MANUFACTURING TECHNOLOGY (MANTECH)

CENTER FOR ADVANCED MANUFACTURING OF
ELECTRO OPTICS (CAMEO)

STATEMENT OF WORK

Office of Naval Research
Arlington, VA

ManTech Navy Center for Advanced Manufacturing of Electro-Optics
(CAMEO)
# Statement of Work

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ManTech Navy Center for Advanced Manufacturing of Electro-Optics (CAMEO)

STATEMENT OF WORK

1.0 Overview

1.1 Background of Navy Manufacturing Technology (ManTech) Program
The Secretary of Defense established a Manufacturing Technology Program to further the national security objectives of Section 2501(a) of U. S. Code Title 10 - Armed Forces, through the development and application of advanced manufacturing technologies and processes that will reduce the acquisition and supportability costs of defense weapon systems and reduce manufacturing and repair cycle times across the life cycles of such systems. The purpose of the program is to improve the manufacturing quality, productivity, technology, and practices of business and workers providing goods and services to the Department of Defense (DoD). DoD Directive 4200.15 implements the Manufacturing Technology Program, and it dictates that DoD is to rely on private sector investment and the "free enterprise" system to provide the manufacturing technology necessary to produce DoD material. The Directive mandates ManTech investments are to be directed at improving the quality, productivity, technology, and practices of business and workers providing goods and services to the DoD.

The Navy Manufacturing Technology (ManTech) Program, operated out of the Office of Naval Research (ONR), is focused on affordability improvements for specific key acquisition platforms as defined in the Navy ManTech Investment Strategy. The current Navy ManTech Affordability Initiatives include: the CVN 78 Class carrier; the DDG 51 Class destroyer; the VIRGINIA Class Submarine and OHIO Replacement Program; the CH-53K Heavy Lift Helicopter; and the Joint Strike Fighter (JSF). ONR ManTech helps these Navy programs achieve their respective affordability goals by transitioning developed manufacturing technology which, when implemented, results in needed cost reduction or cost avoidance.

Navy ManTech executes through Centers of Excellence using this key acquisition platform approach to develop cost reduction/avoidance platform portfolios and specific projects. There are presently seven Navy ManTech Centers of Excellence (COEs), and they serve as focal points for the development and technology transfer of new and advanced manufacturing processes and technology in a cooperative environment with industry, academia, and the Naval Research Enterprise. The COEs serve as corporate repositories of expertise in particular technological areas and collaborate with acquisition Program Executive Offices (PEOs) / Program Offices (POs) and relevant industry to identify and resolve manufacturing issues impacting the key Navy acquisition
platforms. The COEs develop and demonstrate manufacturing technology solutions for identified Navy manufacturing requirements, provide consulting services to naval industrial activities and industry, and facilitate the implementation of developed manufacturing technologies.

1.2 Overview of CAMEO

The Navy has a continuing need for Center for Advanced Manufacturing of Electro-Optics. The Center for Advanced Manufacturing of Electro-Optics is a center of excellence (COE) dedicated specifically to electro-optics (E-O) science and technology, manufacturing technology, technology transfer, the United States E-O industrial base improvement and E-O education/workforce development. The primary focus of the CAMEO is to expedite the transition of electro-optic technology into Navy and DoD systems applications.

Inasmuch as the assigned missions of the Office of Naval Research (ONR) Manufacturing Technology (ManTech) Center for Advanced Manufacturing of Electro-Optics (CAMEO) are dynamic, this Statement of Work (SOW) is not intended to be all-inclusive or restrictive, but is intended to provide a broad framework and general scope of the work to be performed at the CAMEO. This SOW does not represent a commitment to, or imply funding for, specific projects or programs. The ONR ManTech work requirements are developed through strategic planning and program plans.

The CAMEO Contractor shall, in accordance with the provisions of this Contract, provide the resources, intellectual leadership, and management expertise necessary and appropriate to managing and operating the CAMEO to accomplish its primary mission. The primary mission of the CAMEO is to develop advanced manufacturing technologies and deploy them in the U.S. E-O industrial base with the goal of facilitating industry improvements and ultimately reducing the cost and time required to transition electro-optic technology into Navy and DoD system applications as defined in the ONR ManTech Investment Strategy:

- Manufacturing technology (materials, devices, circuits, modules, subsystems)
- Fiber Optics / photonics / optoelectronics / optical communications
- Semiconductor devices / passive components / optical & electro-optic, devices, infrared components, lasers, laser diode arrays / 3D readout integrated circuits
- Optical interconnects / optical links
- Immersed Optics
- Directed Energy Weapons
- Imaging for Autonomous Vehicles
- Compound semiconductors / wide bandgap semiconductors
- Displays, night vision
• Low-cost, high-throughput manufacturing and assembly techniques
• Emerging electronics and electro-optics technologies
• Technology obsolescence
• COTS integration
• U.S. electronics / electro-optics manufacturing industrial base

In accomplishing its mission, the CAMEO will work closely with the Navy’s acquisition community as well as the EO industrial base to identify manufacturing technology issues that negatively impact transition of EO products to the fleet, with respect to both cycle-time and cost.

The CAMEO contractor will develop and apply electro-optics manufacturing technologies that will:
• Reduce the acquisition and supportability costs of weapon systems and platforms
• Reduce manufacturing and repair cycle time
• Bridge the gap from research and development advancements to full-scale production
• Disseminate project results throughout the industrial base
• Improve the quality, productivity, technological capability and practices of businesses and workers and promote higher levels of worker education related to electro-optics technologies

The CAMEO will solicit, select, award, and manage projects to address the identified cycle-time and cost reduction issues.

Types of technology areas include, but are not limited to, the following:
• Design for Productibility/Design for Manufacturability of optical, semiconductor, and electronics critical to electro-optics system performance
• Modeling and Simulation technologies
• Model-based tools and approaches to optimize producibility
• Intelligent manufacturing planning and factory execution
• Supply chain Information Security Risk Management for electronics devices used in electro-optical systems
• Supply chain analyses to investigate adequacy of critical material, component, and subsystem sources of supply
• Advanced inspection and testing technologies to reduce test time, increase process yields and ensure end-item quality/performance

In addition, the CAMEO shall perform all supporting functions for a Navy ManTech Center of Excellence, such as serving as a corporate repository of expertise in its particular technological area; performing special projects and industry surveys related to the mission as required; planning and conducting outreach activities to increase awareness of the CAMEO and disseminate
manufacturing technology throughout the nation’s EO industrial base to achieve manufacturing technology transition beyond the developing organization; and any other functions as assigned by the ONR ManTech Division.

1.3 CAMEO Core Mission and Scope of Work
The core mission and function of the CAMEO is to identify, develop, and facilitate the transition of electro-optic manufacturing technologies to reduce the cost and time to deploy critical ISR, photonic, and imaging sensor systems to Naval ships, aircraft, submarines, and unmanned systems.

The CAMEO Contractor will operate and manage the CAMEO in its mission to develop naval platform-related manufacturing technologies and transition the technology to the US electro-optics industrial base. In addition to accomplishing the CAMEO’s core mission, the CAMEO Contractor shall manage, operate, sustain, and enhance the CAMEO’s ability to function as an ONR ManTech Center of Excellence.

The CAMEO Contractor shall, with the highest degree of vision, quality, integrity, and technical excellence, maintain a strong scientific and engineering resource base responsive to manufacturing technology issues of national importance. The scope of work of this Contract includes:

1. Operating and managing the COE in an efficient, cost effective, and innovative manner to accomplish its core mission of developing and facilitating the implementation of advanced manufacturing technologies to the US electro-optics industry to reduce the cost and time to design, build, and test critical naval sensor systems.

2. Organizing, facilitating and executing an electro-optical manufacturing-focused project selection process, supporting the key naval platform programs identified by the ONR ManTech Investment Strategy and the ONR Program Officer, in order to recommend technical work. Projects selected should be aligned with Navy and DoD priorities for electro-optical sensors and payloads. (Section 3.0).

3. Initiating and managing ManTech projects approved by the ONR Program Officer. Management of projects should include the use of an earned-value or similar methodology that tracks and relates technical progress, schedule, and funding. (Section 3.0)

4. Providing support of special projects or non-ManTech funded projects that relate to the COE mission, as directed by the ONR Program Officer. (Section 3.0)

5. Providing all required reporting, including COE-level and project-level deliverables, for the evaluation of the technical and financial progress of
the Center and of each technical project. (Sections 2.0 and 3.0)

6. Planning, coordinating, and conducting outreach activities and projects to increase awareness of the CAMEO and to facilitate technology transition and implementation of ManTech-developed manufacturing technology to electro-optical suppliers serving the broad DoD requirements base. (Section 2.0)

7. Traveling in support of the CAMEO. Travel shall be planned and conducted in such a fashion to provide maximum flexibility and use of time in support of the COE. All travel shall be in accordance with the FAR and applicable federal travel regulations. (Sections 2.0 and 3.0)

It is currently envisioned that the CAMEO contract will be structured with multiple delivery orders. This Statement of Work covers two general activity areas critical to the CAMEO’s accomplishment of its mission: Delivery Order 0001: Center Operations and Management (Section 2.0) and Delivery Order 0002: Project Development and Management (Section 3.0).

## 2.0 Delivery Order 0001: COE Operations and Management

The CAMEO Contractor shall operate the CAMEO to function as an ONR ManTech Center of Excellence to serve as a national resource in advanced electro-optics manufacturing technology in general and to accomplish the CAMEO’s core mission in particular. The CAMEO Contractor shall manage and operate the COE in an efficient, cost effective, and innovative manner -- developing strategies to plan, track, and analyze projects and expenditures to ensure efficient operation of the COE.

### 2.1 Center Operations

CAMEO operations can be broken down into the following activities:

#### 2.1.1 COE Core Mission Management and Support Activities

The CAMEO Contractor shall provide management and programmatic support as required to accomplish the CAMEO core mission of identifying, developing, and transitioning advanced manufacturing technology to the U.S electro-optics defense industrial base (as detailed in Section 3.0). In so doing, this includes but may not be limited to:

- Providing both the technical and administrative support needed for the efficient operation of the CAMEO Assisting the government in planning and executing new manufacturing technology or development initiatives.
- Supporting ONR in the development of roadmaps and investment strategies for the development and production of key electro-optics technologies with emphasis on Navy manufacturing issues.
- Submitting COE-level deliverables as directed by the ONR Program Officer and as specified in the Annual ManTech Guidance.
• Responding to "data calls" as requested by the ONR ManTech Director, the ONR Program Officer, or their representatives.
• Creation of outreach or technology transfer material as required/approved by the ONR Program Officer
• Establishment and maintenance of an Electro-Optics test capability to provide validated and independent measurements of electro-optical devices, components, and systems as a means of certifying new manufacturing processes.

2.1.2 Naval Technical Advisor Activities
The CAMEO Contractor shall provide technical assessments and recommendations on specific electro-optics manufacturing and industrial base issues as required by the Government. Reports delivered to the Government shall include independent analyses and specific recommendations by the CAMEO Contractor. The CAMEO Contractor shall avoid any conflicts of interest and act as an independent advisor (honest broker) to the Government. As a result of such in-house support, the CAMEO Contractor may be ineligible on Organizational Conflict of Interest (OCI) grounds from performing the actual development work on the recommended technologies. The CAMEO Contractor will provide management, control, and support for Navy and DoD funded developments and coordinate the research of participating government, industry, and academic organizations.

The contractor shall assess U.S. industrial manufacturing capabilities for and affordability of various electro-optic technologies and recommend programs to improve the industrial base. The contractor shall promote new manufacturing technology initiatives that improve the competitiveness and responsiveness of the electro-optics industrial base.

2.1.3 Special Projects.
As part of Naval Technical Advisor Activities, the CAMEO Contractor shall perform Special Projects as directed by the ONR ManTech Division. Special Projects may include, but are not limited to, the following: support to Navy PEOs, POs, and PMSs/PMAs to identify and resolve critical electro-optical manufacturing issues, conduct EO industrial base benchmarking surveys; development of technology roadmaps; assessments of foreign EO manufacturing.

2.1.4 Connectivity to Navy and DoD Laboratories
The CAMEO Contractor shall develop and maintain working relationships and technical interchanges with DoD Laboratories and the US EO industrial base utilizing these relationships to facilitate technology transfer to the nation's defense industries.

2.1.5 Outreach Activities
The CAMEO Contractor shall perform outreach activities as approved by the
ONR Program Officer. The objectives of these activities are to encourage partnering with government, industry, and academic organizations and to facilitate transfer of developed manufacturing technologies to achieve manufacturing technology transition beyond the originating industrial. This includes, but is not limited to, the following:

- Providing uninterrupted maintenance of a CAMEO public domain website and server.
- Providing promotional materials and logistics support for exhibits, demonstrations, conferences, workshops, and displays.
- Attending and showcasing the CAMEO mission and accomplishments at specific conferences and trade shows, such as the Defense Manufacturing Conference, ShipTech, SPIE and Military Sensing Symposium (MSS) conferences, and other related Advance Manufacturing Technology Workshop and conferences. Attendance and exhibition at trade shows, conferences, and the like must be approved in advance by the ONR Program Officer or ManTech Director. Typically this is 3-6 events annually.
- Distributing a physical and/or electronic newsletter on a minimum quarterly basis to key government and industry personnel.

2.2 Center Business Operations
The CAMEO Contractor shall manage and administer a system of internal controls for all COE business and administrative operations. Management of the CAMEO business and administrative operations shall include integrating common systems of internal controls across the CAMEO and implementing business processes that are risk-based, cross-functional, and cost-effective; that optimize and streamline operations; and that increase efficiency and enhance productivity. Included shall be plans to accomplish the following:

2.2.1 COE Performance Management
The contractor shall implement a financial management system that can accurately track expenditures for CAMEO Center Operations. An in-house Earned Value Management System (EVMS), or equivalent, shall be used for tracking Center Operations projects to assist the ONR Program manager in measuring performance and triggering corrective actions as needed for each of the foregoing tasks. The EVMS shall analyze the expenditure of funds in light of work accomplished and quantify technical problems in terms of cost and schedule. Favorable and unfavorable cost and/or schedule variances that exceed ±20% shall be identified and reported along with proposed corrective actions. The contractor shall generate a Work Breakdown Structure (WBS) to represent all work under the contract (including all subcontracted work).

2.2.2 COE Performance to Fiscal Benchmarks
The CAMEO Contractor shall develop a plan to meet the Navy’s obligation and expenditure fiscal benchmarks, track center performance with respect to these benchmarks, and develop “get well” plans if necessary.
2.3 COE-Level Meetings and Travel
CAMEO personnel shall participate in meetings as directed by the Navy ManTech Director and/or ONR Program Officer. These are expected to include, but are not limited to, the following:

- ManTech “All Hands” or Center Director Meetings - typically 2-3 times annually.
- Candidate Project Selection Meetings - typically once annually.
- Quarterly Program Management Reviews (PMRs) - quarterly with the ONR Program Officer at ONR, the COE, or other site as approved by the Program Officer. Other attendees will be at the option of the ONR Program Officer. Each PMR shall address at a minimum: center financial performance and plans; updates on active projects including information such as technical; progress and accomplishments, schedule status, and adherence to spend plan; technology implementation updates; and planned meetings and activities. The PMR shall address other technical and programmatic topics as directed by ONR.
- Platform IPT Reviews – Navy ManTech currently holds Platform IPT project review meetings for each platform supported by the Navy ManTech Investment Strategy approximately 2 times per year per platform. To make effective use of ManTech resources, these meetings are often co-located, resulting in a total of 6-10 meetings annually.
- ManTech Conferences/Workshops – as directed by the ONR Program Officer but typically includes the annual Defense Manufacturing Conference (DMC), ShipTech, and other approved conferences/workshops.

2.4 COE-Level Deliverables
The CAMEO Contractor shall submit COE-level ManTech deliverables as directed by the ONR Program Officer and as specified in the Annual Navy ManTech Guidance, expected to include but not limited to:

- COE Monthly Status Report -- monthly
- COE Funding Allocation Spreadsheets – typically semi-annually
- COE Expenditure Estimates – typically semi-annually
- COE Monthly Expenditure Reports (MERs) - monthly
- COE Affordability Assessments – typically semi-annually
- COE Implementation Workbooks – typically annually

2.5 COE-Level Data Requirements
The CAMEO Contractor shall submit all data requirements as specified in the Contract Data Requirements List (DD Form 1423).

- CDRL A001: COE Quarterly Report
- CDRL A002: Contract Final Report
- CDRL A003: All other ManTech Program deliverables as required
3.0 Delivery Order 0002: Project Development and Management

In support of the ONR ManTech Program, the CAMEO shall identify, develop and transition advanced electro-optics manufacturing technologies to the US EO industrial base to reduce the cost and time to design, build, and test critical EO sensors, as identified in the Navy ManTech Investment Strategy. The primary means of accomplishing this core mission is through the development and execution of technical projects whose results will be transitioned to industry. The CAMEO contractor shall award and manage technical projects funded under the Navy MANTECH Program or non-MANTECH projects funded by other agencies through this contract and approved by the ONR Program Officer. These projects will most likely be contracts with industry or internal projects within the CAMEO.

The three basic types of ManTech projects are:

- Standard projects: typically 12-36 months duration; typically $500K - $3M funding range.
- Mega Rapid Response projects - urgent requirement. Maximum 9 months duration and $500K funding (nominally $150K - $500K) or limits set per current ONR guidance.
- Rapid Response projects – smaller, urgent requirement. Typically, 4-6 month duration and $50K-$100K range

Standard Projects and Mega Rapid Response projects will be managed under Delivery Order 0002 but will be executed under other delivery orders awarded under the base contract. Rapid Response projects will be managed and executed under Delivery Order 0002.

Note: Non-ManTech Projects - At the discretion of the ONR Program Officer, the CAMEO may execute and manage technical projects, other than Navy ManTech projects, that are related to shipbuilding, aircraft fabrication, or other naval- or defense-related industries or platforms. Examples of these projects may include, but are not limited to, projects from other ONR Technical Codes, congressional interest (“plus-up”) projects, or Office of the Secretary of Defense (OSD)-funded Manufacturing Science and Technology efforts. These Non-ManTech projects are typically awarded under separate, individual delivery orders and the management of these efforts is charged directly to those projects, not Delivery Order 0002, unless coordinated with ONR ManTech.

3.1 Project Development

Project development is generally broken down into the following three steps.

Note: The below information is based on current ONR ManTech policy and guidance. ONR reserves the right to revise and refine the below project development process.
3.1.1 Issue Identification
The CAMEO Contractor, via their relationships with Navy PEOs, program offices, warfare centers, and Navy Laboratories will identify advanced manufacturing technology issues and/or needs. These needs shall be turned into ManTech project candidates. The CAMEO Contractor shall document these issues as appropriate by generating an issue sheet, quad chart, and/or other documentation as appropriate.

3.1.2 Candidate Project Selection
The contractor shall undertake a continuous project selection process in which military requirements for electro-optics technology are prioritized so that resources can be properly allocated. This project selection process shall be based on interactions between CAMEO and various Systems Commands program offices (Program Executive Offices, Program Management Offices, etc.). The contractor shall identify and prioritize the government's needs for electro-optics technology and match these needs to recommended development programs, manufacturing technology programs or other proposed solutions.

The CAMEO contractor shall provide technical assessments and recommendations on specific electro-optics technologies as required by ONR in the prioritization process. These assessments and recommendations shall be based on independent (honest broker) analyses and should avoid any conflicts of interest. In this "honest broker" role, the contractor may be considered ineligible to perform certain work on recommended technologies.

Project selection will be in accordance with guidance and timelines set by the Navy ManTech Office in effect at that time. Currently, the COEs present their prioritized list of candidate projects to the ONR ManTech Director and Program Officers at a Candidate Project Selection Meeting in the winter of the prior fiscal year (i.e., candidate projects for Fiscal Year 2016, which begins October 1, 2015, will be presented December 2015). The ManTech Director and the Program Officers will select project ideas for further development based on anticipated availability of funds. Off-cycle project candidates will be considered based on need and funding availability. This project selection process should also be in keeping with the approved ManTech Investment Strategy and any key platforms or PEO(s) identified within.

3.1.3 Individual Project Development
Projects may be developed as ManTech projects, Mega Rapid Response projects, or Rapid Response projects. As the majority of efforts are expected to be ManTech projects, the ManTech project development process is described below. Mega Rapid Response and Rapid Response projects may have an alternate, simplified development process as described by ONR guidance and/or Program Officer direction.

As part of project development, the CAMEO Contractor will endeavor to obtain
quality cost share from participating project subcontractors, program offices, etc. as well as identify available leveraging opportunities and other methods to augment Navy ManTech investment.

Upon candidate selection and approval by the ONR ManTech Office, each ManTech project shall be initiated under a three-step process.

1. **Program Planning Document (PPD) Development:** The CAMEO Contractor will coordinate the development of a Program Planning Document with teaming partners and Navy points of contact. An Issue Sheet for each proposed project shall be jointly developed by the CAMEO and the ONR Program Officer based on stakeholder(s) requirements. Once the issue is clearly defined and approved by the ONR Program Officer, a Program Planning Document shall be developed by the CAMEO. The Program Planning Document shall indicate the project goals, teaming arrangements, points of contact, estimated project costs, technical statement of work outline, benefit information, draft schedules, draft metrics, and other information as requested by the Program Officer. This PPD will then be submitted to the Program Officer for review and approval.

Upon approval of the PPD, the ONR Program Officer will issue the CAMEO a Project Development Request (PDR) which authorizes the COE to develop a project plan for the proposed effort. The PDR signals an intention to provide, but is not a guarantee of, eventual project funding.

2. **Project Plan Submittal:** The CAMEO Contractor shall prepare and submit a Project Plan to the ONR Program Officer for approval. This plan shall generally include: an executive summary; background goals, objectives, and benefits; required funding [in-house work/subcontract/cost sharing]; statements of work; schedules, milestones and deliverables, technology transition plans (TTPs); and Stakeholder and Technical Assistant concurrences.

3. **Project Plan Review and Approval:** The ONR Program Officer will review the submitted Project Plan. If approved, the Procuring Contracting Officer will execute a modification to the contract to incorporate the approve project. Once the modification is executed, the CAMEO shall proceed with in-house work (if applicable) and the initiation of subcontracts (if applicable). The CAMEO shall schedule project review meetings and keep the ONR Program Officer informed of these meetings and submit periodic reports as required. The CAMEO shall also submit invoices in accordance with section G.1 of the contract.

Non-MANTECH projects that are funded through other agencies are not subject to this three-step process.
3.2 Project Management
Awarded projects are to be managed by the CAMEO Contractor as instructed by the ONR Program Officer. This includes, but is not limited to, providing technical, programmatic, and financial oversight and guidance to the project team; coordinating project activities with government stakeholders and technical authorities; and completing all project management documentation (monthly and quarterly reports, quad charts, project final report, etc.).

The CAMEO contractor shall develop incentives for all in-house and subcontracted ManTech projects funded by the Navy MANTECH Program. These projects shall be executed through Cost Plus Fixed Fee (CPFF) contracts. Incentives should be tailored toward the nature of the work to be performed.

It is expected that for each awarded project, the CAMEO Contractor will hold regular status telecons with the project IPT members and hold project kickoff meetings, periodic project status and milestone gate reviews, and final reviews. Projects shall be tracked using the EVMs or equivalent process referenced in Section 2.3.1. In addition, projects shall be evaluated (generally semi-annually) by the ONR Program Officer.

3.3 Project Development and Management Meetings and Travel
CAMEO personnel shall expect to travel and participate in meetings in support of Project Development and Management efforts. Typically, these meetings would include, but not be limited to: future FY planning meetings at ONR, relevant Navy Labs and PM/PEO organizations, and industrial facilities; project kickoff and coordination meetings, final project reviews, etc.

3.4 Project-Level Deliverables
For each ManTech project, the CAMEO Contractor shall submit:
- Project Program Planning Document (PPD)
- Project Plan

In addition, the CAMEO Contractor shall submit project-level ManTech deliverables as specified in the Annual Navy ManTech Guidance, including but not limited to:
- Technology Transition Plan (TTP)
- Projects Database Information
- Project Book Information
- Project Quad Chart
- Project Briefings, as applicable
- Success Story, as applicable

Other deliverables may include any and all prototypes, mock-ups, tooling, software, samples, and components purchased and/or fabricated under ManTech funding during the execution of individual projects, if applicable. This may also include process specifications, designs (both components and tooling),
manufacturing cost data for tooling and component fabrication, and all test results.

3.5 Project-Level Data Requirements
The CAMEO Contractor shall submit all data requirements as specified in the Contract Data Requirements List (DD Form 1423).
- CDRL A001: Project Final Report
- CDRL A002: All other ManTech Program deliverables as required

3.6 Contractor Manpower Reporting Requirement For the performance of task orders 0001 and 0002 of this basic IDIQ - "The contractor shall report ALL contractor labor hours (including subcontractor labor hours) required for performance of services provided under this contract for the Center for Advanced Manufacturing of Electro Optics (CAMEO) via a secure data collection site. The contractor is required to completely fill in all required data fields using the following web address: http://www.ecmra.mil/ Reporting inputs will be for the labor executed during the period of performance during each Government fiscal year (FY), which runs October 1 through September 30. While inputs may be reported any time during the FY, all data shall be reported no later than October 31 of each calendar year, beginning with 2013. Contractors may direct questions to the help desk at help desk at: http://www.ecmra.mill.
Attachment 2
KEY PERSONNEL QUALIFICATIONS

**COE DIRECTOR**
*(KEY POSITION)*

Expected qualifications for this position:

- A technical BS degree from an accredited university and a minimum of 10 years of experience in managing shipbuilding-related and advanced manufacturing technology development programs; advanced degree highly preferred.

- Experience in and a broad understanding of technology development and manufacturing; particularly shipbuilding-related technologies.

- Experience in working cooperatively with the Defense Industry.

- Experience in identifying technology needs and technology transition.

**COE TECHNICAL DIRECTOR**
*(KEY POSITION)*

Expected qualifications for this position:

- A technical BS degree from an accredited university and a minimum of 5 years of experience in managing technology development programs; advanced degree highly preferred.

- A minimum of 5 years experience in engineering management.

- A thorough understanding of shipbuilding and advanced manufacturing with the ability to recognize areas of manufacturing need and evaluate potential solutions.

- Experience in identifying technology needs and technology transition.
**BUSINESS MANAGER**  
*(KEY POSITION)*

Expected qualifications for this position:

- A BS degree from an accredited university and a minimum of 7 years of experience in managing government-funded programs; advanced degree preferred.

- Experience in developing administrative policies and procedures appropriate for the management of government contracts.

- Experience in business and financial management.

- Experience in pricing, work breakdown structures, spending plans, and financial tracking.

- Experience in developing and defending budgets in support of government programs.
Attachment 3

REPORT FORMATS

Distribution instructions for the following reports are contained in Enclosure Number 1 of Exhibit A: Contract Data Requirements List, Instructions for Distribution.

Delivery Order 0001 – Center Operations and Management

CDRL A001: COE Quarterly Report
CDRL A002: Contract Final Report
CDRL A003: All other ManTech Program deliverables as required

CDRL A001 (Delivery Order 0001): COE Quarterly Report

The COE Quarterly Report shall contain two sections, Center Status and Project Status sections as shown below.

1. Center Status
   a. Cover Page (with COE, Quarter / Dates Covered)
   b. Table of Contents
   c. Executive Summary
   d. Center Activities Report (include accomplishments and recommendations based on independent analyses/assessments)
   e. Status of Program Planning
      1. Current Fiscal Year (FY) Program Planning Status
      2. Next Fiscal Year Program Planning Status
      3. Current Projection of New Start Funds for Next Fiscal Year
   f. Center Financial Status
      1. ManTech: operations and management activities’ costs report detailed by expense element including: direct labor hours, direct salaries, overhead hours & costs, facilities maintenance, facilities purchased or leased, travel, materials, subcontracts/consultants, and other direct/indirect costs.
      2. Non-ManTech (if applicable)
      3. ODC Itemized List: ODC, description/purpose, date of purchase, quantity, unit cost, and total cost.
   g. Major Activities Planned for the Next Quarter
   h. Status of Technical Project Reports: Include table (project number, title, status, end date, due date, submittal date) for i) all projects that the work has been completed, but whose Technical Project Report has yet to be published, and ii) all projects with projected end dates within the next quarter.

2. Project Status (for each Active ManTech Project, Special projects, and Non-ManTech projects)
   a. Cover Page (with Order Number, ManTech Project Number, PDR Number, COE Project Number (if applicable), Project Title, and Quarter/Dates Covered by this report)
b. Period of Performance – include any contract modifications, extensions, etc.
c. Project Participants
d. Stakeholder, including POC info (name, title, address, phone, e-mail)
e. Technical Assistant POC info (if applicable)
f. Navy Technical Authority POC info (if applicable)
g. Responsible COE Project Manager POC info
h. Background/Problem Statement
i. Objective
j. Overall Project Status (Green/Yellow/Red)
   1. Technical
   2. Schedule
   4. Cost
   Note: Green – good/on track
   Yellow – minor deviation (explain)
   Red – major deviation (explain)
k. Project Financial Status (include total and FY planned/actual/forecast)
   Include project budget (total budget and amount through reporting period; total
   expenditures, expenditures for report period; cost share). Break out expenditures by
   Performing Activity (in house vs. subcontracted activities/purchased services).
l. Significant Past Activity
m. Significant Activity/Accomplishments for Reporting Quarter, Overall, and by Phase and
   Task
n. Plans for Next Quarter
o. Issues/Problems/Workarounds (if applicable)
p. Project Schedule Update
   1. Milestone/Deliverable Table (FY Deliverables; Date Due; Deliverable; Status)
   2. Gantt Chart showing Schedules/Progress (if required by contract)
q. Implementation Status/Update
   If determined applicable by the Program Officer, an Implementation Report section shall
   be included in the Project Status section of the Quarterly Project Status/Financial Report.
   The Implementation Status shall outline the necessary events for successful transition
   into the Navy and the necessary resources to ensure transition. The following items shall
   be reported under the Implementation Report:
   1. Primary and secondary weapons systems targeted for implementation of
teachnology developed.
   2. Implementing organization.
   3. Identification of organization/personnel responsible for major milestones leading
to full implementation. Identification of the appropriate Navy Technical
      Authority.
   4. Remaining tasks required to implement improved manufacturing technologies in a
      production environment.
   5. Summary of interactions held with the Navy Technical Authority and/or the
      implementing program office to ensure the project remains on track with the
      platform’s needs, requirements, and schedule.
   6. Estimated funding/source of funding required for implementation.
7. Implementation timeline for transition of resultant technology to production floor. The tasks identified in Item 4 (above) shall be clearly delineated in the timeline. The timeline shall include major milestones for Government and/or Design Agent certification/qualification of improved process.
8. Is the project on schedule to meet the transition window? If not, explain why and what needs to be done to recover.
9. Associated designs and materials, as applicable.

r. Remarks/Recommendations (if applicable)

**CDRL A002 (Delivery Order 0001): Final Report**

Contractor format is acceptable as approved by the ONR Program Officer. Report shall provide a summary of all work completed during the entire contract period.

**CDRL A003 (Delivery Order 0001): All other ManTech Program deliverables as required**

Contractor format is acceptable, unless ONR Program Office format specified with applicable data call.
Delivery Order 0002 – Project Development and Management

CDRL A001: Project Final Report
CDRL A002: All other ManTech Program deliverables as required

CDRL A001 (Delivery Order 0002): Project Final Report

1. Cover Page (Title, Date, Project Number, Performing Activity, Project Team Members and Contact information)
2. Executive Summary/Abstract
3. Table of Contents
4. Background/Problem Statement
5. Objective(s)
6. Technical Approach (by task)
7. Technical Activities Performed
8. Results and Discussions
9. Benefits Analysis
   a. Categorize and prioritize project’s accomplishments in one or more of the following areas and include quantifiable data to support benefit analysis:
      • Warfighter readiness
      • Improved performance
      • Cost avoidance/savings
      • New product/process development to meet critical performance requirements
      • Environmental compliance
10. Implementation Report (Transition / Deployment Progress / Status)
    If determined applicable by the Program Officer, an Implementation Report section shall be included in the Technical Project Report. The following items shall be reported under the Implementation Report section:
    a. Primary and secondary weapons systems targeted for implementation of technology developed.
    b. Implementing organization.
    c. Identification of organization/personnel responsible for major milestones leading to full implementation. Identification of the appropriate Navy Technical Authority.
    d. Description of how the new technology and/or processes were implemented into the targeted platform/system.
    e. Implementation timeline for transition of resultant technology to production floor. The timeline shall include major milestones for Government and/or Design Agent certification/qualification of improved process.
    f. Associated designs and materials, as applicable.
    g. Identification of other platforms, systems or services that have interest in the new technology and will take the lessons learned to further develop the technology to their own specific needs.
11. Conclusions and Recommendations
Recommendations shall be based on independent analyses/assessments conducted by the NSAM COE (Contractor).

12. References

* Contractor/Program Office report format is acceptable for Non-ManTech reports, such as Special Projects or Non-ManTech Projects.

**CDRL A002 (Delivery Order 0002): All Other ManTech Program Deliverables as required**

Contractor format is acceptable, unless ONR Program Office format specified with applicable data call.
Attachment No. 4
LABOR RATES AND FACTORS
(BASE AND OPTION PERIODS 1 THRU 3)

(Inserted at time of Award)

CAMEO
LABOR

Task Order 0001: Center Operations and Special Projects

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Section J, Attachment No. 4
Labor Rates and Factors for Base and Options
RFP # N00014-15-R-0003
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CONTRACTING OFFICER’S REPRESENTATIVE
APPOINTMENT LETTER

Date

From: (Insert Name of Procuring Contracting Officer)
To: (Insert Name of Contracting Officer Representative)

Subj: Appointment as Contracting Officer’s Representative (COR)

Ref: (a) DFARS 201.602-2
(b) DFARS PGI 201.602-2
(c) ONRINST 4205.2C

1. Pursuant to references (a) through (c), you are hereby appointed as the Contracting Officer’s Representative (COR) for the administration of the following contract/order:

   Contract Number: TBD

   For: Center for Advanced Manufacturing of Electro Optics (CAMEO)

   Name of Contractor: TBD

   Contract Period: TBD

2. You are authorized by this designation to take action with respect to the following:

   a. Verify that the contractor performs the technical requirements of the contract in accordance with the contract terms, conditions and specifications. Specific emphasis should be placed on the quality provisions, for both adherence to the contract provisions and to the contractor’s own quality control program, if applicable.

   b. Perform, or cause to be performed, inspections necessary in connection with paragraph 2.a and verify that the contractor has corrected all deficiencies. Perform acceptance for the Government of services performed under this contract. You are the designated Government Official to receive and certify invoices for payment in the appropriate DFARS office (usually via Wide Area Workflow). It is understood that you have taken the required training at www.wawftraining.com. You are advised that all invoices shall be reviewed as to completeness, accuracy and in accordance with the contract as awarded and by signing the acceptance, you are attesting that the invoice is valid and accurate.

   c. Maintain liaison and direct communications with the contractor. Written communications with the contractor and other documents pertaining to the contract shall be signed as “Contracting Officer’s Representative” and a copy shall be furnished to the contracting officer.
d. Monitor the contractor’s performance; notify the contractor of deficiencies observed during surveillance and direct appropriate action to effect correction. Record and report to the PCO incidents of faulty or nonconforming work, delays or problems.

e. Coordinate site entry for contractor personnel, and ensure that any Government-furnished property is available when required.

3. You are not empowered to award, agree to or sign any contract (including delivery orders) or contract modifications or in any way obligate the payment of money by the Government. You may not take any action which may affect contract or delivery order schedules, funds or scope. The Procuring Contracting Officer (PCO) shall make all contractual agreements, commitments or modifications that involve price, quantity, quality, delivery schedules or other terms and conditions of the contract. You may be personally liable for unauthorized acts. You may not re-delegate your COR authority.

4. This designation as a COR shall remain in effect through the life of the contract, unless revoked sooner in writing by the PCO or unless you are separated from Government service. If you are to be reassigned or to be separated from Government service, you shall notify the PCO sufficiently in advance of reassignment or separation to permit timely selection and designation of a successor COR. If your designation is revoked for any reason before completion of this contract, turn your records over to the successor COR or obtain disposition instructions from the PCO.

5. You are required to maintain adequate records to sufficiently describe the performance of your duties as a COR during the life of this contract and to dispose of such records as directed by the PCO. As a minimum, the COR file must contain the following:

   a. A copy of your letter of appointment from the PCO, or any amendments thereto.

   b. A copy of the contract or the appropriate part of the contract and all contract modifications.

   c. A copy of the applicable quality assurance (QA) surveillance plan.

   d. All correspondence pertaining to this contract, including Memorandums of Record for meetings, contractor discussions, etc.

   e. The names and position titles of individuals who serve on the contract administration team. The PCO must approve all those who serve on this team.

   f. A record of inspections performed and results.

   g. Memoranda for record or minutes of any pre-performance conferences.

   h. Memoranda for record of minutes of any meetings and discussions with the contractor or others pertaining to the contract or contract performance.
i. Records relating to the contractor's quality control system and plan and the results of the quality control effort.

j. Documentation pertaining to your acceptance of performance of services, including reports and other data.

6. All Government personnel engaged in contracting and related activities shall conduct business dealings with industry in a manner above reproach in every aspect and shall protect the U.S. Government's interest, as well as maintain its reputation for fair and equal dealings with all contractors. DoD 5500.7-R sets forth standards of conduct for all personnel directly and indirectly involved in contracting.

7. A COR who may have direct or indirect financial interest which would place the COR in a position where there is a conflict between the COR's private interests and public interests of the United States shall advise the supervisor and PCO of the conflict so the appropriate actions may be taken. COR's shall avoid the appearance of a conflict of interest to maintain public confidence in the U.S. Government's conduct of business with the private sector.

8. You are required to acknowledge receipt of this designation on the duplicate copy and return it to me. Your signature also serves as certification that you have read and understand the contents of DoD 5500.7-R. The original copy of this designation should be retained in your file.

9. If you have any questions regarding this nomination, please contact the undersigned Contracting Officer at [telephone number], or e-mail at [e-mail address].

---

**Contracting Officer**

**COR ACKNOWLEDGEMENT:**

I have read, understand and shall comply with the COR Appointment Letter and the Joint Ethics Regulation DOD 5500.7-R. I have completed and provided evidence of the required training. I understand that the above duties will be added to my performance objectives and be evaluated during my rating period. I also understand that I do not have the authority to obligate the government.

**COR Name:** ____________________________  **Date:** ________

**Title:** _______________________________  **Phone:** ________

**E-mail:** _______________________________

**Signature:** ____________________________

**Note:** Please sign one copy of this memorandum in the space provided and return to the Contracting Officer/Contract Specialist, who will upload it into the CORT Tool.

---

Section J, Attachment No. 5
COR Appointment Letter
RFP # N00014-15-R-0003
# KEY PERSONNEL LIST

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# Past Performance Information Form (PPIF)

Provide the information requested in this form for each one of the present or past contracts you have identified. Provide a separate completed form for each contract identified. *Attach a separate sheet if additional space is needed.*

| A. Current Offeror (Company/Division): |
| CAGE Code: |
| DUNS Number: |

| B. Program Title: |

| C. Contract Specifics: |
| 1. Complete Name of Customer: |
| 2. Customer Address and Telephone #: |
| 3. Contract Number or Citation: |
| 4. Type of Contract: |
| 5. Period of Performance: |

| 6. Initial Contract Price/Cost and Fee: |
| Final Amount Invoiced/Amount Invoiced to Date: |

| 8. Original completion date: |
| 9. Current scheduled completion date: |

| D. Description of Work as Prime or Subcontractor: |
E. Describe how the work under this contract relates to the experience cited by the Offeror in its present proposal. Address below any technical (or other) issues about this contract considered particularly relevant to the current solicitation.

F. Self-Assessment of past performance record. Provide information of any problems encountered and your corrective actions.

G. Current Status of Contract. Note the contract is continuing, completed, terminated, and its status

H. Primary customer points of contact. (For Government contracts/orders, provide current information on all three individuals. For commercial contracts, provide points of contact filling these same roles.)

<table>
<thead>
<tr>
<th>1. Program Manager and/or Site Manager</th>
<th>2. Procurement Contracting Officer</th>
<th>3. Administrative Contracting Officer</th>
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<tr>
<td>E-Mail:</td>
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INSTRUCTIONS FOR PREPARING COST PROPOSALS
FOR CONTRACTS

1. Offerors should:
   
a. Provide these instructions to all lower tier Offerors. Proprietary data from lower tier Offerors may be submitted directly to the Government in accordance with instructions contained herein.

   b. Furnish Tables 1 through 3 for the entire performance period (supported by rationale required by paragraph (2) in both hard copy and on a CD, Microsoft Word/Excel or compatible file(s), to include cell formulas. Include a separate Cost Element Summary for each option proposed.

   c. Provide the following information as the first page of the budget for the entire period of performance, including any options.

      i.* Name, title, telephone and fax numbers and email address of Offeror’s business and technical points of contact;

      ii. Amount budgeted/proposed for basic effort and each option (Government and Offeror Share, if applicable);

      iii.* Name, address and telephone number of the cognizant contract administration and Defense Contract Audit Agency offices, if known;

      iv. Name, title, and signature of authorized representative;

      v. Broad Agency Announcement or Other Solicitation Number under which the proposal is submitted; and

      vi. Date offer is submitted.

* If proposal is to be awarded on a consortium basis, provide this information for each member of the consortium and include a copy of the signed Articles of Collaboration. Awards to consortiums cannot be made until Articles of Collaboration have been signed by all members contributing efforts to or receiving funds from the award.

2. Submit the proposal, organized as discussed below. The cost proposal is not restricted in length and shall provide cost information for all performance periods. Certified cost or pricing data may be required for awards over $650,000.

Section 1 - Total Cost Summary. This section should include all of the proposed costs of the project, including Government or Offeror cost sharing if applicable. (See Section 2 below for additional information.) Identify when the Offeror’s fiscal year begins and ends. Submit a cost element summary by major cost element for the basic period of performance and each option period processed using the format in Table 1. The detail required for each of the major cost elements is described below. Address all elements of cost applicable to the proposed effort and provide a narrative to support costs included in Table 1.
a. Direct Labor. Show each category of direct labor proposed on a separate row. In supporting rationale, identify the source and explain the derivation of the labor rate proposed for the first year in each labor category, and explain the methodology used to project each rate for subsequent years. Note: If temporary or part-time labor is proposed, explain the differences between the rates of pay for full-time and temporary or part-time workers and the impact of those differences on the direct rates proposed. Identify all uncompensated labor (straight time and/or overtime) included in this cost element, and explain the impact of uncompensated time on the direct rates proposed. Show hours proposed for each labor category by year/rate. For new or unfilled positions, a historical average, signed offer sheet, or description of the labor category sufficient to allow comparison to salary surveys should be provided.

b. Indirect Cost Rates and/or Factors. Identify all indirect cost rates (such as fringe benefits, labor overhead, material overhead, G&A, etc.) and their applicable allocation bases. If composite rates are used, provide the calculations used in deriving the composite rates. Identify the basis of proposed rates (e.g., Forward Pricing Rate Agreement and date of agreement, bidding rates and the date of submission or actual rates used and the effective date, billing rates and the date of approval, etc.)

c. Subcontractor/Interorganizational Transfers (IOTs), and Consultants. Obtain cost proposals from each subcontractor and IOT using the same cost breakout required for Table 1. Using Table 2, provide a list of anticipated subcontractors, IOTs, or consultants. Perform and provide evaluation results of cost/price analysis of subcontract and IOT proposals. If decrement factors are used, explain their development and application. Substantiate the need for and cost of proposed consultant services. If the subcontractor is not yet determined, the proposal must include a list of the tasks to be performed, an explanation of the method used to estimate the subcontract price, and the reason proposals/quotes cannot be requested/provided at this time.

d. Materials, Equipment, Travel, and Other Direct Costs (ODCs). Separately identify costs for travel, material and ODCs required to perform the basic effort and each option. Provide a breakout of travel costs for each year including the purpose and number of trips, origin and destination(s), duration, and travelers per trip. Provide an itemized, priced list of all proposed equipment, materials and supplies for each year and the basis of estimate (e.g., quotes, prior purchases, catalog price lists, etc.). Provide an itemized breakout and explanation of all other proposed ODCs by year.

e. Cost of Money (COM). Refer to FAR 52.215-16, Facilities Capital Cost of Money. Provide a schedule which contains proposed cost of money (COM) factors, if applicable, to include a display of all individual bases for the COM amounts. Submit a DD Form 1861 for each year.

f. Profit/Fee (If applicable). This section specifies the profit or fee percentage proposed and the base to which the rate applies. Any usual contract performance risk factors should be identified. Profit or fee is not allowed on direct costs for facilities, in cooperative agreements or other transaction instruments, or in cost-sharing contracts.

Section 2 - Cost Sharing (If Applicable). The solicitation will specify if cost sharing is required, at what level, and what types of resources can be counted. If required, proposals should contain information regarding the necessity for, sources, valuation and timing of the proposed cost sharing. Sunk costs generally cannot be counted as cost share.
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(SAMPLE)

COST ELEMENT SUMMARY

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- **Option Period** 1

- **Cost Element Summary**

- **Table 1**
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Opption Period 2

(Sample)

Cost Element Summary

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(Sample)

TABLE 1
### Attachment L-0004

**CAMEO-LEVEL DELIVERABLES**

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<td>E-mail</td>
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<td>Excel</td>
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<td><em>Expenditure Estimate Spreadsheets</em></td>
<td>Invoiced vs. Benchmarks</td>
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<td>January 20th and July 20th</td>
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# Attachment L-005

## PROJECT-LEVEL DELIVERABLES

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