. 7104(g)), and

   ii. Is in addition to all other remedies for noncompliance that are available to us under this award.

3. You must include the requirements of paragraph a.1 of this award term in any sub award you make to a private entity.


15. Use of United States Flag Vessels - 46 CFR 381


17. Privacy Act - 5 USC 552a

18. Pro Children Act - 20 USC 7183


20. Confidentiality of Patient/Client Records - 42 USC 290dd-2 and 42 USC 290ee-3


22. Copeland Act - 40 USC 4135


24. Earthquake Hazards Reduction Act - 42 USC 7701 et seq., EO 12699

25. Faith-Based and Other Neighborhood Organizations - EO 13559


27. Freedom of Information Act - 5 USC 552

28. Limited English Proficiency - EO 13166

29. Native American Graves Protection and Repatriation - 25 USC 3001-3013

31. Recombinant DNA Molecules - All research that falls within the scope of the Guidelines for Research Involving Recombinant DNA Molecules (NIH Guidelines) shall comply with the Guidelines, including all procedural requirements. See 59 FR Volume 598, No. 127, July 5, 1994, 34495-34547

**Health and Safety Guidelines**: By signing the agreement, or accepting funds under this agreement, the recipient assures it will comply with the following requirements:


2. Handling and transport of etiological agents - Procedures for Domestic Handling and Transport of Diagnostic Specimens and Etiologic Agents, 1994 (3rd ed.), H5a3doc.75, National Committee for Clinical Laboratory Standards

3. Disposal of high-level radioactive waste and spent nuclear fuel. Note however, that some States are exempt if they have established separate requirements. - Nuclear Regulatory Commission Standard and Regulation, pursuant to the Energy Reorganization Act of 1974, (42 USC, 5801, et seq.)

4. Text Messaging While Driving - EO 13513

5. Increasing Seat Belt Use in the United States Executive Order 13043, Increasing Seat Belt Use in the United States, dated, April 16, 1997 - In accordance with the Executive Order, "grantees are encouraged to adopt and enforce on-the-job seat belt policies and programs for their employees when operating company-owned, rented, or personally owned vehicles."

**Live Organisms**: By signing or accepting funds under the agreement, the recipient agrees that it will comply with applicable provisions of the following national policies concerning live organisms:

1. For human subjects
   a. For human subjects, the Common Federal Policy for the Protection of Human Subjects. Requirements flow down to sub recipients.
   b. Human Stem Cell Research - In accordance with the President's Executive Order 13505 of March 9, 2009, and July 30, 2009 Memorandum for the Heads of Executive Departments and Agencies. See NIH Guidelines for Human Stem Cell Research, July 7, 2009. Other regulations that may apply: HHS Human Subjects Protection Regulation, 45 CFR Pt 46 FDA Regulations governing INDs or IDEs (Title 21 CFR Parts 312 or 812) FDA IRB & informed consent regulations (Title 21 CFR Parts 50 & 56) Research on Transplantation of Fetal Tissue (PHS Act 489A)
   c. P.L. 104-191 Health Insurance Portability and Accountability Act (HIPAA) - Limits uses of protected health information (PHI) collected or maintained by researchers within a covered entity or access to PHI from a covered entity. Research uses do not require Business Associate Agreements (defined at 45 CFR part 164 504 (e)(l) between collaborating institutions. Guidance available at [http://privacyruleandresearch.nih.gov/](http://privacyruleandresearch.nih.gov/)

2. For animals
   a. Rules on animal acquisition, transport, care, handling, and use in: (i) 9 CFR Parts 1-4, Department of Agriculture rules that implement the Laboratory Animal Welfare Act of 1966 (7 US+A160C. 2131-2156). Public Health Service Agencies must follow requirements in the PHS Policy on Humane Care and Use of Laboratory Animals, which implements PL 99-158, Sec. 495.
   b. Rules of the Departments of Interior (50 CFR Parts 10-24) and Commerce (50 CFR Parts 217-227) implementing laws and conventions on the taking, possession, transport, purchase, sale, export, or import of wildlife and plants, including the: Endangered Species Act of 1973 (16
National Security Guidelines: By signing the agreement or accepting funds under the agreement, the recipient assures it will comply with the following requirements:


2. Select Agents and Toxins - Institution must be registered with CDC and or USDA prior to beginning work with agents. Investigator must be licensed prior to beginning work. NIH Term of Award includes notice that registration must be complete before using NIH funds and that no funds may be used for Select Agent Research if certification is denied. USDA inserts a term indicating that the grantee has primary responsibility for complying with Title II of the Public Health Security and Bioterrorism Preparedness and Response Act of 2002, Public Law 107-188, and the regulations promulgated thereunder in 7 CFR Part 331, 9 CFR Part 121, and 42 CFR Part 72. For guidance on a biosecurity plan that includes physical security of facilities and access controls to prevent unauthorized entries see Departmental Manual 9610-1, USDA Security Policies and Procedures for Biosafety Level-3 Facilities (available via http://www.usda.gov/directives/index.html) Other State and Local regulations may apply.

3. Executive Order 13526 Classified National Security Information: prescribes a uniform system for classifying, safeguarding, and declassifying national security information, including information relating to defense against transnational terrorism.

Nondiscrimination: By signing or accepting funds under the agreement, the recipient agrees that it will comply with applicable provisions of the following national policies prohibiting discrimination:

1. On the basis of race, color, or national origin, in Title VI of the Civil Rights Act of 1964 (42 U.S.C. 2000d, et seq.).


3. On the basis of sex or blindness, in Title IX of the Education Amendments of 1972 (20 U.S.C. 1681, et seq.).


5. On the basis of handicap, in Section 504 of the Rehabilitation Act of 1973 (29 U.S.C. 794), as implemented by Department of Justice regulations at 28 CFR Part 41

6. Americans with Disabilities Act - 42 USC 12101 et. seq

WORKERS' COMPENSATION INSURANCE (DEFENSE BASE ACT) (APR 1984)

The Recipient shall (a) provide, before commencing performance under this grant, such workers' compensation insurance or security as the Defense Base Act (42 U.S.C. 1651, et seq.) requires and (b) continue to maintain it until performance is completed. The Contractor shall insert, in all subcontracts under this contract to which the Defense Base Act applies, a clause similar to this clause (including this sentence) imposing upon those subcontractors this
MODIFICATION OF COOPERATIVE AGREEMENT. The only method by which the Cooperative Agreement can be modified is through formal, written modification, signed by either the Grants Officer or Administrative Grants Officer. No other communications, whether oral or in writing, shall be binding on the parties.

CONTRACTOR PERSONNEL PERFORMING IN THE UNITED STATES CENTRAL COMMAND AREA OF RESPONSIBILITY

(a) Definitions. As used in this clause—

“Combatant Commander” means the Commander of the United States Central Command Area of Responsibility.

“Contractors authorized to accompany the Force,” or “CAAF,” means contractor personnel, including all tiers of subcontractor personnel, who are authorized to accompany U.S. Armed Forces in applicable operations and have been afforded CAAF status through a letter of authorization. CAAF generally include all U.S. citizen and third-country national employees not normally residing within the operational area whose area of performance is in the direct vicinity of U.S. Armed Forces and who routinely are collocated with the U.S. Armed Forces (especially in non-permissive environments). Personnel collocated with U.S. Armed Forces shall be afforded CAAF status through a letter of authorization. In some cases, Combatant Commander subordinate commanders may designate mission-essential host nation or local national contractor employees (e.g., interpreters) as CAAF. CAAF includes contractors previously identified as contractors deploying with the U.S. Armed Forces. CAAF status does not apply to contractor personnel in support of applicable operations within the boundaries and territories of the United States.

“Designated reception site” means the designated place for the reception, staging, integration, and onward movement of contractors deploying during a contingency. The designated reception site includes assigned joint reception centers and other Service or private reception sites.

“Law of war” means that part of international law that regulates the conduct of armed hostilities. The law of war encompasses all international law for the conduct of hostilities binding on the United States or its individual citizens, including treaties and international agreements to which the United States is a party, and applicable customary international law.

“Non-CAAF” means personnel who are not designated as CAAF, such as local national (LN) employees and non-LN employees who are permanent residents in the operational area or third-country nationals not routinely residing with U.S. Armed Forces (and third-country national expatriates who are permanent residents in the operational area) who perform support functions away from the close proximity of, and do not reside with, U.S. Armed Forces. Government-furnished support to non-CAAF is typically limited to force protection, emergency medical care, and basic human needs (e.g., bottled water, latrine facilities, security, and food when necessary) when performing their jobs in the direct vicinity of U.S. Armed Forces. Non-CAAF status does not apply to contractor personnel in support of applicable operations within the boundaries and territories of the United States.

“Subordinate joint force commander” means a sub-unified commander or joint task force commander.

(b) General.

(1) This clause applies to both CAAF and non-CAAF when performing in the United States Central Command (USCENTCOM) Area of Responsibility (AOR).

(2) Contract performance in USCENTCOM AOR may require work in dangerous or austere conditions. Except as otherwise provided in the contract, the Contractor accepts the risks associated with required contract performance in such operations.

(3) When authorized in accordance with paragraph (f) of this clause to carry arms for personal protection, contractor personnel are only authorized to use force for individual self-defense.

(4) Unless immune from host nation jurisdiction by virtue of an international agreement or international law, inappropriate
use of force by contractor personnel authorized to accompany the U.S. Armed Forces can subject such personnel to United States or host nation prosecution and civil liability (see paragraphs (d) and (j)3 of this clause).

(5) Service performed by contractor personnel subject to this clause is not active duty or service under 38 U.S.C. 106 note.

(c) Support.

(1)(i) The Combatant Commander will develop a security plan for protection of contractor personnel in locations where there is not sufficient or legitimate civil authority, when the Combatant Commander decides it is in the interests of the Government to provide security because—

(A) The Contractor cannot obtain effective security services;

(B) Effective security services are unavailable at a reasonable cost; or

(C) Threat conditions necessitate security through military means.

(ii) In appropriate cases, the Combatant Commander may provide security through military means, commensurate with the level of security provided DoD civilians.

(2)(i) Generally, CAAF will be afforded emergency medical and dental care if injured while supporting applicable operations. Additionally, non-CAAF employees who are injured while in the vicinity of U.S. Armed Forces will normally receive emergency medical and dental care. Emergency medical and dental care includes medical care situations in which life, limb, or eyesight is jeopardized. Examples of emergency medical and dental care include examination and initial treatment of victims of sexual assault; refills of prescriptions for life-dependent drugs; repair of broken bones, lacerations, infections; and traumatic injuries to the dentition. Hospitalization will be limited to stabilization and short-term medical treatment with an emphasis on return to duty or placement in the patient movement system.

(ii) When the Government provides medical treatment or transportation of Contractor personnel to a selected civilian facility, the Contractor shall ensure that the Government is reimbursed for any costs associated with such treatment or transportation.

(iii) Medical or dental care beyond this standard is not authorized.

(3) Contractor personnel must have a Synchronized Predeployment and Operational Tracker (SPOT)-generated letter of authorization signed by the Contracting Officer in order to process through a deployment center or to travel to, from, or within the USCENTCOM AOR. The letter of authorization also will identify any additional authorizations, privileges, or Government support that Contractor personnel are entitled to under this contract. Contractor personnel who are issued a letter of authorization shall carry it with them at all times while deployed.

(4) Unless specified elsewhere in this contract, the Contractor is responsible for all other support required for its personnel engaged in the USCENTCOM AOR under this contract.

(d) Compliance with laws and regulations.

(1) The Contractor shall comply with, and shall ensure that its personnel performing in the USCENTCOM AOR are familiar with and comply with, all applicable—

(i) United States, host country, and third country national laws;

(ii) Provisions of the law of war, as well as any other applicable treaties and international agreements;

(iii) United States regulations, directives, instructions, policies, and procedures; and

(iv) Orders, directives, and instructions issued by the Combatant Commander, including those relating to force protection, security, health, safety, or relations and interaction with local nationals.

(2) The Contractor shall institute and implement an effective program to prevent violations of the law of war by its employees and subcontractors, including law of war training in accordance with paragraph (e)(1)(vii) of this clause.
(3) The Contractor shall ensure that CAAF and non-CAAF are aware—

(i) Of the DoD definition of "sexual assault" in DoDD 6495.01, Sexual Assault Prevention and Response Program;

(ii) That the offenses addressed by the definition are covered under the Uniform Code of Military Justice (see paragraph (e)(2)(iv) of this clause). Other sexual misconduct may constitute offenses under the Uniform Code of Military Justice, Federal law, such as the Military Extraterritorial Jurisdiction Act, or host nation laws; and

(iii) That the offenses not covered by the Uniform Code of Military Justice may nevertheless have consequences to the contractor employees (see paragraph (h)(1) of this clause).

(4) The Contractor shall report to the appropriate investigative authorities, identified in paragraph (d)(6) of this clause, any alleged offenses under—

(i) The Uniform Code of Military Justice (chapter 47 of title 10, United States Code) (applicable to contractors serving with or accompanying an armed force in the field during a declared war or contingency operations); or


(5) The Contractor shall provide to all contractor personnel who will perform work on a contract in the deployed area, before beginning such work, information on the following:

(i) How and where to report an alleged crime described in paragraph (d)(4) of this clause.

(ii) Where to seek victim and witness protection and assistance available to contractor personnel in connection with an alleged offense described in paragraph (d)(4) of this clause.

(iii) This section does not create any rights or privileges that are not authorized by law or DoD policy.

(6) The appropriate investigative authorities to which suspected crimes shall be reported include the following—


(iii) Navy Criminal Investigative Service at http://www.ncis.navy.mil/Pages/publicdefault.aspx;


(v) To any command of any supported military element or the command of any base.

(7) Personnel seeking whistleblower protection from reprisals for reporting criminal acts shall seek guidance through the DoD Inspector General hotline at 800-424-9098 or www.dodig.mil/HOTLINE/index.html. Personnel seeking other forms of victim or witness protections should contact the nearest military law enforcement office.

(8) The Contractor shall ensure that Contractor employees supporting the U.S. Armed Forces deployed outside the United States are aware of their rights to—

(A) Hold their own identity or immigration documents, such as passport or driver's license;

(B) Receive agreed upon wages on time;
(C) Take lunch and work-breaks;

(D) Elect to terminate employment at any time;

(E) Identify grievances without fear of reprisal;

(F) Have a copy of their employment contract in a language they understand;

(G) Receive wages that are not below the legal in-country minimum wage;

(H) Be notified of their rights, wages, and prohibited activities prior to signing their employment contract; and

(I) If housing is provided, live in housing that meets host-country housing and safety standards.

c) Preliminary personnel requirements.

(i) The Contractor shall ensure that the following requirements are met prior to deploying CAAF (specific requirements for each category will be specified in the statement of work or elsewhere in the contract):

   (i) All required security and background checks are complete and acceptable.

   (ii) All CAAF deploying in support of an applicable operation—

        (A) Are medically, dentally, and psychologically fit for deployment and performance of their contracted duties;

        (B) Meet the minimum medical screening requirements, including theater-specific medical qualifications as established by the geographic Combatant Commander (as posted to the Geographic Combatant Commander's website or other venue);

   and

   (C) Have received all required immunizations as specified in the contract.

   (1) During predeployment processing, the Government will provide, at no cost to the Contractor, any military-specific immunizations and/or medications not available to the general public.

   (2) All other immunizations shall be obtained prior to arrival at the deployment center.

   (3) All CAAF and selected non-CAAF, as specified in the statement of work, shall bring to the USCENTCOM AOR a copy of the Public Health Service Form 791, "International Certificate of Vaccination" that shows vaccinations are current.

   (iii) Deploying personnel have all necessary passports, visas, and other documents required to enter and exit the USCENTCOM AOR and have a Geneva Conventions identification card, or other appropriate DoD identity credential, from the deployment center.

   (iv) Special area, country, and theater clearance is obtained for all personnel deploying. Clearance requirements are in DoD Directive 4500.54-00, DoD Foreign Clearance Program. For this purpose, CAAF are considered non-DoD contractor personnel traveling under DoD sponsorship.

   (v) All deploying personnel have received personal security training. At a minimum, the training shall—

        (A) Cover safety and security issues facing employees overseas.

        (B) Identify safety and security contingency planning activities; and

        (C) Identify ways to utilize safety and security personnel and other resources appropriately.

   (vi) All personnel have received isolated personnel training, if specified in the contract, in accordance with DoD Instruction 1300.23, Isolated Personnel Training for DoD Civilian and Contractors.

   (vii) Personnel have received law of war training as follows:

        (A) Basic training is required for all CAAF. The basic training will be provided through—

            (1) A military-run training center; or

            (2) A web-based source, if specified in the contract or approved by the Contracting Officer.

        (B) Advanced training, commensurate with their duties and responsibilities, may be required for some Contractor personnel
as specified in the contract.

(2) The Contractor shall notify all personnel who are not a host country national, or who are not ordinarily resident in the host country, that—

(i) Such employees, and dependents residing with such employees, who engage in conduct outside the United States that would constitute an offense punishable by imprisonment for more than one year if the conduct had been engaged in within the special maritime and territorial jurisdiction of the United States, may potentially be subject to the criminal jurisdiction of the United States in accordance with the Military Extraterritorial Jurisdiction Act of 2000 (18 U.S.C. 3621, et seq.);

(ii) Pursuant to the War Crimes Act (18 U.S.C. 2441), Federal criminal jurisdiction also extends to conduct that is determined to constitute a war crime when committed by a civilian national of the United States;

(iii) Other laws may provide for prosecution of U.S. nationals who commit offenses on the premises of U.S. diplomatic, consular, military or other U.S. Government missions outside the United States (18 U.S.C. 7(9)); and

(iv) In time of declared war or a contingency operation, CAAF are subject to the jurisdiction of the Uniform Code of Military Justice under 10 U.S.C. 802(a)(10).

(v) Such employees are required to report offenses alleged to have been committed by or against contractor personnel to appropriate investigative authorities.

(vi) Such employees will be provided victim and witness protection and assistance.

(f) Processing and departure points. CAAF shall—

(1) Process through the deployment center designated in the contract, or as otherwise directed by the Contracting Officer, prior to deploying. The deployment center will conduct deployment processing to ensure visibility and accountability of contractor personnel and to ensure that all deployment requirements are met, including the requirements specified in paragraph (e)(1) of this clause;

(2) Use the point of departure and transportation mode directed by the Contracting Officer; and

(3) Process through a designated reception site (DRS) upon arrival at the deployed location. The DRS will validate personnel accountability, ensure that specific USCENTCOM AOR entrance requirements are met, and brief contractor personnel on theater-specific policies and procedures.

(g) Personnel data.

(1) The Contractor shall use the Synchronized Predeployment and Operational Tracker (SPOT) web-based system to enter and maintain data for all Contractor employees covered by this clause, following the procedures in paragraph (g)(3) of this clause.

(2) Upon becoming an employee under this contract, the Contractor shall enter into SPOT, and shall continue to use SPOT web-based system to maintain accurate, up-to-date information throughout the employment in the AOR. Changes to status of individual contractor personnel relating to their in-theater arrival date and their duty location, to include closing out the employment in the AOR with their proper status (e.g., mission complete, killed, wounded) shall be annotated within the SPOT database in accordance with the timelines established in the SPOT business rules.1

(i) In all circumstances, this includes any personnel performing private security functions and CAA.

1 Hyperlink to http://www.acq.osd.mil/log/PS/spot.html
(ii) For personnel other than those performing private security functions and CAAF, this requirement excludes anyone—
(A) Hired under contracts valued below the simplified acquisition threshold;
(B) Who will be performing in the CENTCOM AOR less than 30 continuous days; or
(C) Who, while afloat, are tracked by the Diary message Reporting System.
(3) Follow these steps to register in and use SPOT:
   (i) SPOT registration requires one of the following login methods:
      (A) A Common Access Card (CAC) or a SPOT-approved digital certificate; or
      (B) A Government-sponsored SPOT user ID and password. This type of log-in method is only allowed for those individuals who are not authorized to obtain a CAC or an external digital certificate, and requires SPOT Program Management Office approval.
   (ii) To register in SPOT:
      (A) Contractor company administrators should register for a SPOT account at https://spot.dmde.mil; and
      (B) The customer support team must validate user need. This process may take two business days. Company supervisors will be contacted to validate Contractor company administrator account requests and determine the appropriate level of user access.
   (iii) Upon approval, all users will access SPOT at https://spot.dmde.mil/
   (iv)(A) Refer SPOT application assistance questions to the Customer Support Team at—
      (1) Phone: 703-578-5407, DSN 312-698-5407; or
      (2) Email: dodhrr.beau-alex.dmde.mbx.spot-helpdesk@mail.mil.
      (B) Refer to the SPOT OSD Program Support website at http://www.acq.osd.mil/log/PS/spot.html for additional training resources and documentation regarding registration for and use of SPOT.
   (h) Contractor personnel.
      (1) The Contracting Officer may direct the Contractor, at its own expense, to remove and replace any contractor personnel who jeopardize or interfere with mission accomplishment or who fail to comply with or violate applicable requirements of this contract. Such action may be taken at the Government’s discretion without prejudice to its rights under any other provision of this contract, including the Termination for Default clause.
      (2) The Contractor shall identify all personnel who occupy a position designated as mission essential and ensure the continuity of essential Contractor services during designated operations, unless, after consultation with the Contracting Officer, Contracting Officer’s representative, or local commander, the Contracting Officer directs withdrawal due to security conditions.
      (3) The Contractor shall ensure that contractor personnel follow the guidance at paragraph (c)(2)(v) of this clause and any specific Combatant Commander guidance on reporting offenses alleged to have been committed by or against contractor personnel to appropriate investigative authorities.
      (4) Contractor personnel shall return all U.S. Government-issued identification, to include the Common Access Card, to appropriate U.S. Government authorities at the end of their deployment (or, for non-CAAF, at the end of their employment under this contract).
   (i) Military clothing and protective equipment.
      (1) Contractor personnel are prohibited from wearing military clothing unless specifically authorized in writing by the Combatant Commander. If authorized to wear military clothing, contractor personnel must—
         (i) Wear distinctive patches, armbands, nametags, or headgear, in order to be distinguishable from military personnel, consistent with force protection measures; and
         (ii) Carry the written authorization with them at all times.
(2) Contractor personnel may wear military-unique organizational clothing and individual equipment (OCIE) required for safety and security, such as ballistic, nuclear, biological, or chemical protective equipment.

(3) The deployment center, or the Combatant Commander, shall issue OCIE and shall provide training, if necessary, to ensure the safety and security of contractor personnel.

(4) The Contractor shall ensure that all issued OCIE is returned to the point of issue, unless otherwise directed by the Contracting Officer.

(j) Weapons.

(1) If the Contractor requests that its personnel performing in the USCENTCOM AOR be authorized to carry weapons for individual self-defense, the request shall be made through the Contracting Officer to the Combatant Commander, in accordance with DoD Instruction 3020.41. The Combatant Commander will determine whether to authorize in-theater contractor personnel to carry weapons and what weapons and ammunition will be allowed.

(2) If contractor personnel are authorized to carry weapons in accordance with paragraph (j)(1) of this clause, the Contracting Officer will notify the Contractor what weapons and ammunition are authorized.

(3) The Contractor shall ensure that its personnel who are authorized to carry weapons—

(i) Are adequately trained to carry and use them—

(A) Safely;

(B) With full understanding of, and adherence to, the rules of the use of force issued by the Combatant Commander; and

(C) In compliance with applicable agency policies, agreements, rules, regulations, and other applicable law;

(ii) Are not barred from possession of a firearm by 18 U.S.C. 922;

(iii) Adhere to all guidance and orders issued by the Combatant Commander regarding possession, use, safety, and accountability of weapons and ammunition;

(iv) Comply with applicable Combatant Commander and local commander force-protection policies; and

(v) Understand that the inappropriate use of force could subject them to U.S. or host-nation prosecution and civil liability.

(4) Whether or not weapons are Government-furnished, all liability for the use of any weapon by contractor personnel rests solely with the Contractor and the Contractor employee using such weapon.

(5) Upon redeployment or revocation by the Combatant Commander of the Contractor's authorization to issue firearms, the Contractor shall ensure that all Government-issued weapons and unexpended ammunition are returned as directed by the Contracting Officer.

(k) Vehicle or equipment licenses. Contractor personnel shall possess the required licenses to operate all vehicles or equipment necessary to perform the contract in the USCENTCOM AOR.

(l) Purchase of scarce goods and services. If the Combatant Commander has established an organization for the USCENTCOM AOR whose function is to determine that certain items are scarce goods or services, the Contractor shall coordinate with that organization local purchases of goods and services designated as scarce, in accordance with instructions provided by the Contracting Officer.

(m) Evacuation.

(1) If the Combatant Commander orders a mandatory evacuation of some or all personnel, the Government will provide assistance, to the extent available, to United States and third country national contractor personnel.

(2) In the event of a non-mandatory evacuation order, unless authorized in writing by the Contracting Officer, the Contractor shall maintain personnel on location sufficient to meet obligations under this contract.

(n) Next of kin notification and personnel recovery.

(1) The Contractor shall be responsible for notification of the employee-designated next of kin in the event an employee
dies, requires evacuation due to an injury, or is isolated, missing, detained, captured, or abducted.

(2) In the case of isolated, missing, detained, captured, or abducted contractor personnel, the Government will assist in personnel recovery actions in accordance with DoD Directive 3002.01E, Personnel Recovery in the Department of Defense.

(o) Mortuary affairs. Contractor personnel who die while in support of the U.S. Armed Forces shall be covered by the DoD mortuary affairs program as described in DoD Directive 1300.22, Mortuary Affairs Policy, and DoD Instruction 3020.41, Operational Contractor Support.

(p) Changes. In addition to the changes otherwise authorized by the Changes clause of this contract, the Contracting Officer may, at any time, by written order identified as a change order, make changes in the place of performance or Government-furnished facilities, equipment, material, services, or site. Any change order issued in accordance with this paragraph (p) shall be subject to the provisions of the Changes clause of this contract.

(q) Subcontracts. The Contractor shall incorporate the substance of this clause, including this paragraph (q), in all subcontracts when subcontractor personnel are performing in the USCENTCOM AOR.

WIDE AREA WORKFLOW PAYMENT INSTRUCTIONS (MAY 2013)

(a) Definitions. -

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

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

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

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

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

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


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

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

(f) WAWF payment instructions. The Contractor must use the following information when submitting payment requests and receiving reports in WAWF for this contract/order:
(1) Document type. The Contractor shall use the following document type(s).
Nonprocurement Instruments (NPI)

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

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

Routing Data Table*

<table>
<thead>
<tr>
<th>Field Name in WAWF</th>
<th>Data to be entered in WAWF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Pay Official DoDAAC</td>
<td>HQ0347</td>
</tr>
<tr>
<td>Issue By DoDAAC</td>
<td>HQ0034</td>
</tr>
<tr>
<td>Admin DoDAAC</td>
<td>N62880</td>
</tr>
<tr>
<td>Inspect By DoDAAC</td>
<td>HQ0644</td>
</tr>
<tr>
<td>Ship To Code</td>
<td>N62880</td>
</tr>
<tr>
<td>Ship From Code</td>
<td>N62880</td>
</tr>
<tr>
<td>Mark For Code</td>
<td>N62880</td>
</tr>
<tr>
<td>Service Approver (DoDAAC)</td>
<td>N62880</td>
</tr>
<tr>
<td>Service Acceptor (DoDAAC)</td>
<td>N62880</td>
</tr>
<tr>
<td>Accept at Other DoDAAC</td>
<td>N/A</td>
</tr>
<tr>
<td>LPO DoDAAC</td>
<td>N/A</td>
</tr>
<tr>
<td>DCAA Auditor DoDAAC</td>
<td>N/A</td>
</tr>
<tr>
<td>Other DoDAAC(s)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

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

(5) WAWF email notifications. The Contractor shall enter the email address identified below in the “Send Additional Email Notifications” field of WAWF once a document is submitted in the system.
Joshua.kabisch@onr.mil

(g) WAWF point of contact. The Contractor may obtain clarification regarding invoicing in WAWF from the following contracting activity's WAWF point of contact.
Not applicable

(2) For technical WAWF help, contact the WAWF helpdesk at 866-618-5988.
Pages 30 - 33

Withheld in Full

Under Exemption (b)(4)
AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

2. AMENDMENT/MODIFICATION NO. R00003
3. EFFECTIVE DATE 24-Sep-2015
4. REQUISITION/PURCHASE REQ. NO.
5. PROJECT NO. (If applicable)

6. ISSUED BY CODE HQ0034
7. ADMINISTERED BY (Other than Item 6) CODE

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)
   NATIONAL CENTER FOR MANUFACTURING SCIENCE
   Hollbrook ST STE 250
   ANN ARBOR MI 48109-3230
   CODE OLW56
   FACILITY CODE

9. AMENDMENT OF SOLICITATION NO.

10. MOD. OF CONTRACT/ORDER NO. X HQ00034-15-2-0007
11. DATED (See Item 11) 12-Mar-2015

12. ACCOUNTING AND APPROPRIATION DATA

   See Schedule

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACT/ORDERS

   IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

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.

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).

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
    Mutual Agreement By Both Parties
    D. OTHER (Specify type of modification and authority)

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

   Modification Control Number: holbrook152453
   The purpose of this modification is to add the following projects:

   (b)(4)

   Project 15 in the amount of $4,700,000.00
   (b)(4)

   Except as provided herein, all terms and conditions of the document referenced in Item 10A, as hereofline changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)
15B. CONTRACTOR/ OFFEROR
15C. DATE SIGNED

16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)
16B. UNITED STATES OF AMERICA
16C. DATE SIGNED

EXCEPTION TO SF 30
APPROVED BY GSA

STANDARD FORM 30 (Rev. 10-83)
Prepared by GSA
FAR (48 CFR) 53.243
## AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

<table>
<thead>
<tr>
<th>2. AMENDMENT/MODIFICATION NO.</th>
<th>3. EFFECTIVE DATE</th>
<th>4. REQUISITION/PURCHASE REQ. NO.</th>
<th>5. PROJECT NO. (If applicable)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>24-Sep-2015</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>6. ISSUED BY CODE</th>
<th>7. ADMINISTERED BY (If other than item 6) CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>HQ 0034</td>
<td></td>
</tr>
</tbody>
</table>

See Item 6

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code):

NATIONAL CENTER FOR MANUFACTURING SCIENCE
5068-BROOKLYN ST STE 220
ANN ARBOR MI 48104-2200

<table>
<thead>
<tr>
<th>CODE</th>
<th>FACILITY CODE</th>
</tr>
</thead>
<tbody>
<tr>
<td>OLW56</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>9A. AMENDMENT OF SOLICITATION NO.</th>
<th>9B. DATED (SEE ITEM 11)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>12-Mar-2015</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>10A. MOD. OF CONTRACT/ORDER NO.</th>
<th>10B. DATED (SEE ITEM 13)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HQ 0034-15-2007</td>
<td></td>
</tr>
</tbody>
</table>

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 offer is extended. The hour and date specified for receipt of offer is not extended.

   Offer must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:
   (a) By completing Items 8 and 15, and returning copies of the amendment;
   (b) By acknowledging receipt of the amendment on each copy of the offer submitted;
   or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**See Schedule**

13. THIS ITEM APPLIES ONLY TO MODIFICATIONS OF CONTRACTS/ORDERS.

   IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.

   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.

   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).

   C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
      Mutual Agreement By Both Parties

   D. OTHER (Specify type of modification and authority)

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

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

   **Modification Control Number:** holbrook152453

   The purpose of this modification is to add the following projects:

   (b)(4)

   Project 15 in the amount of $4,700,000.00

   (b)(4)

   [Exception as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as hereafter changed, remains unchanged and in full force and effect.]

   15A. NAME AND TITLE OF SIGNER (Type or print)

   [b(6)]

   16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)

   [b(6)]

   16B. UNITED STATES OF AMERICA

   [b(6)]

   16C. DATE SIGNED

   [b(6)]

   (Signature of Contracting Officer)

EXCEPTION TO SF 30

APPROVED BY OIRM 11-84

STANDARD FORM 30 (Rev. 10-83)

Prescribed by GSA
FAR (48 CFR) 53.243
SUMMARY OF CHANGES

SECTION A - SOLICITATION/CONTRACT FORM

The total cost of this contract was increased from $ to $.

The following have been modified:

**COOPERATIVE AGREEMENT AWARD**

Cooperative Agreement Award

Agreement No: HQ0034-15-2-0007  Effective Date: March 12th, 2015

1. **Authority:** 10 USC 2358, Research and Development Projects

2. **Total Agreement Ceiling:** $100,000,000.00

3. **Catalogue of Federal Domestic Assistance (CFDA) Program 12.225 Commercial Technologies for Maintenance Activities Program**

4. **Brief Synopsis of the Scope of the CA:** To develop and manage research and development, projects for maintenance and sustainment for the Department of Defense.

5. **Period of Performance:** March 12th, 2015 - March 11th, 2020

6. **Electronic Funds Transfer:** Pursuant to 32 CFR 22.810(b)(2), Electronic Funds Transfer (EFT) shall be used to make payments under this award.

7. **Parties:** This Cooperative Agreement is entered into between the United States of America, represented by the Washington Headquarters Services Acquisition Directorate (hereafter called the Government), and the National Center for Manufacturing Sciences, Inc. (NCMS) pursuant to and under US Federal law.

Execution of the Cooperative Agreement

**For the Recipient**
National Center for Manufacturing Sciences, Inc.
3025 Boardwalk St, Suite 250
Ann Arbor, MI 48108-3266

**For the United States of America**
Washington Headquarters Services Acquisition Directorate
1155 Defense Pentagon
Washington, DC 20301-1155
Cooperative Agreement Schedule

1. Terms and Conditions: By signing (acceptance) of this Cooperative Agreement, the Recipient certifies that it will perform all activities and projects as set forth in its Application for Federal Assistance, and comply with the terms and condition of this Cooperative Agreement.

2. Cooperative Agreement Term: This Cooperative Agreement shall run for a period of five years, from March 12th, 2015 to March 11th, 2020, subject to the availability of funds to sustain this program.

3. Order of Precedence: Inconsistencies or conflicts in the terms and conditions of this Cooperative Agreement shall be resolved according to the following order of precedence:

   a. 10 USC 2358
   b. 2 CFR Part 200 - Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards
   c. DoD 3210.6-R
   d. The Cooperative Agreement
   e. NCMS Commercial Technologies for Maintenance Activities (CTMA) Proposal dated December 2014
   f. The Recipient’s Application for Federal Assistance (SF 424), Budget Information (SF 424), and Budget Narrative are incorporated herein by reference with the same force and effect as if set forth in full text.

4. Audit: The Comptroller General and the Inspector General of the Department of Defense shall have direct access to sufficient records and information of the Recipient, as they determine, to ensure accountability for Federal Funds.

5. Funding Limitations and Accounting and Appropriation Data: There is no Government minimum funding obligation for this Cooperative Agreement. The ceiling for the total lifecycle of the Cooperative Agreement is $100,000,000.00. Nothing in this Cooperative Agreement will be interpreted to require obligations or payments by the Federal Government in violation of the Anti-Deficiency Act (31 USC 1341).
6. Advance Payment: Upon acceptance of the terms and conditions of this Cooperative Agreement, and the submission of a Request for Advance or Reimbursement (SF 270) in an original and one copy to the Administrative Grants Officer (AGO), the Recipient shall be entitled to quarterly payments the first of which may be submitted as early as fifteen days after award. Initial payment is expected to cover work performed during the first three months of the Base Funding Period. Subsequent requests for advanced payment shall be in the SF 270 submission or additional information provided by the Recipient, per 32 CFR 32.22 and 32 CFR 32.52.

7. Budgets: The total amount of the Government’s share each project on the Cooperative Agreement, as approved by the Government, will be the maximum amount for which the Government is obligated to pay to the Recipient for costs incurred under the Cooperative Agreement. The Government’s share (maximum funding obligation) and the Recipient’s share is as follows:

<table>
<thead>
<tr>
<th>Project #</th>
<th>DATES</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project 15</td>
<td>September 24th, 2015 - March 23rd, 2017</td>
<td>$5,350,000.00 - Government share of $4,700,000.00 and recipient share of $650,000.00</td>
</tr>
</tbody>
</table>
8. Payment Schedules

a. Original requests for payment shall be submitted to the Administrative Grants Officer via the Wide Area Workflow. The AGO may adjust payment amounts based on the date contained in the SF 270 submissions or additional information provided by the Recipient. Reference is made to 32 CFR 34.10, 32 CFR 34.11, 32 CFR 34.12 and 32 CFR 34.41.

b. Invoicing instructions are included as a separate clause. All invoices shall be submitted through Wide Area Workflow (WAWF).

c. System of Award Management (SAM) information for Electronic Funds Transfer (EFT) is incorporated as follows:

<table>
<thead>
<tr>
<th>DUNS Number</th>
<th>TIN/EIN</th>
<th>Cage Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>180035768</td>
<td>38-2761126</td>
<td>OLW56</td>
</tr>
</tbody>
</table>

9. Payment Office: The Defense Finance and Accounting Service (DFAS) Office responsible for making payments under this Cooperative Agreements is DFAS Indianapolis (HQ0347)

10. Deliverables/Schedule: Written reports shall display the type of report, the period covered by the report, the name and address of the Recipient, and the Cooperative Agreement Number. Performance reports are as follows:

a. Interim and Final Performance Reports: This report shall keep the Government Program Officer informed of the effort set forth in the Recipients “Budget Narrative.”

b. Financial Reports/Schedule: Reports shall be prepared in accordance with OMB Circular A-110 and are required in accordance with the following schedule. The Recipient will report program outlays and program income on an accrual basis. If the Recipient’s accounting records are not normally kept on an accrual basis, the Recipient shall develop such accrual information through an analysis of the documentation on hand.

<table>
<thead>
<tr>
<th>Report</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interim Performance Report</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Final Performance Report</td>
<td>Determined per the PoP of each project</td>
</tr>
<tr>
<td>Financial Report</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Final Financial Reports</td>
<td>Determined per the PoP of each project</td>
</tr>
</tbody>
</table>
c. The recipient shall make distribution of all Performance and Financial Reports as follows:

<table>
<thead>
<tr>
<th>Addressee</th>
<th>Address</th>
<th>Reports</th>
<th>Original Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants Officer</td>
<td>Washington Headquarters Services, Acquisition Directorate</td>
<td>Performance Reports,</td>
<td>1 Copy</td>
</tr>
<tr>
<td></td>
<td>ATTN: Mr. Benjamin Bryant</td>
<td>Interim Report, Final Report</td>
<td>1 Copy</td>
</tr>
<tr>
<td></td>
<td>1225 S Clark Street, Suite 901</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arlington VA, 22202</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Grants Officer</td>
<td>ONR Chicago Regional Office</td>
<td>Performance Reports,</td>
<td>Original</td>
</tr>
<tr>
<td></td>
<td>ATTN: Ms. Dildree Ivery</td>
<td>Interim Report, Final Report</td>
<td>Original</td>
</tr>
<tr>
<td></td>
<td>Federal Building Rm 208</td>
<td>Financial Reports, SF 425</td>
<td>Original</td>
</tr>
<tr>
<td></td>
<td>536 S Clark Street</td>
<td>Financial Reports, SF 270</td>
<td>Original and</td>
</tr>
<tr>
<td></td>
<td>Chicago, IL 60605-1588</td>
<td></td>
<td>2 Copies</td>
</tr>
<tr>
<td>Government Program Officer</td>
<td>L&amp;MR MP&amp;P</td>
<td>Performance Reports,</td>
<td>1 Copy</td>
</tr>
<tr>
<td></td>
<td>ATTN: Mr. Greg Kilchenstein</td>
<td>Interim Reports, Final Report</td>
<td>1 Copy</td>
</tr>
<tr>
<td></td>
<td>3500 Defense Pentagon, Rm 5A712A</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Washington, DC 20301-3500</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

11. Equipment and Supplies: Title to equipment and supplies purchased by the Recipient with Cooperative Agreement funds, shall vest in the Recipient in accordance with the provisions of 32 CFR 32.34 (equipment) and 32 CFR 32.35 (supplies).

12. Site Visit: The Grants Officer, or authorized representative, has the right to make site visits to any project on the Cooperative Agreement to review the work on the project and to provide technical assistance as needed.

13. Pre-award Costs: The recipient is authorized pre-award costs for each potential project. Pre-award costs are equal to 5% of the potential amount of the project, and are accrued at the risk of the recipient. Pre-award costs for projects that are not selected will not be paid.

14. Title to Property: Title to equipment and supplies purchased by the Recipient with Cooperative Agreement funds, shall vest in the Recipient in accordance with the provisions of 32 CFR 32.

15. Government and Recipient Representatives:

<table>
<thead>
<tr>
<th>NAME</th>
<th>TITLE</th>
<th>OFFICE &amp; E-MAIL</th>
<th>TELEPHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Benjamin Bryant</td>
<td>Grants Officer</td>
<td>WHS/AD <a href="mailto:benjamin.l.bryant13.civ@mail.mil">benjamin.l.bryant13.civ@mail.mil</a></td>
<td>(703) 545-1227</td>
</tr>
</tbody>
</table>
SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0012 is added as follows:

\[(b)(4)\]
Page 42

Withheld in Full

Under Exemption (b)(4)
<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>SUPPLIES/SERVICES</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>UNIT PRICE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0015</td>
<td></td>
<td>1</td>
<td>Lot</td>
<td>$4,700,000.00</td>
<td>$4,700,000.00</td>
</tr>
</tbody>
</table>

Project 15
FFP
Development of Operational Transition Procedures and Sustainment Analysis for
Global Logistics Integration System Supply and Maintenance Functions Phase II

NET AMT
$4,700,000.00

ACRN AT

(b)(4)
## SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for CLIN 0012:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Government</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for CLIN 0013:

<table>
<thead>
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<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Government</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for SUBCLIN 001301:

<table>
<thead>
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<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Government</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for SUBCLIN 001302:

<table>
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<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Government</td>
</tr>
<tr>
<td>Schedule Added For</td>
<td>Inspect At</td>
<td>Inspect By</td>
<td>Accept At</td>
</tr>
<tr>
<td>-------------------</td>
<td>------------</td>
<td>------------</td>
<td>-----------</td>
</tr>
<tr>
<td>CLIN 0014</td>
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<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>SUBCLIN 001401</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>SUBCLIN 001402</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CLIN 0015</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CLIN 0016</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CLIN 0017</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>CLIN 0018</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>SUBCLIN 001801</td>
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</tr>
<tr>
<td>SUBCLIN 001802</td>
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SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

(b)(4)
CLIN 0015:
Funding on CLIN 0015 is initiated as follows:

ACRN: AT
CIN: M0008815MPPC3010015
Acctng Data: 1751106 1A2A 251 95490 067443 2D M00088 0881 5MPPC301 067443
Increase: $4,700,000.00
Total: $4,700,000.00
SECTION 1 - LIST OF DOCUMENTS, EXHIBITS AND OTHER ATTACHMENTS
Pages 52 - 61

Withheld in Full

Under Exemption (b)(4)
According to the Project Management Institute (PMI), nearly 70 percent of all Enterprise Resources Planning (ERP) deployment projects fail, are late or go over-budget. Panorama Consulting, in its “2010 ERP Report,” found that 57 percent of such projects take longer than planned; 54 percent go over-budget; and 41 percent fail to realize at least half the expected business benefits. This goes to the core of industry credibility and facilitates accurate resource investments in the future.

Developing an enterprise-level, information-driven logistics program that provides the right logistics data at the right time, at the right place is an ongoing challenge for industry. In the complexity of the supply chain, the need to minimize manufacturing and maintenance costs is of paramount concern and necessary to maintain competitiveness. This capability is essential in order to minimize disruptions to the production schedule that could ultimately customers. Lessons learned and efficiencies gained from this initiative can be directly related to production efforts resulting in more effective and efficient deliverables through improved forecasting and planning capabilities, adaptive learning techniques, and efficient allocation and utilization of resources.

Phase I in FY15 focused on continued stabilization of GLIS to include training, software functional enhancement, baselining configuration, assessing system performance and to further examine best business practices for system enhancement, portfolio solutions and guiding industry on future efforts.

Based upon lessons learned as a result of our GLIS analysis it was determined that improved training and integration techniques are needed to ensure successful ERP implementation in a global logistics enterprise. This conclusion aligns with best-in-class ERP solution providers experience and actions taken and recommended courses of action will greatly benefit industry as well as the USMC.
Improved training and integration techniques were developed during GLIS Phase I and these efforts demonstrated decreased instruction and familiarization time and resulted in more effective users within the system. These processes and system immersion resulted in best business practices that industry will leverage and can be applied to any new ERP implementation efforts. The reduced expenditures in both time and money resulting from these efforts show a marked decrease in training costs as compared to previous ERP system implementation efforts.

Through needs based assessment a training program was developed that was constantly evolving and adapting to the system and the needs of the users. This allowed the training to be more effective and timely resulting in decreased training time and the elimination of redundant or outdated materials. Developing a standard training approach and materials that are readily available and understood by all end users resulted in a model desk top and user reference system that can be readily adapted by industry. Through the standardization approach for each sector identifying key areas, processes and procedures the training package was developed and implemented through a readily repeatable process that enforces learning and retention providing users the base upon which to develop increased levels of expertise.

Because of the dynamic nature of business information technology and the speed at which process updates resulting from software revisions must be integrated, GLIS Phase II will focus on developing processes and procedures that significantly limit the impact of major software upgrades by ensuring limited impact to Operations and Training through stabilization of the version upgrade. Capability gaps will be validated and where applicable system modifications mapped and developed as required. Continued training, maintenance and development of the ERP as described below.

In alignment with best-in-class industry leaders, the USMC has made Logistics Modernization a top priority. The priorities are to “Further develop 21st Century Logistics capabilities” and “Revitalize and integrate Logistics Training, Education and Doctrine.” This strategy and its execution in support of the ERP effort is the foundation of this CTMA concept paper.

GCSS-MC is one of the more successful software implementations and the foundation of the Service Logistics Systems Portfolio. From development and design, to implementation and now refinement, GCSS-MC and its global implementation continue to serve as a model for all ERPs.

Problem/Perceived Solutions

While generally accepted as an effective logistics management system, the actual implementation of the ERP has created several challenges for the end users. These include:

* A thorough understanding of the new ERP system is significantly lacking across the user base. This lack of a fully implemented integrated supply chain creates an obstacle toward full asset visibility, accountability, and proper utilization of the system resulting in a hampered and slower logistics chain.
* Addressing the training shortfalls and lack of understanding of a new GLIS remain a prime component needed for successful implementation of any ERP.
* The specific requirement of training a robust workforce along with implementing a completely new approach to maintenance and logistics processes while not degrading operations.
* The linkage of logistics operations, material, equipment, and personnel across the broad spectrum of locations and activities.
* Linking supply and maintenance functions in a congruous manner for effective resource utilization.
* Records tracking of maintenance activities have been insufficient underwriting poor life cycle management of equipment resulting in a degraded ability for industry to forecast and manufacture equipment and material.

Some of the corrective actions falls in policy, procedure and process codification and a viable change management plan coupled with sustainment and continued implementation. Rectifying the problems that hamper the end users experience will include decreasing system response time, increasing efficiency of operations, and accuracy of record keeping. A multi-faceted collaborative approach executed simultaneously across the spectrum of operations to reduce training time requirements and increase user understanding through real time system utilization will be incorporated in this effort.

Several action items will be pursued to address the problem. Continued and enhanced education and training is expected to be the primary effort that underwrites improved system performance and future quality rollouts. Coupled with this are the other actions that need to take place including: Capture of system deficiencies and building of solutions and modifications, reports and analysis of best business practices, preparation for and evaluation and refinement of ERP upgrade rollouts as well as additional increments to include deployable solutions.

Industry, as well as the military need to further refine key aspects of logistics tools to guide and improve critical decisions assuring effective asset and inventory management. Since GCSS-MC is considered a model for industry,
the purpose of this initiative is to focus on the challenges of GCSS-MC, now in its post implementation phase. The intent is to identify challenges, make recommendations to rectify, and to develop new policies and procedures leading to improved asset maintenance, accountability, auditability, and inventory management. Further supplemental education and training programs will be identified and developed and demonstrated to enhance the end user's expertise within GCSS-MC. By increasing asset visibility with a focus on equipment maintenance status through GCSS-MC improvements, equipment availability for the warfighter is expected to substantially improve. Improvements to GCSS-MC are expected to benefit the commercial industry as a model for systems and portfolio modernization. Additionally, the end user of GCSS-MC and the larger logistics community will have an improved capability within and overall understanding of the system.

The goal is to address the execution and management of timely supply and maintenance activities, and increase the efficient allocation of maintenance resources (people, processes, and technologies) necessary to increase the overall equipment readiness posture of the Marine Corps, thus, demonstrating logistics tools like GCSS-MC do increase logistics support capability whether used for commercial or military applications.

Objective

The objective of this project is to explore and develop improved implementation actions, processes and procedures in order to increase the accuracy, auditability, efficiency and effectiveness of the supply chain and maintenance functions through knowledge management and general logistical and technical analysis, solution development, and implementation. These efforts are expected to result in the identification and correction of deficiencies in Material Management, Equipment Accountability/Visibility, Distribution Visibility, Fiduciary Accountability and Auditability, User Functionality, and Material Readiness. Special areas of focus will be on reporting and financial compliance activities, accuracy of records and ability to forecast and project maintenance and supply capabilities, material inventories and utilization of personnel and assets. This effort will improve system performance and enhance the user experience within the system. Underwriting the specific objectives of this work are:

- Providing global asset visibility
- Developing a near-real time, multi-dimensional view of logistics allowing for more effective and efficient decision making and allocation of resources.
- Operational flexibility, reducing logistics constraints.
- Seamless, freely-flowing pipeline of material allowing a streamlined approach to material distribution and reducing if not eliminating redundancies in requisitions.

Specifically, by enabling the above actions, the below objective outcomes can be achieved:

- Improved asset visibility and readiness data.
- Improved equipment and materiel accountability.
- Improved equipment readiness and more efficient equipment utilization.
- Improved maintenance execution and tracking.
- Improved user experience and functionality within the system.
- Improved system and user capabilities.
- Improved approach to training materials and presentations
- Improved system performance.
- Increased accuracy and auditability of fiduciary records.
- Improved resource management.

Scope/Approach to Solution

GCSS-MC has become the gateway to break the “business as usual” methodology and practice. Similar to industry having to deal with their competitiveness issues, the Marine Corps faces Force Structure restructuring and a global
repositioning, all at reduced funding. This mandates full accountability and visibility of assets and equipment from their depots to the tactical edge of operations.

The project team will work to identify enhancements to existing systems that can meet near and long term logistical requirements. This effort will help to shape decisions that the Marine Corps must make regarding long term investments within the Combat Development System (CDS) to ensure that the right logistical force capabilities and systems are properly identified, coordinated, and acquired through the POM/budget/acquisition process to address evolving current and future Marine Corps operational concepts. Specific analyses to be performed include:

* Analysis and assessments to L&L Operational Advisory Group (OAG) and Advocacy that underwrite the success of GCSS-MC
* Analysis of Oracle EBS R12 and GCSS-MC Oracle Compatible Mobile Applications with respect to their projected performance on the NMCI Network and as we transition to Government Owned - Government Operated Networks with Next Generation Implementation
* Analysis of USMC Enterprise Logistics Business Intelligence Capabilities

Improving Logistics Operations enables the Service to project and sustain forces in support of National Military Authority.

The team will seek to identify untapped opportunities for process improvement and/or adoption of unused or underused systems, technologies, and capabilities to improve logistics operations and provide implementation plans. The technical, logistical, and subject matter expertise provided by the team will enhance the Service's ability to accomplish these efforts. In addition they will help to identify, address and correct issues as they arise and find long term viable solutions that further improve the system and the user's experience within it.

**Deliverables**

* Research, analysis, formal system and management reports, development of evolving policy, as well as process and procedural improvements as guided by the OAG.
* Development of Procedural Notices and User Manuals (UMs).
* Construct of new and refinement of current training center course curriculum and training materials, required by the implementation of Oracle R12.
* Identification and development of metrics and key focus areas for the measurement of system achievement and deployment for use in system refinement and improvement.
* Resolution recommendations and action plans for areas of concern or risks to the ERP.
* The development and execution of a Change Management Strategy including the development and maintenance of an Enterprise Level StakeholderAnalysis.
* Lessons learned and "How To" guides for implementation of ERP program segments.
* Development of an ERP Implementation After-Action Report.
* Design, Development and implementation of a Model ERP life cycle implementation plan.

**Overall Project Costs**

Government funding for this project is $4,700,000.00, AT will provide $650,000.00 in cost share. Total project costs are $5,350,000.00

**Benefits to the Public and Industry**

As mentioned previously, this ERP is becoming the "logistics management tool" model of choice for the logistics community. Specific benefits to industry resulting from the expected ERP upgrades include:

* Ability to leverage successful software development and implementation through lessons learned and technical and procedural innovations as evidenced through the development of R12.
* As DoD shifts from the complicated and robust 'waterfall' approach of ERPs to a hybrid model that includes an 'Agile Software Development' strategy, this allows industry to target and plan future ERPs in both Public and Private sectors with an optimal model for design, development, testing, deployment and sustainment. It
increases the success of complicated software implementations for industry; especially for multi-echelon, multi-party Supply Chain Management deployments.

* Provide a testing platform for IT evolutions such as Engineered Systems that enhance Software Implementation success and may underwrite other key government objectives/goals like Data Center Consolidation.
* Capture of successful training techniques that address software life cycle management requirements. These lessons learned will be shared with industry and can be utilized in the implementation of ERPs.
* This initiative will result in more effective and timely preventive and corrective maintenance execution and reduced rebuild turnaround time for equipment with a potential savings of hours, days, and even weeks for the turnaround of assets degraded during operations or training.
* Development of processes and procedures combating “ERP shock” by providing training, liaison with users, and advocacy for the system resulting in a package that best mitigates the hazards of ERP implementation.
* Executes established strategy and solutions for Material Management and establishment of an Integrated Supply Chain underwritten by development of best in breed practices of PaaS and Agile Software Development.
* Industry is better able to satisfy DoD requirements due to well defined requirements based on careful analysis and sound data as provided by the system and improved asset accountability and reporting.
* Enhanced ability to plan, forecast and execute the manufacture and distribution of key equipment and material through the government's improved inventory accuracy.
* As DoD integrates AIT, RFID and sensor technology into their supply chain and equipment, these enhancements allow industry to leverage visibility into commercial supply chains as well as support public and private development of autonomic logistics capability.
* Allows accurate and effective investment of Research & Development toward future ERP, COTS and Portfolio efforts.

Benefits to DoD

As an ACAT-I program, there is a mandated assessment of cost and measurement of the systems benefits in the form of a Naval Cost Center Analysis report. This is the baseline to measure system key performance parameters and overall life cycle costs. This document and the related Marine Corps Operational Test and Evaluation assessments are the baselines from which to measure performance and benefit. They will be used to provide respective data in the above categories and will be reported in the CTMA quarterly and final reports. Specific benefit areas include:

* Sustainment of successful ERP implementation and capture of ideal software development model with industry Partner.
* Reduction in costs due to a more efficient maintenance pipeline.
* Increased Asset Readiness with respect to maintenance status in the maintenance pipeline.
* Increased Supply Visibility of Status and Availability of resources.
* Improved Maintenance Tracking.
* Improved Supply and Asset Tracking/AccOUNTABILITY.
* Improved efficiency and effectiveness of users within the system.
* Significant decreased lifecycle cost of equipment through a reduction in man hours for management of assets and the more effective execution of preventative measures as identified and alerted by the system.
* Alignment of procurement costs against prioritization of required shortfalls to develop an optimization solution to influence future resourcing of material and equipment.
* The policies, processes and procedures addressed in this initiative will better prepare the Marine Corps to return to its expeditionary role, providing an improved operational readiness for the expeditionary warrior.
* Supports attainment of 'Public Clean' Audit as congressionally mandated.
* The Marine Corps learns from industry using best practices to better account for its equipment based on operational user observations and suggestions with an emphasis on understanding total ownership costs.
* This effort will provide the USMC and potentially all US services with a solution and ability to pool supply chain information including maintenance and readiness data. The result will help reduce redundancy and streamline logistical support functions while generating data that will be used to further improve system readiness and reduce cost for all participating services. These integration and efficiency improvements can be further utilized and adapted to commercial industry.

Government Project Participants
The period of performance for this CTMA initiative is expected to be 18 months from award on the CTMA Cooperative Agreement. All government funding will be expended within 12 months, final report will be issued within 18 months.

Security Requirements

This initiative will require some work at the SECRET level. Some team members on this initiative will require access to classified SECRET material. Those team members who work in classified work spaces must meet minimum access standards for access to classified national security material at the SECRET level. Team members may be required to have access to classified systems, such as SIPRNet, in order to access various classified operational plans and communication architectures as necessary to perform the tasks of the initiative. Physical access to classified processing areas at the SECRET level is required. At a minimum, an interim SECRET access granted by DISCO/DSS or other CAF is minimally required before being granted access to work in a SECRET processing facility. A Visit Authorization Request (VAR) must be sent by the corporate Facility Security Officer (FSO) to the DC I&L SMO Code 540080084 that expires in conjunction with the current option period end date prior to the start date of the team member who wishes to in process. All documentation (i.e. DD 254) required for security certification will be the responsibility of the team and the client organization.

CTMA Program Activities

In addition to its financial and programmatic management of this project, NCMS will perform technology transition efforts to disseminate the results of this initiative as appropriate across the full spectrum of DoD and most importantly to commercial sustainment activities, from field to depot maintenance and logistics. These activities are important as they allow NCMS to build strong relationships with our commercial and government partners to provide a thorough understanding of the supply and maintenance needs of the industry. This effort will also provide solutions, policies and procedures for the successful implementation of an ERP. Examples include project announcements through NCMS, CTMA and JTEG websites in order to attract and identify best project partners closely connected to a technology solution. NCMS also uses CTMA Connector as an effective method to communicate a call for technologies, forming projects and technology spotlights. Based upon the discoveries from this CTMA project, the project team will work with the Marine Corps through the OAG to address the key deficiencies in the Material Management, Equipment Accountability/Visibility, and Material Readiness and publish the results of this CTMA project. Additionally, an unclassified report of project results will be available for industry partners to share.
Pages 68 - 95

Withheld in Full

Under Exemption (b)(4)
MILITARY INTERDEPARTMENTAL PURCHASE REQUEST

1. PAGE 1 OF 2 PAGES

7. TO:

DOD WIS
1550 CRYSTAL DR STE 1200
ARLINGTON, Virginia 22202-4106 US

8. FROM:

MC/COM-G-8
3000 Marine Corps Pentagon
WASHINGTON, District of Columbia 20320-3000 US

2. FSC

3. CONTROL SYMBOL NO.

4. DATE PREPARED

28-Jul-15

5. MIPR NUMBER

M0008815MPPC301

6. AMEND NO.

Basic

9. ITEMS ☐ ARE ☒ NOT INCLUDED IN THE INTERSERVICE SUPPLY SUPPORT PROGRAM AND REQUIRED INTERSERVICE SCREENING ☐ HAS ☒ HAS NOT BEEN ACCOMPLISHED.

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In accordance with Treasury Financial Manual Volume I, Part 2, Chapter 4700, Appendix 10, and in support of the Department of the Navy audit readiness requirements, by accepting this reimbursable funding action, the performing agency agrees to deliver, upon request, detailed documentation supporting amounts billed and actual performance of work.

In accordance with OPM guidelines governing trading partner number (TPN) requirements for intra-governmental agreements, we must have the accepting activity's (sellers) line of accounting through the limits/subhead and TPN in order to obligate funds. Please include this data in remarks field on DD Form 448-2. Buyer TPN data is provided below.

10. SEE ATTACHED PAGES FOR DELIVERY SCHEDULES, PRESERVATION AND PACKAGING INSTRUCTIONS, SHIPPING INSTRUCTIONS AND INSTRUCTIONS FOR DISTRIBUTION OF CONTRACTS AND RELATED DOCUMENTS.

11. GRAND TOTAL

$4,700,000.00

12. TRANSPORTATION ALLOTMENT (Used if FOB Contractor's plant)

13. MAIL INVOICES TO (Payment will be made by)

DFAS Columbus
PO Box 389022
Columbus, Ohio 43236-9022 US

PAY OFFICE DODAAD

M67443

14. FUNDS FOR PROCUREMENT ARE PROPERLY CHARGEABLE TO THE ALLOTMENTS SET FORTH BELOW, THE AVAILABLE BALANCES OF WHICH ARE SUFFICIENT TO COVER THE ESTIMATED TOTAL PRICE.

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SDN M0008815MPPC301

15. AUTHORIZING OFFICER (Type name and title)

(b)(6)

16. SIGNATURE (b)(6)

17. DATE

28-Jul-15

DD Form 448, JUN 72

PREVIOUS EDITION IS OBSOLETE.
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BUYER TPN: DODM60088
BUYER APN/SUB: 17 5 1106 1A2A
BUYER ALC: 0008102

SELLER TPN: REQUIRED
SELLER APN/SUB: REQUIRED
SELLER ALC: REQUIRED

MILITARY INTERDEPARTMENTAL PURCHASE REQUEST (CONTINUATION SHEET)
**ACCEPTANCE OF MIPR**

1. **TO** (Requiring Activity Address) [Include Zip Code]
   - MCI/COM/G-R
   - 5000 Marine Corps Pentagon
   - Washington, District of Columbia 20380-3000 US

2. **MIPR NUMBER**
   - M0008815MPC301

3. **AMENDMENT NO.**
   - BASIC

4. **DATE (MIPR Signature Date)**
   - 20150728

5. **AMOUNT (As Listed on the MIPR)**
   - $4,700,000.00

6. The MIPR identified above is accepted and the items requested will be provided as follows: (Check as Applicable)
   - a. ☐ ALL ITEMS WILL BE PROVIDED THROUGH REIMBURSEMENT (Category I)
   - b. ☒ ALL ITEMS WILL BE PROCURED BY THE DIRECT CITATION OF FUNDS (Category II)
   - c. ☐ ITEMS WILL BE PROVIDED BY BOTH CATEGORY I AND CATEGORY II AS INDICATED BELOW
   - d. ☐ THIS ACCEPTANCE, FOR CATEGORY I ITEMS, IS QUALIFIED BECAUSE OF ANTICIPATED CONTINGENCIES AS TO FINAL PRICE. CHANGES IN THIS ACCEPTANCE FIGURE WILL BE FURNISHED PERIODICALLY UPON DETERMINATION OF DEFINITIZED PRICES, BUT PRIOR TO SUBMISSION OF BILLINGS.

7. ☐ MIPR ITEM NUMBER(S) IDENTIFIED IN BLOCK 13, "REMARKS" IS NOT ACCEPTED (IS REJECTED) FOR THE REASONS INDICATED.

8. **TO BE PROVIDED THROUGH REIMBURSEMENT CATEGORY I**
   - ITEM NO. QUANTITY ESTIMATED PRICE
   - a. ☐
   - b. ☐
   - c. ☐

9. **TO BE PROCURED BY DIRECT CITATION OF FUNDS CATEGORY II**
   - ITEM NO. QUANTITY ESTIMATED PRICE
   - a. ☐
   - b. ☐
   - c. ☐

10. **TOTAL ESTIMATED PRICE**
    - $0.00

11. **GRAND TOTAL ESTIMATED PRICE OF ALL ITEMS**
    - $4,700,000.00

12. **FUNDS DATA** (Check if Applicable)
    - a. ☐ ADDITIONAL FUNDS IN THE AMOUNT OF $ ARE REQUIRED (See justification in Block 13)
    - b. ☐ FUNDS IN THE AMOUNT OF $ ARE NOT REQUIRED AND MAY BE WITHDRAWN

13. **REMARKS**
    - REQ#: HQ0034-5210-0001-000
    - LOA: 1751106 1A2A 251 95490 067443 2D M00088 08815MPC301 067443
    - WHS/AD POC: Courtney Holbrook, 703-545-0699, Courtney.l.holbrook.civ@mail.mil

14. **ACCEPTING ACTIVITY** (Complete Address)
    - WHS/FMDR/Resource Management Branch
    - 1155 Defense Pentagon
    - Washington, DC 20301-1155
    - Email: whs.pentagon.fmd.mbx.direct-cite-mipr@mail.mil

15. **TYPED NAME AND TITLE OF AUTHORIZED OFFICIAL**

17. **DATE**
    - 07/29/2015

DD FORM 448-2, JUL 71  
PREVIOUS EDITION WILL BE USED UNTIL EXHAUSTED.
**AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT**

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<th>3. EFFECTIVE DATE</th>
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**6. ISSUED BY**

CODE: OLW56

**7. ADMINISTERED BY**

CODE: HQ0034

**8. NAME AND ADDRESS OF CONTRACTOR**

(National Center for Manufacturing Science)

505 BOARDWALK ST STE 250

ANN ARBOR MI 48105-3293

**9A. AMENDMENT OF SOLICITATION NO.**

9B. DATED (SEE ITEM 11)

10A. MOD. OF CONTRACT/ORDER NO.

HQ0034-15-2-0007

10B. DATED (SEE ITEM 13)

12-Mar-2015

**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 offer is extended. (
- is not extended.

- Determine acknowledgment receipt of this amendment prior to the hour and date specified in the solicitation or as amended by one of the following methods:
  - By completing item 8 and returning copies of the amendment,
  - By acknowledging receipt of this amendment on each copy of the offer submitted.
  - By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THIS PLACE DESIGNATED FOR THIS RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. By virtue of this amendment you desire to change an offer already submitted, such change may be made by telegram letter provided each telegram 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 Schedule**

**13. THIS ITEM ONLY APPLIES TO MODIFICATIONS OF CONTRACTS/ORDERS**

**IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

**A. THIS CHANGE ORDER IS ISSUED PURSUANT TO:** (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.

**B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14. PURSUANT TO THE AUTHORITY OF FAR 43.103(B).**

**C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:**

Mutual Agreement by Both Parties

**D. OTHER (Specify type of modification and authority)**

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

**14. DESCRIPTION OF AMENDMENT/MODIFICATION** (Organized by UCP section headings, including solicitation/contract subject matter where feasible)

**Modification Control Number:** 20161718

The purpose of this modification is to accomplish the following:

1) Add Project 32 and fully fund at $2,700,000.00

**15A. NAME AND TITLE OF SIGNER (Type or print)**

**16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)**

**15B. CONTRACTOR/OFFEROR**

**16B. UNITED STATES OF AMERICA**

**15C. DATE SIGNED**

**16C. DATE SIGNED**

**EXCEPTION TO SF 30**

APPROVED BY ORRM 11-84

30-105-01

STANDARD FORM 30 (Rev. 10-83)

Prescribed by GSA

PAR (48 CFR) 53.243

**17-Jun-2016**
AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT

2. AMENDMENT/MODIFICATION NO.  
3. EFFECTIVE DATE  
   22-Jun-2016  
4. REQUISITION/_PURCHASE REQ. NO.  
5. PROJECT NO. (If applicable)  

6. ISSUED BY CODE  
   VA· ACQUISITION DIRECTORATE  
   1225 S. CLARK STREET, SUITE 1102  
   ARLINGTON VA 22202-4371  

7. ADMINISTERED BY CODE  
   (Other than item 6)  
   VA· ACQUISITION DIRECTORATE  
   1225 S. CLARK STREET, SUITE 1102  
   ARLINGTON VA 22202-4371  

8. NAME AND ADDRESS OF CONTRACTOR (No., Street, County, State and Zip Code)  
   NATIONAL CENTER FOR MANUFACTURING SCIENCE  
   5505 BOARDWALK ST STE 150  
   ANN ARBOR MI 48108-3266  

CODEx 01-0066  

9. AMENDMENT OF SOLICITATION NO.  

9A. DATED (See Item 11)  

9B. MOD. OF CONTRACT/ORDER NO.  
   HQ0034-15-2-0007  

9C. DATED (See Item 13)  
   12-Mar-2015  

10A. MOD. OF CONTRACT/ORDER NO.  
   HQ0034-15-2-0007  

10B. DATED (See Item 13)  
   12-Mar-2015  

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 Offer  
☐ is extended,  
☐ is not extended.  

Offer 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 13, and returning copies 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 ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If 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 Schedule  

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

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.  

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).  

X C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF: 
   Mutual Agreement by Both Parties  
   OTHER (Specify type of modification and authority)  

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)  
   Modification Control Number: holbro02161718  
   The purpose of this modification is to accomplish the following:  

1) Add 32 and fully fund at $2,700,000.00  

EXCEPTION TO SF430  
APPROVED BY 0IRM 11-84  

STANDARD FORM 30 (Rev. 10-83)  
Prescribed by GSA  
FAR (48 CFR) 33.243
The total cost of this contract was increased by \((b)(4)\).

The following have been modified:

**COOPERATIVE AGREEMENT AWARD**

Cooperative Agreement Award

Agreement No: HQ0034-15-2-0007  
Effective Date: March 12th, 2015

1. Authority: 10 USC 2358, Research and Development Projects

2. Total Agreement Ceiling: $100,000,000.00


4. Brief Synopsis of the Scope of the CA: To develop and manage research and development, projects for maintenance and sustainment for the Department of Defense.

5. Period of Performance: March 12th, 2015 - March 11th, 2020

6. Electronic Funds Transfer: Pursuant to 32 CFR 22.810(b)(2), Electronic Funds Transfer (EFT) shall be used to make payments under this award.

7. Parties: This Cooperative Agreement is entered into between the United States of America, represented by the Washington Headquarters Services Acquisition Directorate (hereafter called the Government), and the National Center for Manufacturing Sciences, Inc. (NCMS) pursuant to and under US Federal law.

Execution of the Cooperative Agreement

**For the Recipient**
National Center for Manufacturing Sciences, Inc.  
3025 Boardwalk St, Suite 250  
Ann Arbor, MI 48108-3266

**For the United States of America**
Washington Headquarters Services Acquisition Directorate  
1155 Defense Pentagon  
Washington, DC 20301-1155

(Signature)  
(Signature)
Cooperative Agreement Schedule

1. Terms and Conditions: By signing (acceptance) of this Cooperative Agreement, the Recipient certifies that it will perform all activities and projects as set forth in its Application for Federal Assistance, and comply with the terms and condition of this Cooperative Agreement.

2. Cooperative Agreement Term: This Cooperative Agreement shall run for a period of five years, from March 12th, 2015 to March 11th, 2020, subject to the availability of funds to sustain this program.

3. Order of Precedence: Inconsistencies or conflicts in the terms and conditions of this Cooperative Agreement shall be resolved according to the following order of precedence:
   a. 10 USC 2358
   b. 2 CFR Part 200 - Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards
   c. DoD 3210.6-R
   d. The Cooperative Agreement
   e. NCMS Commercial Technologies for Maintenance Activities (CTMA) Proposal dated December 2014
   f. The Recipient’s Application for Federal Assistance (SF 424), Budget Information (SF 424), and Budget Narrative are incorporated herein by reference with the same force and effect as if set forth in full text

4. Audit: The Comptroller General and the Inspector General of the Department of Defense shall have direct access to sufficient records and information of the Recipient, as they determine, to ensure accountability for Federal Funds.

5. Funding Limitations and Accounting and Appropriation Data: There is no Government minimum funding obligation for this Cooperative Agreement. The ceiling for the total lifecycle of the Cooperative Agreement is $100,000,000.00. Nothing in this Cooperative Agreement will be interpreted to require obligations or payments by the Federal Government in violation of the Anti-Deficiency Act (31 USC 1341).

6. Advance Payment: Upon acceptance of the terms and conditions of this Cooperative Agreement, and the submission of a Request for Advance or Reimbursement (SF 270) in an original and one copy to the Administrative Grants Officer (AGO), the Recipient shall be entitled to quarterly payments the first of which may be submitted as early as fifteen days after award. Initial payment is expected to cover work performed during the first three months of the Base Funding Period. Subsequent requests for advanced
payment shall be in the SF 270 submission or additional information provided by the Recipient, per 32 CFR 32.22 and 32 CFR 32.52.

7. Budgets: The total amount of the Government's share each project on the Cooperative Agreement, as approved by the Government, will be the maximum amount for which the Government is obligated to pay to the Recipient for costs incurred under the Cooperative Agreement. The Government’s share (maximum funding obligation) and the Recipient’s share is as follows:

<table>
<thead>
<tr>
<th>Project #</th>
<th>DATES</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>(b)(4)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Schedules

a. Original requests for payment shall be submitted to the Administrative Grants Officer via the Wide Area Workflow. The AGO may adjust payment amounts based on the date contained in the SF 270 submissions or additional information provided by the Recipient. Reference is made to 32 CFR 34.10, 32 CFR 34.11, 32 CFR 34.12 and 32 CFR 34.41.

b. Invoicing instructions are included as a separate clause. All invoices shall be submitted through Wide Area Workflow (WAWF).
c. System of Award Management (SAM) information for Electronic Funds Transfer (EFT) is incorporated as follows:

<table>
<thead>
<tr>
<th>DUNS Number</th>
<th>TIN/EIN</th>
<th>Cage Code</th>
</tr>
</thead>
<tbody>
<tr>
<td>180035768</td>
<td>38-2761126</td>
<td>OLW56</td>
</tr>
</tbody>
</table>

9. Payment Office: The Defense Finance and Accounting Service (DFAS) Office responsible for making payments under this Cooperative Agreement is DFAS Indianapolis (HQ0347).

10. Deliverables/Schedule: Written reports shall display the type of report, the period covered by the report, the name and address of the Recipient, and the Cooperative Agreement Number. Performance reports are as follows:

a. Interim and Final Performance Reports: This report shall keep the Government Program Officer informed of the effort set forth in the Recipient’s “Budget Narrative.”

b. Financial Reports/Schedule: Reports shall be prepared in accordance with OMB Circular A-110 and are required in accordance with the following schedule. The Recipient will report program outlays and program income on an accrual basis. If the Recipient’s accounting records are not normally kept on an accrual basis, the Recipient shall develop such accrual information through an analysis of the documentation on hand.

<table>
<thead>
<tr>
<th>Report</th>
<th>Due Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interim Performance Report</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Final Performance Report</td>
<td>Determined per the PoP of each project</td>
</tr>
<tr>
<td>Financial Report</td>
<td>Quarterly</td>
</tr>
<tr>
<td>Final Financial Reports</td>
<td>Determined per the PoP of each project</td>
</tr>
</tbody>
</table>

c. The recipient shall make distribution of all Performance and Financial Reports as follows:

<table>
<thead>
<tr>
<th>Addressee</th>
<th>Address</th>
<th>Reports</th>
<th>Original Copies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants Officer</td>
<td>Washington Headquarters Services, Acquisition Directorate</td>
<td>Performance Reports</td>
<td>1 Copy</td>
</tr>
<tr>
<td></td>
<td>ATTN: Mr. Benjamin Bryant</td>
<td>Interim Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>1225 S Clark Street, Suite 901</td>
<td>Final Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Arlington VA, 22202</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrative Grants Officer</td>
<td>ONR Chicago Regional Office</td>
<td>Performance Reports</td>
<td>Original</td>
</tr>
<tr>
<td></td>
<td>ATTN: Ms. Dildree Ivery</td>
<td>Interim Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Federal Building Rm 208</td>
<td>Final Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>536 S Clark Street</td>
<td>Financial Reports</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Chicago, IL 60605-1588</td>
<td>SF 425</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Payments</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>SF 270</td>
<td></td>
</tr>
<tr>
<td>Government Program Officer</td>
<td>L&amp;MR MP&amp;P</td>
<td>Performance Reports</td>
<td>1 Copy</td>
</tr>
<tr>
<td></td>
<td>ATTN: Mr. Greg Kilchenstein</td>
<td>Interim Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3500 Defense Pentagon, Rm 5A712A</td>
<td>Final Report</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Washington, DC 20301-3500</td>
<td></td>
<td>2 Copies</td>
</tr>
</tbody>
</table>
11. Equipment and Supplies: Title to equipment and supplies purchased by the Recipient with Cooperative Agreement funds, shall vest in the Recipient in accordance with the provisions of 32 CFR 32.34 (equipment) and 32 CFR 32.35 (supplies).

12. Site Visit: The Grants Officer, or authorized representative, has the right to make site visits to any project on the Cooperative Agreement to review the work on the project and to provide technical assistance as needed.

13. Pre-award Costs: The recipient is authorized pre-award costs for each potential project. Pre-award costs are equal to 5% of the potential amount of the project, and are accrued at the risk of the recipient. Pre-award costs for projects that are not selected will not be paid.

14. Title to Property: Title to equipment and supplies purchased by the Recipient with Cooperative Agreement funds, shall vest in the Recipient in accordance with the provisions of 32 CFR 32.

15. Government and Recipient Representatives:

<table>
<thead>
<tr>
<th>NAME</th>
<th>TITLE</th>
<th>OFFICE &amp; E-MAIL</th>
<th>TELEPHONE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mr. Benjamin Bryant</td>
<td>Grants Officer</td>
<td>WHS/AD</td>
<td>(703) 545-1227</td>
</tr>
<tr>
<td>Ms. Dildree Ivery</td>
<td>Administrative Grants Officer</td>
<td>ONR Chicago Regional Office</td>
<td>(312) 886-2167</td>
</tr>
<tr>
<td>Mr. Greg Kilchenstein</td>
<td>Program Officer</td>
<td>OSD/ L&amp;MR/MP&amp;P</td>
<td>(703) 614-0862</td>
</tr>
<tr>
<td>Ms. Beth Bolog</td>
<td>Director, Contracts</td>
<td>NCMS</td>
<td>(734) 995-7962</td>
</tr>
</tbody>
</table>

SECTION B - SUPPLIES OR SERVICES AND PRICES

CLIN 0032 is added as follows:
<table>
<thead>
<tr>
<th>ITEM NO</th>
<th>SUPPLIES/SERVICES</th>
<th>QUANTITY</th>
<th>UNIT</th>
<th>UNIT PRICE</th>
<th>AMOUNT</th>
</tr>
</thead>
<tbody>
<tr>
<td>0032</td>
<td></td>
<td>1</td>
<td>Lot</td>
<td>$2,700,000.00</td>
<td>$2,700,000.00</td>
</tr>
</tbody>
</table>

**Project 32**  
**FFP**  
**AirForce Item Master Log**

---

**ACRN BP**  
**$2,700,000.00**
Pages 108 - 109

Withheld in Full

Under Exemption (b)(4)
### SECTION E - INSPECTION AND ACCEPTANCE

The following Acceptance/Inspection Schedule was added for CLIN 0032:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>Government</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for CLIN 0033:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for CLIN 0034:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for CLIN 0035:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
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</tbody>
</table>

The following Acceptance/Inspection Schedule was added for CLIN 0036:
The following Acceptance/Inspection Schedule was added for CLIN 0037:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
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<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for CLIN 0038:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
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<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for CLIN 0039:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for SUBCLIN 003901:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for SUBCLIN 003902:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

The following Acceptance/Inspection Schedule was added for CLIN 0040:

<table>
<thead>
<tr>
<th>INSPECT AT</th>
<th>INSPECT BY</th>
<th>ACCEPT AT</th>
<th>ACCEPT BY</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

SECTION G - CONTRACT ADMINISTRATION DATA

Accounting and Appropriation

Summary for the Payment Office

(b)(4)

CLIN 0032:
Funding on CLIN 0032 is initiated as follows:

ACRN: BP

CIN: F2XTTQ6120G0010032

Acctng Data: 5763600 296 47MA 675207 4G21N5 50672 78610F 667100 F67100 FSR:021179 PSR:Q30134 DSR:226795 CIN:F2XTTQ6120G001

Increase: $2,700,000.00
Total: $2,700,000.00
Background
Design for standardization, cataloging and effectively identifying parts for distribution while being able to quickly isolate defective parts is an issue that has plagued industry for decades and continues today, as businesses across the country consistently seek out mitigation and look for solutions to their IT shortfalls. Keeping up with production demands is essential for suppliers, manufacturers and sustainers; however, safety still remains the upmost importance to overall operations and is crucial to a company’s reputation and profit margin. Fulfilling customer expectations is generally the first rule of business today but, companies that fail to adequately recognize substandard practices, systems and defective materials will cost lives. Company profits will also suffer a substantial negative impact, as evident by the recent errors (e.g. lack of traceability) committed by a large corporation responsible for manufacturing and distribution of vehicle airbags. Had this corporation been able to properly track the defective components at an enterprise-level, many of the catastrophic events could have been avoided.

The US Air Force is also researching ways to improve its cataloging operations which are conducted within the framework of the Federal Catalog Program (FCP). Under this program, the Air Force (AF), together with the other military services and civilian agencies of the United States (US) Government, are required to maintain and use a single uniform Federal cataloging system. For the DoD, the Defense Logistics Agency (DLA) is the administrator of the FCP and ensures required participation. The Defense Logistics Information Service (DLIS) is the central operating point for the FCP. DLIS is responsible for releasing FCP publications and for the processing of item identifications with the related management data. This includes assignment of all National Stock Numbers (NSNs) and maintenance of a complete central cataloging file. This file is part of the Federal Logistics Information System (FLIS) database, which is the computerized Federal Catalog System (FCS), and includes vital part item identification, supplier and manufacturer information on items repetitively procured by the Federal Government. The AF interface to FLIS is the Item Management Control System (IMCS).

The intent of this initiative is to use the US Air Force logistics system as a surrogate to industry to demonstrate how improvements to their logistics system could benefit commercial industry with its worldwide distribution networks. For example, Gartner surveyed global Supply Chain Executives in 2014, finding that half were undertaking a supply chain redesign. Major drivers for this action: 1) onboarding new logistics providers, 2) integrating new sources of supply, and 3) new inventory locations and policies. Priorities include a) better direct manufacturing costs, b) agility — speed and capacity to respond, and c) risk of supply disruption and/or resiliency. And, one of the most important aspects - agility for growth in new markets - is often ignored in exchange for cost savings that usually do not materialize to expectations, and CEOs of these companies focus not just on cost, but growth of their enterprises while providing exceptional customer service. We believe this initiative provides benefit to many of these industry priorities while providing much needed capabilities to the US DoD.

Statement of Problem
The Item Master Logistics Capability Initiative (IMLCI) is the effort to execute Services Development & Delivery
The Risk Reduction Assessment will follow an agile development process. This initiative will leverage the IMLCI Integrated Materiel Management Regulation (IMLCI) in accordance with DOTMLPF-P Implementation Plan or D-IMP. The IMLCI SDDP Step 2 analysis and corresponding deliverable, Business Reference Model (BRM), established a plan to implement the capabilities across the Doctrine, Organization, Training, Materiel, Leadership, Personnel, Facilities and Policy (DOTMLPF-P) spectrum to satisfy the needs of the AF Logistics community and is known as the DOTMLPF-P Implementation Plan or D-IMP. The BRM package was developed by the AF Logistics functional community to describe the re-engineered Item Master processes providing an enterprise capability to generate and manage comprehensive, accurate, and reliable item specific data within the AF Logistics enterprise. The SDDP Step 2 package was also approved by HQ AFMC A4 in July 2014.

The IMLCI Integrated Product Team (IPT) is currently working through Step 3 of SDDP. Over the course of a series of workshops, the IMLCI IPT assessed the to-be process model for Item Master and developed the functional requirements (ITFRs) and business requirements (ITBRs or ‘-ilities’). The IMLCI received approval to use the ITFRs and ITBRs, as the course of action (COA) Selection Criteria in an Analysis of Alternatives (AoA), from HQ AFMC A4 in May 2015. Early results from the AoA have identified the possibility of reuse as a special area of interest for further investigation to better inform the recommended COA for this effort.

Objectives

This initiative will leverage the USMC IT (One Network Enterprise) effort by objectively evaluating its Platform as a Service (PaaS), as a COA to characterize the risks and opportunities to USAF legacy interfaces, improved data accessibility, increased and improved legacy LOG IT system interoperability and reduced life-cycle costs. A Risk Reduction Assessment has been planned to better characterize the degree to which the preferred COA meets USAF business and technology requirements with objective, quantitative data combined with actual business processes around a specific supply class. The preferred COA is offered to the USAF as a “subscription-based service model.” By definition, this model, which is new to the USAF logistics community, brings with it some unknowns. Because the preferred COA is perceived as “disruptive technology” that changes the way in which logistics business capability and services are acquired, configured and managed, this assessment will focus on characterizing risks, informing benefits, and substantiating life-cycle cost estimates for this COA only with objective, quantified, and relevant data to be used in the IMLCI AoA analysis.

Scope/Approach to Solution

Creating a Risk Reduction Assessment will enable production, supply, maintenance and sustainment industries to answer the following questions:

- Does the solution provide the “supported capabilities” that it claims?
- Is the platform/product stack mature enough (i.e., acceptable risk) for industry to adopt?
- Does the platform provide opportunities for multiple services to share “joint investment” while achieving the benefits of another service’s investment and capabilities?
- Do we have leadership alignment/support for broader deployment?

The Risk Reduction Assessment will follow an agile development process, architected to demonstrate incremental
delivery of capability. These product demonstrations, executed in stages, will build out the USAF Item Master requirements. These demonstrations will also illustrate the inherent platform and service enhancement and expansion options included with the product line, allowing the USAF to better understand the capabilities and life cycle costs included as part of the subscription model. Demonstration findings will then be used to inform the final cost, schedule and implementation parameters of the preferred COA and will be used to update the IMLCI AoA. The results achieved here will help industry to better understand their return on investment.

As each stage is mapped out, it will be designed to address one or more risks and required data collection. Risks will be presented and evaluated in terms of use cases, designed to explain the risk, its context, and expected outcomes. Data collected will be used to inform the final cost, schedule, and performance estimate of this particular COA.

The Risk Reduction Assessment for Item Master is designed to inform USAF Executive Leadership and Senior Management on the options associated with the development, delivery, and introduction of new technology into the USAF logistics business suites, and meets the Functional Communities' immediate needs for transformed Item Master capabilities.

At the conclusion of this assessment, the USAF Executive Leadership should be in a position to assess the degree to which stage of execution successfully met the following high level strategic objectives:

- Demonstrate "re-use" of services at all layers of the technical stack (i.e., Application, User Interface, Transaction Services, Business Analytics)
- Demonstrate customization/configuration options at all layers of the technical stack
- Demonstrate compliance with the ITFR, ITTR and "ilities" developed during SDDP Step 3 in support of market research
- Demonstrate the flexibility with enhancement and expansion services of the product
- Demonstrate ease of systems integration with legacy and non-legacy systems
- Demonstrate legacy system embrace and/or replace options
- Demonstrate ease of implementing Business Process Re-engineering activities as part of the continuous process improvement outlined in AFMAN 33-402, SDDP
- Inform Government cost models for life cycle cost projections/estimates
- Show how the commercial market, working with the Government, can bring new concepts and capabilities to the Government that create value, lower cost and increase mission success

**Deliverables**

Key deliverables that will be demonstrated using Item Master and Class V (munitions) data and business processes:

- **Item Master System with Distributed Attribute Update Capability**, to include Master Data/Core Logistics Records management across multiple stakeholders.
- Show how multiple business processes (Marine Corps and Air Force) can be implemented and maintained on a single platform
- Successful integration into the DLA Catalog (FLIS)
- Total Item Record/BOM Structure
- Show how ASNs support automated loading and shipment activities
- Show demand and order forecast integration with FMS/Allied Military services

**Overall Project Cost**

- The total project cost for this initiative is $3,750,906. The project participant cost share is $1,050,906. The government is providing $2.7M

**Benefits to the Public and Industry**

A shift from traditional waterfall or silo development/Enterprise Resource Planning approaches allows industry to target and plan future enterprise development and deployment efforts with a true "Best in Breed" model for design, development, testing, deployment, sustainment of IT Supply Chain/Logistics portfolios. It also provides opportunities to industry to evaluate how the capabilities demonstrated can impact business areas of their supply chain portfolio though increased levels of customer service and greater visibility of supporting growth initiatives into both existing and new markets.
Additional returns include:
- Optimizes future Industry R&D investments
- Re-usability, Flexibility, Rapid Implementation
- Proves a “plug and play” platform for introduction and continued integration of enhanced logistics technology
- Decrease sustainment costs while providing cost effective modernization across the sustainment life cycle
- Reduced institutional TLCM risk
- Provide standardized and consistent execution data across the enterprise
- Provide the ability to rapidly isolate components through key part manufacturing information
- Provides to industry a Blueprint of repeatable PaaS strategy process(es) for agile software implementations that is exportable to any market, including international
- Provides industry logistics providers with a stable planning platform from which to determine production and manufacturing requirements.
- Will allow commercial business to demonstrate how they can bring new concepts and capabilities to the government which, will generate new business opportunities while helping make government more efficient.

Attempting to accomplish the objectives expressed within this project would normally create challenges that could overwhelm resources, cause a substantial interruption in manufacturing and support (for example, timely and proactive response to safety issues), and negatively impact sales within a commercial business. Utilizing DoD assets to prove out this concept will eliminate most of the high risk normally associated with objectives of this magnitude. Additionally, funds that would have been expended for research and development can now be allocated toward other business growth initiatives.

The successful processes and system(s) derived from this project’s efforts can have a profound impact on US maintenance and sustainment industries, product manufacturers and other businesses through increased safety and product reliability. Furthermore, once these processes are implemented, it will help influence foreign suppliers who produce subcomponents for US manufacturers, to be more accountable to the end user.

**Benefits to DoD**

The results of this initiative can be leveraged across DoD to drastically influence readiness planning and management through improved interoperability/access to more legacy systems and provide timely, accurate, and complete information to the decision makers. Additionally, if successful, the DoD will enhance the ability to provide logistics support while reducing risk and sustainment costs, particularly from leveraging the investment of other services. The ability to provide modernization of legacy systems while keeping costs below the current projected “sustainment” lines will be a critical success factor as DoD continues to be fiscally constrained. Additional benefits to the USAF/DoD include:

- Support the Joint Logistics Enterprise
- Accelerated FIAR compliance
- Allows the Government to leverage both a core “module” that is tailored to DoD business process with both commercial capabilities and existing Government platform investment for multiple efforts and developments.
- Increased Data Quality (and management thereof) underwrites more effective Total Life Cycle Management of DoD equipment, supplies and decisions
- Enhanced readiness due to more effective and efficient data analysis

**Project Participants**

**Government Participants**
- USAF
Industry Participants
• Defense Logistics Agency
• US Marine Corps

Period of Performance
The period of performance for this CTMA initiative is expected to be 18 months from award on the CTMA Cooperative Agreement. All Government funding will be expended within 12 months, with the final project report to be submitted on month 18.

Security Requirements
Government furnished facilities, equipment, and access to systems, information and Subject Matter Experts (SMEs) will be required. Should this initiative require any access to SECRET classified data, the applicable security controls will be put in place prior to the execution of work.

CTMA Program Activities
In addition to its financial and programmatic management of the project, NCMS will perform several pre-program development, outreach and technology transition activities to assure best value solutions are chosen and results are effectively disseminated to field and depot maintenance activities, logistics agencies and most importantly, to the commercial industry. These activities are important as they allow NCMS to build strong relationships with our commercial and government partners to understand and satisfy common maintenance needs. Examples include project announcements through NCMS, CTMA and JTEG websites in order to attract and identify the best project partners closely connected to a technology solution. NCMS also uses the CTMA Connector as an effective method to communicate a call for technologies, forming projects and technology spotlights.
NCMS will execute the highly successful Technology Showcases at depot maintenance activities to demonstrate results of this and other projects as well as to provide onsite relevant technology demonstrations that fulfill the depots' maintenance needs. Additionally, briefings will be made through the CTMA Partners Meeting and JTEG, webinars and other forums to further assure effective technology transition occurs for the benefit of both commercial and government maintenance activities.
MILITARY INTERDEPARTMENTAL PURCHASE REQUEST

2. FSC  3. CONTROL SYMBOL NO.  4. DATE PREPARED  5. MIPR NUMBER  6. AMEND NO.
FS C 13  B. FROM:  (Agency, name, telephone number of originator)
Acq
ATTN:

9. ITEMS ARE NOT INCLUDED IN THE INTERSERVICE SUPPLY SUPPORT PROGRAM AND REQUIRED INTERSERVICE SCREENING HAS NOT BEEN ACCOMPLISHED.

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>DESCRIPTION</th>
<th>QTY</th>
<th>UNIT</th>
<th>ESTIMATED UNIT PRICE</th>
<th>ESTIMATED TOTAL PRICE</th>
</tr>
</thead>
</table>
| 1        | NON PERSONAL SERVICE
Funding is provided for the Risk Reduction Study for Item Master designed to inform USAF Executive Leadership and Senior Management on the options associated with the development, delivery, and introduction of new technology into the USAF logistics business suites, and meets the Functional Communities immediate needs for transformed Item Master capabilities. | 1.00 | EA | $2,700,000.00 | $2,700,000.00 |
| 2        | Required start date: June 2016; PoP: Jun 2016 to Mar 2017 |
| 3        | CTMA Cooperative Agreement: HQ0034-15-2-0007 |
| 4        | WHS AD/Technical POC |
| 5        | Customer POC: AFLMC/HIQD PM |
| 6        | Date of expiration of the funding source: 30 Sept 2017 |

I certify that the commitment of these funds for this procurement document is in compliance with the FAR 7200.4. This requirement is included in the approved BA/PA for FY16.

MIPR Authority granted per 31 U.S.C. 1535, Economy Act.

I certify that the goods acquired under this agreement are legitimate, specific requirements representing which these funds are obligated. Required reviews are complete." (See signed MIPR checklist)

Debited against C CaR# HIQ-1451 LMC: Risk Reduction Effort $2,700,000.00

10. SEE ATTACHED PAGES FOR DELIVERY SCHEDULES, PRESERVATION AND PACKAGING INSTRUCTIONS, SHIPPING INSTRUCTIONS AND INSTRUCTIONS FOR DISTRIBUTION OF CONTRACTS AND RELATED DOCUMENTS.

14. FUNDS FOR PROCUREMENT ARE PROPERLY CHARGEABLE TO THE ALLOTMENTS SET FORTH BELOW, THE AVAILABLE BALANCES OF WHICH ARE SUFFICIENT TO COVER THE ESTIMATED TOTAL PRICE.

<table>
<thead>
<tr>
<th>ACTION</th>
<th>APPROPRIATION</th>
<th>LIMIT SUBHEAD</th>
<th>SUPPLEMENTAL ACCOUNTING CLASSIFICATION</th>
<th>ADDQT &amp; TAA</th>
<th>AMOUNT</th>
</tr>
</thead>
</table>

5763600 256 47MA 675207 4G21N5 36S72 79510F 667100 F67100 FSR: 021179 PSR: 030134 DSR: 226795 CIN: F2XTTQ612G001  $2,700,000.00

18. SIGNATURE // DIGITALLY SIGNED //
OFFICIAL STATEMENTS CONT.

All reimbursements must be done through the Intergovernmental Payment and Collection (IRAC) system whenever possible. State the Seller BPN on the DD Form 448-2 in Block 13, and on each invoice. The assisting agency shall provide a DD Form 448-2 to deobligate remaining funds at contract end. If not received, the PM will request a DD Form 448-2 by memorandum. If the form is not received within 30 days of the written memorandum, another memorandum will be sent that funds will be deobligated in 30 days without further notice.

These funds are available for services for a period not to exceed one year from the date of obligation and acceptance of this order. All unobligated funds shall be returned to the requiring activity no later than one year after the acceptance of the order or completion of the order, whichever is earlier.

This Economy Act order is authorized by the CTAA Cooperative Agreement # HQ0034-15-2-0007.
ACCEPTANCE OF MIPR

1. TO (Including Activity Address/Include ZIP Code)
   AFLCMC/HQOD
   ATTN: (b)(6)
   4225 Logistics Avenue
   WPAFB, OH 45433-5769

2. MIPR NUMBER
   F2XTTQ6120G001

3. AMENDMENT NO.
   BASIC

4. DATE (MIPR Signature Date)
   20160429

5. AMOUNT (As Listed on the MIPR)
   $2,700,000.00

6. The MIPR identified above is accepted and the items requested will be provided as follows: (Check as Applicable)
   a. \[\square\] ALL ITEMS WILL BE PROVIDED THROUGH REIMBURSEMENT (Category I)
   b. \[\times\] ALL ITEMS WILL BE PROCURED BY THE DIRECT CITATION OF FUNDS (Category II)
   c. \[\square\] ITEMS WILL BE PROVIDED BY BOTH CATEGORY I AND CATEGORY II AS INDICATED BELOW
   d. \[\square\] THIS ACCEPTANCE, FOR CATEGORY I ITEMS, IS QUALIFIED BECAUSE OF ANTICIPATED CONTINGENCIES AS TO FINAL PRICE. CHANGES IN THIS ACCEPTANCE FIGURE WILL BE FURNISHED PERIODICALLY UPON DETERMINATION OF DEFINITIZED PRICES, BUT PRIOR TO SUBMISSION OF BILLINGS.

7. \[\square\] MIPR ITEM NUMBER(S) IDENTIFIED IN BLOCK 13, "REMARKS" IS NOT ACCEPTED (IS REJECTED) FOR THE REASONS INDICATED.

8. TO BE PROVIDED THROUGH REIMBURSEMENT
   CATEGORY I

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QUANTITY</th>
<th>ESTIMATED PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
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<td>$2,700,000.00</td>
</tr>
</tbody>
</table>

9. TO BE PROCURED BY DIRECT CITATION OF FUNDS
   CATEGORY II

<table>
<thead>
<tr>
<th>ITEM NO.</th>
<th>QUANTITY</th>
<th>ESTIMATED PRICE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Basic</td>
<td>1</td>
<td>$2,700,000.00</td>
</tr>
</tbody>
</table>

10. TOTAL ESTIMATED PRICE
    $0.00

11. GRAND TOTAL ESTIMATED PRICE OF ALL ITEMS
    $2,700,000.00

12. FUNDS DATA (Check if Applicable)
    a. \[\square\] ADDITIONAL FUNDS IN THE AMOUNT OF $_________ ARE REQUIRED (See justification in Block 13)
    b. \[\square\] FUNDS IN THE AMOUNT OF $_________ ARE NOT REQUIRED AND MAY BE WITHDRAWN

13. REMARKS

14. ACCEPTING ACTIVITY (Complete Address)
    WHSM/EMDE
    1155 Defense Pentagon - 703-545-0088 (Com) 703-692-5575 (Fax)
    Washington, DC 20351-1155

15. TYPED NAME AND TITLE OF AUTHORIZED OFFICIAL
    (b)(6)

16. DATE
    20160503

DD FORM 448-2, JUL 71

PREVIOUS EDITION WILL BE USED UNTIL EXHAUSTED.