

The Washington Headquarters Services,  
Acquisition Directorate  
on behalf of the Department of Defense releases the

# FY 2013 Rapid Innovation Fund Broad Agency Announcement

Announcement Number: HQ0034-13-BAA-RIF-0001

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## Participating Department of Defense (DoD) Components:

- Joint Science and Technology Office for Chemical and Biological Defense
- Chief Information Officer / Defense Information Systems Agency
- Combating Terrorism Technical Support Office
- Developmental Test and Evaluation / Test Resource Management Center
- Defense Health Program
- Defense Logistics Agency
- Defense Threat Reduction Agency
- Missile Defense Agency
- North American Aerospace Defense Command / United States Northern Command
- National Reconnaissance Office
- Assistant Secretary of Defense for Operational Energy Plans and Programs
- United States Pacific Command
- United States Special Operations Command

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# Department of Defense Rapid Innovation Fund

## 1.0 General Information

### 1.1 Introduction

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) Part 35.016 and FAR 6.102(d)(2). A formal Request for Proposal (RFP), solicitation or additional information regarding this announcement will not be issued. This BAA is issued by Washington Headquarters Services, Acquisition Directorate (WHS/AD) on behalf of the DoD Components.

WHS/AD will not issue paper copies of this announcement. WHS/AD reserves the right to fund all, some or none of the proposals in response to this announcement. WHS/AD provides no funding for direct reimbursement of proposal development costs. White papers, technical and cost or price proposals (or any other material) submitted in response to this BAA will not be returned. All proposals will be treated as sensitive competitive information and their contents will be disclosed only for the purposes of evaluation.

### 1.2 Agency Name

Washington Headquarters Services (WHS) Acquisition Directorate (AD), 1155 Defense Pentagon Washington, DC 20301-1155

### 1.3 Research Opportunity Title

Department of Defense FY 2013 Rapid Innovation Fund (RIF)

### 1.4 Program Name

RIF is also known as the Rapid Innovation Program (RIP), as defined by statute.

### 1.5 Research Opportunity Number

HQ0034-13-BAA-RIF-0001

### 1.6 Key Dates

The DoD Component RIF BAA is open for 60 days for Offerors to submit white paper packages. The final due date for white paper packages to be considered under this BAA is no later than **3:00 PM EST on September 23, 2013**. White paper packages are to be submitted electronically via the Internet only at the following website: [www.dodsbir.net/rif](http://www.dodsbir.net/rif). If an Offeror does not submit a white paper package by the specified due date and time, it is not eligible to participate in the remaining Full Proposal submission process and is not eligible for funding. The anticipated due date for Full Proposals is 30 days after the Government extends an invitation to

those offerors who have submitted a white paper package and have been selected to submit a Full Proposal. See Section 2.2 for Notification details. Information that provides links to additional FY 2013 RIF research opportunities, milestones for the FY 2013 source selection process, reference information for the FY 2011 and 2012 RIF awards, and RIF defense points of contact are provided at <http://www.defenseinnovationmarketplace.mil/RIF2013.html>.

### **1.7 Submission of Late Proposals (Applicable to White Paper Packages and Full Proposals)**

Offerors are responsible for access to the DoD RIF submission website and for submitting electronic white papers and proposals so as to be received at the Government site indicated in this BAA no later than the date and time specified in the Section 1.6. When sending electronic files, the Offeror shall account for potential delays in file transfer from the originator's computer server to the DoD RIF submission website. Offerors are encouraged to submit their responses early to avoid potential file transfer delays due to high demand or problems encountered in the course of the submission.

Acceptable evidence to establish the time of receipt at the Government site includes documentary and electronic evidence of receipt maintained by the installation. Offerors should also print, and maintain for their records, the electronic date/time stamped receipt that appears on the final screen following a submission. All submissions shall be fully uploaded before the due date and time in order to be considered – **No exceptions.**

**Any proposal, modification, or revision received at the DoD RIF submission website after the exact time specified for receipt of offers is “late” and will not be considered.**

If an emergency or unanticipated event interrupts normal Government processes so that white paper packages and/or Full Proposals cannot be received at the site designated for receipt by the date and time specified, then the date and time specified for receipt will be deemed to be extended to the same time of day specified in the BAA on the first work day on which normal Government processes resume.

White paper packages or Full Proposals may be withdrawn by written notice received at any time before award. Withdrawals are effective upon receipt of notice by the Contracting Officer.

### **1.8 Research Opportunity Description**

Enacted by Congress in section 1073 of the fiscal year (FY) 2011 National Defense Authorization Act (NDAA) as the Rapid Innovation Program, the FY 2013 NDAA,

Section 4201, Public Law 112-84, and the "Consolidated and Further Continuing Appropriations Act," 2013 provides DoD with the authority to fund programs that facilitate the rapid insertion of innovative technologies into military systems or programs that meet critical national security needs.

Efforts awarded under this BAA should resolve operational challenges or other critical national security needs characterized by the defense component requirements or rapid innovation science and technology thrust areas as described in section 9.0.

The DoD Components participating in this BAA include the Joint Science and Technology Office for Chemical and Biological Defense (CBD); Chief Information Officer / Defense Information Systems Agency (CIO / DISA); Combating Terrorism Technical Support Office (CTSSO); Developmental Test and Evaluation / Test Resource Management Center (DT&E / TRMC); Defense Health Program (DHP); Defense Logistics Agency (DLA); Defense Threat Reduction Agency (DTRA); Missile Defense Agency (MDA); North American Aerospace Defense Command / United States Northern Command (NORAD / USNORTHCOM); National Reconnaissance Office (NRO); Assistant Secretary of Defense for Operational Energy Plans and Programs (OEPP); United States Pacific Command (USPACOM); and United States Special Operations Command (USSOCOM). These agencies are herein referred to as the DoD Components.

This BAA is primarily for the validation and transition of technologies developed by small businesses, including those resulting from the Small Business Innovation Research (SBIR) program and DoD reimbursed Independent Research and Development (IR&D). IR&D does not include R&D performed under a grant or contract from the Government. IR&D is defined in Federal Acquisition Regulation (FAR) 31.205-18(a).

The goals of the RIF reflect DoD's emphasis on rapid, responsive acquisition and the engagement of small, innovative businesses in solving defense needs. These include the technology transition of innovative technology into defense acquisition programs, primarily from small businesses (including Small Business Innovation Research (SBIR) Phase II or Small Business Technology Transfer (STTR) projects), that resolve operational challenges or other critical national security needs.

Technology maturity will be identified to assess technical risks for candidate proposals in direct support of major defense acquisition programs, programs of record, or the next phase of research and development. For purposes of this BAA, DoD seeks a Technology Readiness Level (TRL) between 6 and 9. In circumstances of exceptional technical merit, proposals with a lower TRL rating will be considered for award, as warranted by the Source Selection Authority.

## 1.9 Instrument Type

The type of award selected by the Government will be a firm fixed price contract, or a cost type contract, in accordance with FAR Part 16, Contract Types. If exceptional circumstances exist, a cooperative agreement or other transaction may be considered. If a cooperative agreement is selected, the award will be in accordance with DoD 3210.6-R, Department of Defense Grant and Agreement Regulations. Other transactional authority will be in accordance with 10 U.S.C. 2371. Awards may be made consistent with 10 U.S.C. 2358, 10 U.S.C. 2361, and 10 U.S.C. 2374(a). Contract type and funding arrangements are at the discretion of the Government.

## 1.10 Point(s) of Contact

Questions of a business nature shall be directed to the cognizant Contract Specialist, Ms. Robin Castoldi, WHS/AD Contract Specialist, email: [robin.castoldi@whs.mil](mailto:robin.castoldi@whs.mil)

Questions of a technical nature may be directed to the cognizant Technical Point of Contacts:

- Primary: Mr. Dan Cundiff, Office of the Assistant Secretary of Defense (Research & Engineering), Rapid Fielding, email: [dan.cundiff@osd.mil](mailto:dan.cundiff@osd.mil)
- Alternates:
  - Ms. Rushawn Chambers, Office of Small Business Programs, email: [rushawn.chambers.ctr@osd.mil](mailto:rushawn.chambers.ctr@osd.mil)
  - Mr. Paul Frichtl, Office of the Assistant Secretary of Defense (Research & Engineering), Rapid Fielding, email: [paul.frichtl.ctr@osd.mil](mailto:paul.frichtl.ctr@osd.mil)

Note: All UNCLASSIFIED communications shall be submitted via e-mail. All questions of an UNCLASSIFIED nature to the Technical Point of Contract (POC) shall be sent via e-mail with a copy to the designated Business POC. The subject line of the e-mail shall include the specific requirement number (e.g., SOCOM-13-BAA-RIF-0001).

Answers to unclassified questions will be provided in the form of an amendment to this announcement. Questions submitted after the deadline date, August 23, 2013, may not be answered, and the due date for submission of the white paper package and/or Full Proposal will not be extended.

## 1.11 Amendments

Amendments or links to amendments will be posted to the following web page:

- Federal Business Opportunities (FEDBIZOPPS) – <https://www.fbo.gov/>

Although other web pages may repost these amendments, Offerors are advised that

only the FEDBIZOPPS web page is the official record.

## **2.0 Award Information**

### **2.1 Basis of Award**

Awards will be based on the best full proposals that are determined to be most beneficial to the Government with appropriate consideration given to the evaluation factors, order of importance, and selection preferences. Award will be made to the Offerors whose submission is determined to advance the best ideas or concepts, has the highest competence in the specific field of science, technical merit, or importance to agency programs based on the factors and preferences of this BAA. This may not necessarily be the proposal offering the lowest cost/price or receiving the highest evaluated rating.

### **2.2 Notifications**

The evaluation status of white paper packages and full proposals will be provided at two points:

- Upon completion of white paper package evaluations, all Offerors will either receive 1) request for full proposal submission for those submissions that are to receive further consideration (i.e., an invitation to submit a Full Proposal); or 2) notification that their white papers are no longer under consideration.
- Firms that are invited to submit full proposals will receive either an award document or an email notification that their offer is no longer under consideration.

### **2.3 Debriefings**

**Debriefings will not be provided after any Government evaluation or selection decision.**

### **2.4 Award Value**

The cost or price of awards for each contract will not exceed \$3 million.

### **2.5 Period of Performance**

The performance period shall not exceed 24 months from date of contract award.

### **3.0 Eligibility**

#### **3.1 Eligible Sources**

All responsible sources capable of satisfying the Government's needs may submit a white paper under this BAA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit white papers and join others in submitting white papers; however, no portion of this announcement will be set aside for HBCU and MI participation.

#### **3.2 Foreign Participants**

**Foreign participants and/or individuals may participate to the extent that such participants comply with any necessary Non-Disclosure Agreements, Security Regulations, and any other applicable statutes.** Some requirements may cover export-controlled technologies. Research in these areas is limited to “U.S. persons” as defined in the International Traffic in Arms Regulations (ITAR), 22 CFR §1201.1.

#### **3.3 Federally Funded Research & Development Centers (FFRDCs)**

Federally Funded Research & Development Centers (FFRDCs), including Department of Energy National Laboratories, are not eligible to receive awards under this BAA. However, teaming arrangements between FFRDCs and eligible principal bidders are allowed to the extent that such an arrangement is permitted under the sponsoring agreement between the Government and the FFRDC.

#### **3.4 Department of Defense Laboratories**

Department of Defense laboratories are not eligible to receive awards under this BAA and should not submit white papers in response to this BAA. As with FFRDCs, these organizations may team with responsible sources from academia and industry that are submitting proposals under this BAA.

#### **3.5 University Affiliated Research Centers (UARCs)**

University Affiliated Research Centers are eligible to submit proposals under this BAA unless precluded from doing so by their Department of Defense UARC contracts.

#### **3.6 Teaming**

Teams are also encouraged and may submit proposals in any and all areas. However, Offerors must be willing to cooperate and exchange software, data and other information in an integrated program with other contractors.

## **4.0 White Paper Package Preparation & Submission Instructions**

### **4.1 White Papers**

White papers shall address one of the requirements listed in Section 9.0 of this announcement. Only Unclassified white papers will be accepted. If an Offeror does not submit a white paper before the specified closing date and time in Section 1.6, the Offeror will not be eligible to submit a full proposal. The Government's decision to invite a full proposal will be based upon the evaluation results of the white paper submission. White papers should focus on one requirement per paper. There is no limit on the number of white papers an Offeror may submit in response to this BAA.

### **4.2 Format of White Papers**

**4.2.1 Number of Pages:** The white paper is limited to three pages. The white paper cover sheet and quad chart are not included in the page limit. Pages submitted in excess of the white paper page limit will not be read or evaluated.

**4.2.2 Number of Copies & Format:** One electronic copy of the white paper, in Portable Document Format (PDF), shall be uploaded online through the DoD RIF submission website.

**4.2.3 Text & Font Format:** Text shall be at least single-spaced, on 8½ x 11 inch paper, with a minimum of one-inch margin all around. Pages shall be numbered consecutively. Font size shall be of minimum 10-point font and preferably Times New Roman. Bolding, underlining, and italics may be used to identify topic demarcations or points of emphasis. Graphic presentations, including tables, while not subject to the same font size and spacing requirements, shall have spacing and text that is easily readable.

**4.2.4 Headers:** The Offeror's name, requirement number, and white paper number shall be in the header of each page. The header may be included in the one-inch margins.

**4.2.5 Virus Check:** Perform a virus check before uploading the white paper. If a virus is detected, it may cause rejection of the file.

**4.2.6 Security:** Do not lock or encrypt any files uploaded as part of your white paper submission.

### **4.3 White Paper Package Structure**

A complete white paper package submission will consist of three volumes. The cover sheet is Volume One, the white paper is Volume Two, and the quad chart is Volume Three.

#### 4.3.1 Volume One – Cover Sheet (Online Form)

The cover sheet shall be prepared on the DoD RIF submission website. Once the cover sheet is saved, the system will assign you a unique white paper number. The cover sheet must be prepared before Volume Two and Volume Three can be uploaded. Offerors shall be prepared to submit the following information on the cover sheet form on the DoD RIF submission website:

- Firm Information: Name, Mailing Address, and CAGE code
  - Technical POC, Phone Number, Email address
  - Business POC, Phone Number, and Email Address
- Requirement Number and Title
- Duration of Effort
- Estimated Cost of Effort
- Recommended Funding Instrument: (select one)
  - Firm Fixed-Price Contract
  - Cost-Type Contract
  - Cooperative Agreement
  - Other Transaction
- Self-Certification of Applicant:  
(select one)
  - Small business
  - Large business
  - Academic institution
  - Other (Specify): \_\_\_\_\_
- Does the proposed approach derive from, extend, or complete efforts from prior DoD-funded SBIR or STTR projects? (select Yes/No)
  - If yes, identify the SBIR/STTR topic number, agency and resulting contract number: \_\_\_\_\_
- Was DoD-reimbursed IR&D technology a foundation for the proposed approach? (select Yes/No)
- Are you proposing to use foreign participants for work under the proposed effort? (select Yes/No)
- Identify the estimated percentage of effort to be performed by the Offeror and percentage of work by other team members (e.g. subcontractor/consultant):
  - Offeror: \_\_\_\_\_%
  - Team members: \_\_\_\_\_%
- Has this approach been proposed to or funded by the DoD or another Federal Agency (see Section 9.7)? (select Yes/No)
  - If yes, identify the agency, solicitation, and contract/grant number

#### 4.3.2 Volume Two – White Paper (3-page PDF file upload)

The white paper shall be prepared outside of the DoD RIF submission website and then uploaded to the submission site as a PDF attachment. The decision to request a proposal will be based upon the white paper submission. Ensure your white paper adequately describes the proposed approach and resulting contributions. The white paper shall include the following sections in the order given below, as applicable:

**(1) Contribution to the Requirement:** Provide a high-level project overview describing:

- How and to what degree the technical approach addresses the operational challenge area and/or an acquisition program need:
  - **Enhanced Military Capability** – Describe how your proposed project significantly increases or improves the military capabilities in relationship to operational challenge areas, or acquisition programs.
  - **Accelerated Military Development Capability** – Describe how your proposed project accelerates the development and ability to deploy military capabilities required for use by the Department of the Defense.
  - **Acquisition Development Cost Reduction** – Describe how your proposed project reduces the acquisition development and total ownership costs of the identified defense acquisition programs.
  - **Fielded Systems Sustainment Cost Reduction** – Describe how your proposed project reduces the sustainment costs of the identified fielded system or acquisition program.
- The current Technology Readiness Level (TRL) of the technology and/or product and how it will transition to military systems or programs. See also Section 1.7, paragraph 6.

**(2) Technical Approach:** Describe how the proposed technical approach is innovative, feasible, achievable, complete, and supported by a technical team that has the expertise and experience to accomplish the proposed tasks, including:

- Project objectives and scope.
- Overview of tasks and methods planned to achieve each objective and the final product to be delivered.
- Key Personnel (including subcontractors and consultants).
- Facilities/Equipment necessary to carry out the proposed effort.
- Related Prior or Current Work, including SBIR/STTR contracts and IR&D Projects.

**(3) Schedule:** Describe how the proposed schedule is achievable for the proposed technical approach. Transition to military systems or programs is expected within 24 months of award. Discuss:

- Major activities/milestones.
- Deliverables.
- Metrics/measures of success
- Potential risks and risk mitigation plans.

**(4) Costs:** Describe the estimated costs for the proposed technical approach.

#### **4.3.3 Volume Three – Quad Chart (1-page PDF file upload)**

The unclassified Quad Chart shall be prepared outside of the DoD RIF submission website in portrait orientation and then uploaded to the submission site as a PDF attachment. A fully functional (editable) Quad Chart template can be found on the DoD RIF submission website ([www.dodsbir.net/rif](http://www.dodsbir.net/rif)) and should include the following information:

- **Heading (Arial 24pt Bold)**
  - Title of Project
  - Company
  - Requirement #
- **Upper Left Quadrant:**
  - Picture or graphic illustrating proposed technology development
- **Lower Left Quadrant (Arial 12pt Normal):**
  - Project objectives and scope
  - Key personnel, facilities/equipment
  - Related prior or current work
- **Upper Right Quadrant (Arial 12pt Normal):**
  - How the technology contributes and addresses the requirement
  - How the technology will transition to existing military systems or programs
  - Technical Maturity Level (current level and anticipated level at project completion)
- **Lower Right Quadrant: (Arial 12pt Normal):**
  - Estimated costs
  - Major activities/milestones
  - Deliverables, metrics/measures of success
  - Potential risks

#### **4.4 Submission of White Paper Packages**

Offerors must be registered on the DoD RIF submission website to submit white paper packages. White paper packages sent by any other means (e.g.

hand-carried, postal service mail, commercial carrier, fax or e-mail) will not be considered.

Offerors that intend to submit multiple white paper packages must prepare a separate cover sheet for each package. Upon completion of the cover sheet, the Offeror will be instructed to upload the PDF white paper and quad chart, and then submit the white paper package. Offerors are responsible for ensuring that all volumes have been submitted and accepted by the website. Detailed submission instructions are available on the website.

#### **4.5 Notification of White Paper Package Receipt**

White paper packages will be considered “works in progress” until the Offeror submits the complete white paper package meeting the requirements in Section 4.3. The DoD RIF submission website will provide Offerors a printable confirmation of successful white paper package submission upon upload completion. White paper packages in the system after the due date that have not been finalized will not be evaluated.

#### **4.6 Validity of White Paper Packages**

Offerors agree to hold the terms of their white paper package valid for 180 days from the date of submission.

### **5.0 Proposal Preparation & Submission Instructions**

#### **5.1 Proposals**

Offerors that receive an invitation to submit Full Proposals shall provide sufficient information to persuade the Government the proposed project represents an innovative approach to accelerating the transition of defense-related technologies. Offerors that do not receive invitations from the Government to submit a full proposal are not eligible to submit proposals. The following is an illustrative outline for proposal format and content. The DoD Component Contracting Officer requesting the proposal has the right to deviate from the proposal format and content described below. Deviations from the information provided in this announcement will be detailed in the proposal invitation letter. Only unclassified proposals will be accepted.

#### **5.2 Format of Proposals**

**5.2.1 Number of Pages:** The technical proposal is limited to 25 pages. The cover sheet, cost/price proposal, and Performance Work Statement (PWS) are not included in the technical proposal page limit. The PWS is limited to 12 pages. The cost or price proposal does not have a page limit. There shall be no cost/price information in the technical proposal and no technical

information in the cost/price proposal. Pages submitted in excess of the technical proposal or PWS page limit will not be read or evaluated.

**5.2.2 Number of Copies & Format:** One electronic copy of the technical proposal, in Portable Document Format (PDF), shall be uploaded to the DoD RIF submission website ([www.dodsbir.net/rif](http://www.dodsbir.net/rif)). The cost or price proposal and PWS shall also be uploaded in PDF format.

**5.2.3 Text & Font Format:** Text shall be at least single-spaced, on 8½ x 11 inch paper, with a minimum of one-inch margin all around. Pages shall be numbered consecutively. Font size shall be of minimum 10-point font and preferably Times New Roman. Bolding, underlining, and italics may be used to identify topic demarcations or points of emphasis. Graphic presentations, including tables, while not subject to the same font size and spacing requirements, shall have spacing and text that is easily readable.

**5.2.4 Headers:** The Offeror's name, requirement number, and proposal number shall be included in the header of each page of the technical proposal. The header may be included in the one-inch margins.

**5.2.5 Virus Check:** Perform a virus check before uploading any files to the DoD RIF submission website ([www.dodsbir.net/rif](http://www.dodsbir.net/rif)). If a virus is detected, it may cause rejection of the file.

**5.2.6 Security:** Do not lock or encrypt any files uploaded as part of your proposal submission package.

### **5.3 Proposal Structure**

A complete proposal submission will consist of four volumes. The cover sheet is Volume One, the technical proposal is Volume Two, the cost/price proposal is Volume Three, and the PWS is Volume Four.

#### **5.3.1 Volume One – Cover Sheet (Online Form)**

The cover sheet shall be prepared on the DoD RIF submission website. Once the cover sheet is saved, the system will assign a unique proposal number. The cover sheet must be prepared before Volumes Two, Three, and Four can be uploaded.

#### **5.3.2 Volume Two – Technical Proposal (25-page PDF file upload)**

The technical proposal shall be prepared outside of the DoD RIF submission website and then uploaded as a PDF attachment. The technical proposal shall include the following sections in the order given below:

**(1) Contribution to the Requirement:** Provide a project overview and description of benefits, as described below:

**1.1 Project Overview:** A brief statement describing the specific technology and/or product being proposed and how the technology and/or product will work.

**1.2 Benefits:** Describe how, and to what degree, the technical approach is relevant to a requirement identified in this announcement, including how the approach:

- Accelerates or enhances a military capability, or
- Reduces the development, acquisition, sustainment, or lifecycle costs of defense acquisition programs or fielded systems, or
- Reduces technical risk, or
- Improves the timeliness and thoroughness of test and evaluation outcomes.

**1.3 Transition Strategy:** Describe how the technology and/or product will transition to the Services, including a demonstration path into military systems or defense acquisition programs. Describe evidence to support stated TRL.

**(2) Technical Approach:** Describe how the proposed technical approach is innovative, feasible, achievable, complete and supported by a technical team that has the expertise and experience to accomplish the proposed tasks.

**2.1 Objectives and Scope:** Describe the specific objectives of what the project will achieve and any logical boundaries.

**2.2 Work Plan:** Provide an explicit, detailed description of tasks to be completed and deliverables.

**2.3 Key Personnel:** Describe the qualifications of the team and identify key personnel who will be involved in the effort including information directly related education and experience. Identify any foreign citizens you expect to be involved as a direct employee, subcontractor, or consultant. Key personnel resumes shall be provided in an attachment to the proposal and will not count toward the page limitations.

**2.4 Facilities/Equipment:** Describe available instrumentation and physical facilities necessary to carry out the proposed effort.

**2.5 Related Work:** Describe significant activities and/or previous work directly related to the proposed effort, including SBIR/STTR contracts and IR&D projects.

**(3) Schedule:** Describe how the proposed schedule is achievable for the proposed technical approach. Transition to military systems or programs is expected within 24 months of award.

**3.1 Milestones & Deliverables:** Show major activities/milestones and deliverables anticipated by date, including research and development, testing, integration, transition, and/or acquisition elements, as applicable.

**3.2 Metrics/Measures of Success:** Discuss what measurement criteria will be established to measure progress against stated objectives.

**3.3 Risks:** Describe anticipated risks and risk mitigation plans.

### **5.3.3 Volume Three – Cost or Price Proposal (PDF file upload)**

The cost or price proposal shall be prepared outside of the DoD RIF submission website and then uploaded as a PDF attachment. The cost/price proposal shall include a detailed breakdown of all costs by category. If a proposal is selected for award, the Offeror shall be prepared to submit further documentation to its DoD Contracting Officer to substantiate costs. For more information about cost proposals and accounting standards, see the DCAA publication called “Information for Contractors” available at [www.dcaa.mil](http://www.dcaa.mil). The following cost areas shall be included, if applicable:

**(1) Direct Labor:** Individual labor category or person, with associated labor hours and unburdened direct labor rates.

**(2) Indirect Costs:** Fringe Benefits, Overhead, G&A, etc.

**(3) Travel:** Destination, number of trips, number of days per trip, departure and arrival destinations, number of people, etc.

**(4) Subcontractor and Consultants:** All subcontractor costs and consultant costs must be detailed at the same level as prime contractor costs in regards to labor, travel, equipment, etc. Provide detailed substantiation of subcontractor costs in your cost proposal. Provide consultant agreement or other document that verifies the proposed daily/hourly rate.

**(5) Other Direct Costs (ODCs):** ODCs shall be itemized with costs or estimated costs.

### **5.3.4 Volume Four – Performance Work Statement (12-page PDF file upload)**

Provide a PWS clearly detailing the scope and objectives of the effort; tasks to be completed; the technical approach; and deliverables. It is anticipated that the proposed PWS will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a PWS without any proprietary

restrictions, which can be included in the award instrument.

#### **5.4 Submission of Proposals**

Unless otherwise notified by the component contracting office, Offerors that receive an invitation to submit a Full Proposal shall use the same DoD RIF submission website ([www.dodsbir.net/rif](http://www.dodsbir.net/rif)) that was used for the DoD RIF white paper package submission. The cover sheet, technical proposal, cost or price proposal, and PWS shall be submitted electronically through the RIF submission website. Proposals sent by any other means (e.g. hand-carried, postal service mail, commercial carrier, fax or e-mail) will not be considered.

If multiple proposals are being submitted by the same Offeror, a separate cover sheet must be generated for each proposal package. Upon completion of the cover sheet, the Offeror will be instructed to upload the PDF technical proposal, cost or price proposal, and PWS, and then submit the proposal package (Volumes 1 – 4). Offerors are responsible for ensuring compliant and final submission of their proposals. Any additional submission instructions will be provided in the invitation requesting the proposal.

#### **5.5 Notification of Proposal Receipt**

Proposals will be considered “works in progress” until the Offeror submits the final proposal package. The DoD RIF submission website will provide Offerors a printable confirmation of successful proposal submission upon upload completion. Proposals in the system after the due date that have not been finalized will not be evaluated.

#### **5.6 Validity of Proposals**

The Offeror agrees to hold prices, terms and conditions of their offer firm for 120 days from the date of submission.

#### **5.7 Marking of Proposals for Classified/Proprietary Information**

Proposals submitted in response to this BAA are to be unclassified. The proposal submissions will be protected from unauthorized disclosure in accordance with FAR 15.207(b), applicable law, and DoD regulations. Offerors are to appropriately mark each page of their submission that contains proprietary information. The proposal shall include a Performance Work Statement, which contains only unclassified information and does not include any proprietary restrictions.

#### **6.0 Evaluation Information**

The evaluation process will be conducted using a technical subject matter expert review as described in FAR 6.102(d)(2) and 35.016. Each white paper package will

be evaluated based on the merit and relevance of the specific white paper as it relates to the RIF program rather than against other white papers for requirements in the same general area. Each proposal will be evaluated based on the merit, relevance and cost of the specific proposal as it relates to the RIF program rather than against other proposals for requirements in the same general area. All documents necessary for the review and evaluation of white paper packages and proposal submissions shall be provided as described in this BAA.

## **6.1 White Paper Package Evaluations**

### **6.1.1 Evaluation Criteria**

White paper **packages** will be evaluated using four criteria. All factors will be evaluated using a “Go” or “No Go” decision making process. Packages that are deemed “No Go” in either Factor #1 or Factor # 2 will not be considered for further review.

- **Factor #1 – Contribution to the Requirement**

The degree to which the technical approach is relevant to the proposed requirement.

- **Factor #2 – Technical Approach/Qualifications**

The degree to which the technical approach is innovative, feasible, achievable, complete and supported by a technical team that has the expertise and experience to accomplish the proposed tasks. This includes an evaluation of the probability for transition of this effort into an acquisition program, a military system, or other military capability.

- **Factor #3 – Schedule**

The degree to which the proposed schedule is achievable within 24 months from award.

- **Factor #4 – Cost**

The degree to which the proposed cost or price is realistic for the proposed technical approach and does not exceed \$3 Million.

### **6.1.2 Order of Importance**

Factor #1 and Factor #2 are equally important. Factor #3 and Factor #4 are equally important. Factors #1 and #2 when combined are significantly more important than Factors #3 and #4. The government is more concerned with obtaining superior technical capabilities than with making awards at a lower cost to the government.

## 6.2 Proposal Evaluations/ Negotiations

### 6.2.1 Evaluation Criteria

Proposals will be evaluated using four criteria: The non-price criteria will be evaluated using the following adjectival ratings: Outstanding (O), Good (G), Acceptable (A), Marginal (M), or Unacceptable (U). Proposals that are deemed “Unacceptable” in any factor will not be considered for further review.

- **Factor #1 – Contribution to the Requirement**

The degree to which the technical approach is relevant to the proposed requirement.

- **Factor #2 – Technical Approach/Qualifications**

The degree to which the technical approach is innovative, feasible, achievable, complete and supported by a technical team that has the expertise and experience to accomplish the proposed tasks. This includes an evaluation of the probability for transition of this effort into an acquisition program, a military system, or other military capability.

- **Factor #3 – Schedule**

The degree to which the proposed schedule is achievable within 24 months from award.

- **Factor #4 – Cost**

Cost realism including the Project’s cost effectiveness and ability to complete the total project for not more than \$3 million.

### 6.2.2 Order of Importance

Factor #1 and Factor #2 are equally important. Factor #3 and Factor #4 are equally important. Factors #1 and #2 when combined are significantly more important than Factors #3 and #4. The government is more concerned with obtaining superior technical capabilities than with making awards at a lower cost to the government.

## 6.3 Adjectival Ratings Definitions

The following adjectival ratings will be used for non-price factors during the evaluation of proposals.

- **Outstanding (O)** – The proposal meets requirements and indicates an exceptional approach and understanding of the requirements. Strengths far

outweigh any weaknesses. Risk of unsuccessful performance is very low.

- **Good (G)** – The proposal meets requirements and indicates a thorough approach and understanding of the requirements. Proposal contains strengths which outweigh any weaknesses. Risk of unsuccessful performance is low.
- **Acceptable (A)** – The proposal meets requirements and indicates an adequate approach and understanding of the requirements. Strengths and weaknesses are offsetting or will have little or no impact on contract performance. Risk of unsuccessful performance is no worse than moderate.
- **Marginal (M)** – The proposal does not clearly meet requirements and has not demonstrated an adequate approach and understanding of the requirements. The proposal has one or more weaknesses which are not offset by strengths. Risk of unsuccessful performance is high.
- **Unacceptable (U)** – The proposal does not meet requirements and contains one or more deficiencies. Proposal is unawardable.

#### **6.4 Selection Preferences**

In addition to the evaluation criteria, source selection authorities will use the following selection preferences, listed in order of priority:

- (1) White papers from small businesses.
- (2) White papers from other than small businesses.

#### **6.5 Selection**

The Government intends to make awards resulting from this announcement. The awards will be made based on the best proposals that are determined to be most beneficial to the Government with appropriate consideration given to the evaluation factors, order of importance, and selection preferences. Awards will be made to the Offerors whose offer is determined to provide the “best value” to the Government based on the factors/preferences, this may not necessarily be the proposal offering the lowest cost/price or receiving the highest evaluated rating.

#### **6.6 Negotiation**

The Government will negotiate awards with those Offerors whose proposals are determined to provide the “best value” to the Government and intends to award without discussions. However, it reserves the right to conduct discussions if necessary. The DoD Component Contracting Officer will make the determination if discussions will be conducted.

## **7.0 Award Administration Information**

### **7.1 Information on White Paper & Proposal Status**

Evaluation of white paper packages and proposals will be provided in accordance with Section 2.2. However, Contracting Officers may contact any and all qualified Offerors at any time. Offerors will be notified by the DoD Component to which they submitted their response if their proposal has been selected for award. Notification of white paper and proposal selection is not an authorization to begin work. Offerors that submitted white paper packages or proposals that are not selected for award will be notified.

### **7.2 Email Addresses**

Offerors must be aware that it is their responsibility to ensure: (1) correct e-mail addresses are provided at the time of submission, (2) e-mail notifications reach the intended recipient(s), and (3) the e-mail is not blocked by the use of ‘spam blocker’ software or other means that the recipient’s Internet Service Provider may have implemented as a means to block the receipt of certain e-mail messages.

### **7.3 North American Industry Classification System (NAICS) Code**

The NAICS codes for this announcement are 541712 and 541711. A small business under these NAICS codes is defined by a size standard of 500 employees.

### **7.4 System for Award Management (SAM)**

All Offerors submitting proposals must be registered in SAM at <https://www.sam.gov/portal/public/SAM/>.

## **8.0 Other Information**

Upon award of a funding instrument, the Offeror will be required to make certain legal commitments through acceptance of a contract, cooperative agreement, or other transaction. The outline that follows is illustrative of the types of terms that may be included in the funding instrument. This is not a complete list of terms and conditions to be included in the funding instrument.

### **8.1 Organizational Conflicts of Interest (OCI)**

**8.1.1 Purpose:** The primary purpose of this provision is to aid in ensuring that: the Contractor’s objectivity and judgment are not biased because of its present, or currently planned interests (financial, contractual, organizational, or otherwise) which relate to work under a contract; the Contractor does not obtain an unfair competitive advantage by virtue of its access to non-public

Government information regarding the Government's program plans and actual or anticipated resources; and the Contractor does not obtain any unfair competitive advantage by virtue of its access to proprietary information belonging to others.

**8.1.2 Scope:** The restrictions described herein shall apply to performance or participation by the Contractor and any of its affiliates or their successors in interest (hereinafter collectively referred to as "Contractor") in the activities covered by this clause as prime contractor, subcontractor, co-sponsor, joint venture, consultant, or in any similar capacity. The term "proprietary information" for the purposes of this clause is any information considered to be so valuable by its owner that it is held in secret by them and their licensees. Information furnished voluntarily by the owner without limitations on its use, or which is available without restrictions from other sources, is not considered proprietary.

8.1.2.1 Access To and Use of Government Information: If the Contractor, in the performance of this contract, obtains access to information such as plans, policies, reports, studies, financial plans, or data which has not been released or otherwise made available to the public, the Contractor agrees that without prior written approval of the Contracting Officer, it shall not: (a) use such information for any private purpose unless the information has been lawfully released or otherwise made available to the public, (b) compete for work based on such information after the completion of this contract, (c) submit an unsolicited proposal to the Government which is based on such information after such information is released, or (d) release such information unless such information has previously been lawfully released or otherwise made available to the public by the Government.

8.1.2.2 Access To and Protection of Propriety Information: The Contractor agrees that, to the extent it receives or is given access to proprietary data, trade secrets, or other confidential or privileged technical, business, or financial information (hereinafter referred to as "proprietary data") under this contract, it shall treat such information in accordance with any restrictions imposed on such information. The Contractor further agrees to enter into a written agreement for the protection of the proprietary data of others and to exercise diligent effort to protect such proprietary data from unauthorized use or disclosure. In addition, the Contractor shall obtain from each employee who has access to proprietary data under this contract, a written agreement which shall in substance provide that such employee shall not, during his/her employment by the Contractor or thereafter, disclose to others or use for their benefit,

proprietary data received in connection with the work under this contract. The Contractor will educate its employees regarding the philosophy of Part 9.505-4 of the Federal Acquisition Regulation so that they will not use or disclose proprietary information or data generated or acquired in the performance of this contract except as provided herein.

8.1.2.3 Subcontracts: The Contractor shall include this or substantially the same clause, including this paragraph, in consulting agreements and subcontracts of all tiers. The terms “Contract”, “Contractor”, and “Contracting Officer”, will be appropriately modified to preserve the Government’s rights.

8.1.2.4 Disclosures: If the Contractor discovers an organizational conflict of interest or potential conflict of interest after award, a prompt and full disclosure shall be made in writing to the Contracting Officer. This disclosure shall be made on the OCI Analysis/ Disclosure Form provided as an Attachment to this contract, and shall include a description of the action the Contractor has taken or proposes to take in order to avoid or mitigate such conflicts.

8.1.2.5 Remedies and Waiver: For breach of any of the above restrictions or for non-disclosure or misrepresentation of any relevant facts required to be disclosed concerning this contract, the Government may terminate this contract for default, disqualify the Contractor for subsequent related contractual efforts, and pursue such other remedies as may be permitted by law or the contract. If, however, in compliance with this clause, the Contractor discovers and promptly reports an organizational conflict of interest (or the potential thereof) subsequent to contract award, the Contracting Officer may terminate this contract for the convenience of the Government if such termination is deemed to be in the best interest of the Government.

8.1.2.6. Modifications: Prior to contract modification, when the Scope of Work is changed to add new work or the period of performance is significantly increased, the Contracting Officer may require the Contractor to submit either an organizational conflict of interest disclosure or an update of the previously submitted disclosure or representation. Organizational conflict of interest (OCI)

## **8.2 False Statements**

Knowingly and willfully making any false, fictitious, or fraudulent statements or representations may be a felony under the Federal Criminal False Statement

Act (18 U.S.C. Sec 1001), punishable by a fine of up to \$10,000, up to five years in prison, or both.

### **8.3 Export Control**

The International Traffic in Arms Regulations (ITAR), 22 CFR Parts 120 through 130, and the Export Administration Regulations (EAR), 15 CFR Parts 730 through 799, will apply to all projects with military or dual-use applications that develop beyond fundamental research, which is basic and applied research ordinarily published and shared broadly within the scientific community. More information is available at [http://www.pmddtc.state.gov/regulations\\_laws/itar.html](http://www.pmddtc.state.gov/regulations_laws/itar.html).

### **8.4 Publication Approval**

Government review and approval will be required prior to any dissemination or publication, except within and between the Contractor and any subcontractors, of classified and non-fundamental information developed under this contract or contained in the reports to be furnished pursuant to a contract.

### **8.5 Wide Area Work Flow (WAWF)**

Unless using another approved electronic invoicing system, performers will be required to submit invoices for payment directly via the Internet/WAWF at <http://wawf.eb.mil>. Registration to WAWF will be required prior to any award under this BAA.

### **8.6 Employment Eligibility Verification**

Recipients of FAR-based procurement contracts must enroll as Federal Contractors in E-verify and use E-Verify to verify employment eligibility of all employees assigned to the award. All resultant contracts from this announcement will include FAR 52.222-54, "Employment Eligibility Verification." This clause will not be included in cooperative agreements, or Other Transactions.

### **8.7 Essentially Equivalent Work**

While it is permissible, with proposal notification, to submit proposals containing a significant amount of essentially equivalent work for consideration under numerous federal program announcements, it is unlawful to enter into awards requiring essentially equivalent effort. If there is any question concerning this, it must be disclosed to the soliciting agency or agencies before award.

Essentially equivalent work is defined as (1) substantially the same research is proposed for funding in more than one contract proposal or grant application submitted to the same Federal agency; (2) substantially the same research is submitted to two or more different Federal agencies for review and funding consideration; or (3) a specific research objective and the research design for

accomplishing an objective are the same or closely related in two or more proposals or awards, regardless of the funding source.

If a proposal submitted in response to this announcement is substantially the same as another proposal that has been funded, is now being funded, or is pending with another Federal Agency or DoD Component or the same DoD Component, the proposer must so indicate on the white paper package and proposal cover sheet and provide the following information:

- (a) Name and point of contact at the Federal Agency(s) or DoD Component to which a proposal was submitted, will be submitted, or from which an award is expected or has been received.
- (b) Project Title
- (c) Solicitation number or
- (d) Award/Grant number
- (e) Description of equivalent work.

## **8.8 Security Classification**

In order to facilitate intra-program collaboration and technology transfer, the Government will attempt to enable technology developers to work at the unclassified level to the maximum extent possible. If access to classified material will be required at any point during performance, the Offeror must clearly identify such need.

## **8.9 Use of Animals and Human Subjects in Research**

All research, development, testing, experimentation, education or training involving the use of animals shall comply with the applicable federal and agency rules on animal acquisition, transport, care, handling, and use. For submissions containing animal use, proposals shall briefly describe plans for their Institutional Animal Care and Use Committee (IACUC) review and approval. All Recipients must receive their IACUC's approval as well as secondary or headquarters-level approval by a DoD veterinarian who is trained or experienced in laboratory animal medicine and science. No animal research may be conducted using DoD funding until all the appropriate DoD office(s) grant approval.

All research involving human subjects, to include use of human biological specimens and human data, shall comply with the applicable federal and state laws and agency policy/guidelines for human subject protection. Institutions to be awarded funding for research involving human subjects must provide documentation of a current Federal Assurance of Compliance with Federal regulations for human subject protection, for example a Department of Health and Human Services, Office for Human Research Protections Federalwide Assurance <http://www.hhs.gov/ohrp>. Additional Federal Assurance documentation may also be requested by the awarding DoD Component. All institutions engaged in human subject research, to include subcontractors, must also have a valid Assurance.

In addition, personnel involved in human subjects research must provide documentation of completing appropriate training for the protection of human subjects. Institutions proposing to conduct human subject research that meets one of the exemption criteria in 32 CFR 218.101 are not required to have a Federal Assurance of Compliance. If selected, institutions must also provide documentation of Institutional Review Board (IRB) approval or a determination from an appropriate official in the institution that the work meets one of the exemption criteria with 32 CFR 219. As part of the IRB review process, evidence of appropriate training for all investigators shall accompany the protocol. The protocol, separate from the proposal, must include a detailed description of the research plan, study population, risks and benefits of study participation, recruitment and consent process, data collection and data analysis. No funding can be used towards human subjects research until all approvals are granted.

#### **8.10 Recombinant DNA**

All research involving recombinant DNA must include documentation of compliance with Department of Human and Health Services (DHHS) recombinant DNA regulations, and shall comply with the applicable federal and state law, regulation and any additional agency guidance. Research must be approved by an Institutional Biosafety Committee (IBC).

#### **8.11 Department of Defense High Performance Computing Program**

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S&T and DT&E communities with use-access to very powerful high performance computing systems. Awardees may be eligible to use HPCMP assets in support of their funded activities if Program Office approval is obtained and if security/screening requirements are favorably completed. Additional information and an application may be found at <http://www.hpcmo.hpc.mil/>.

#### **8.12 Executive Compensation and First-Tier Subcontract Reporting**

Section 2(d) of the Federal Funding Accountability and Transparency Act of 2006 (Pub. L. No. 109-282), as amended by section 6202 of the Government Funding Transparency Act of 2008 (Pub. L. 110-252), requires the Contractor to report information on subcontract awards. The law requires all reported information be made public, therefore, the Contractor is responsible for notifying its subcontractors that the required information will be made public.

Unless otherwise directed by the Contracting Officer, by the end of the month following the month of award of a first-tier subcontract with a value of \$25,000 or more, (and any modifications to these subcontracts that change previously reported data), the Contractor shall report the following information at <http://www.fsr.gov> for each first-tier subcontract:

- (a) Unique identifier (DUNS Number) for the subcontractor receiving the

award and for the subcontractor's parent company, if the subcontractor has one.

- (b) Name of the subcontractor.
- (c) Amount of the subcontract award.
- (d) Date of the subcontract award.
- (e) A description of the products or services (including construction) being provided under the subcontract, including the overall purpose and expected outcomes or results of the subcontract.
- (f) Subcontract number (the subcontract number assigned by the Contractor).
- (g) Subcontractor's physical address including street address, city, state, and country. Also, include the nine-digit zip code and congressional district.
- (h) Subcontractor's primary performance location including street address, city, state, and country. Also, include the nine-digit zip code and congressional district.
- (i) The prime contract number, and order number if applicable.
- (j) Awarding agency name and code.
- (k) Funding agency name and code.
- (l) Government contracting office code.
- (m) Treasury account symbol (TAS) as reported in FPDS.
- (n) The applicable NAICS code.

By the end of the month following the month of a contract award, and annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for the Contractor's preceding completed fiscal year at <http://www.ccr.gov>, if –

- (a) In the Contractor's preceding fiscal year, the Contractor received –
  - (i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and
  - (ii) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and
  
- (b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/excomp.htm>).

Unless otherwise directed by the Contracting Officer, by the end of the month following the month of a first-tier subcontract with a value of \$25,000 or more, and

annually thereafter, the Contractor shall report the names and total compensation of each of the five most highly compensated executives for each first-tier subcontractor for the subcontractor's preceding completed fiscal year at <http://www.fsr.gov>, if –

- (a) In the subcontractor's preceding fiscal year, the subcontractor received –
  - (i) 80 percent or more of its annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and
  - (ii) \$25,000,000 or more in annual gross revenues from Federal contracts (and subcontracts), loans, grants (and subgrants) and cooperative agreements; and

(b) The public does not have access to information about the compensation of the executives through periodic reports filed under section 13(a) or 15(d) of the Securities Exchange Act of 1934 (15 U.S.C. 78m(a), 78o(d)) or section 6104 of the Internal Revenue Code of 1986. (To determine if the public has access to the compensation information, see the U.S. Security and Exchange Commission total compensation filings at <http://www.sec.gov/answers/excomp.htm>).

If the Contractor in the previous tax year had gross income, from all sources, under \$300,000, the Contractor is exempt from the requirement to report subcontractor awards. Likewise, if a subcontractor in the previous tax year had gross income from all sources under \$300,000, the Contractor does not need to report awards to that subcontractor.

### **8.13 Subcontracting**

For proposed awards to be made as contracts (that exceed \$650,000) to other than small businesses, the Offeror is required to submit a Small Business Subcontracting Plan. As such, Subcontracting Plans will be evaluated to ensure that submissions are compliant with FAR Subpart 19.7.

For proposed awards made as contracts to small businesses at any value, the Offeror shall provide a statement which demonstrates how it intends to provide meaningful subcontracting opportunities to support this policy.

### **8.14 Limitations on Other Transactions**

Offerors are advised that an Other Transaction for Research Agreement (10 U.S. Code § 2371) may only be awarded if the use of a standard contract is not feasible or appropriate. Offerors are advised that an Other Transaction (OT) for Prototype Agreement (P.L. Law 103-160 § 845) may only be awarded if there is:

- a. At least one nontraditional defense contractor participating to a significant extent in the prototype project, or

- b. No nontraditional defense contractor is participating to a significant extent in the prototype project, but at least one of the following circumstances exists:
  - i. At least one third of the total cost of the prototype project is to be paid out of funds provided by the parties to the transaction other than the federal government. The cost share should generally consist of labor, materials, equipment, and facilities costs (including allocable indirect costs).
  - ii. Exceptional circumstances justify the use of a transaction that provides for innovative business arrangements or structures that would not be feasible or appropriate under a procurement contract.
  
- c. Although use of one of these options is required to use an Other Transaction for Prototype agreement as the procurement vehicle, no single option is encouraged or desired over the others.

For purposes of determining whether or not a participant may be classified as a nontraditional defense contractor and whether or not such participation is determined to be participating to a significant extent in the prototype project, the following definitions are applicable:

“Nontraditional defense contractor” means a business unit that has not, for a period of at least one year prior to the date of the OT agreement, entered into or performed on:

- i. any contract that is subject to full coverage under the cost accounting standards prescribed pursuant to section 26 of the Office of Federal Procurement Policy Act (41 U.S.C. 422) and the regulations implementing such section; or
- ii. any other contract in excess of \$500,000 to carry out prototype projects or to perform applied research or advanced development projects for a Federal agency that is subject to the Federal Acquisition Regulation.

“Participating to a significant extent in the prototype project” means that the nontraditional defense contractor is supplying a new key technology or product, is accomplishing a significant amount of the effort wherein the role played is more than a nominal or token role in the research effort, or in some other way plays a significant part in causing a material reduction in the cost or schedule of the effort or an increase in performance of the prototype in question.

Offerors are cautioned that if they are classified as a traditional defense contractor, and propose the use of an OT, the Government will require submittal of both a cost proposal under the guidelines of the FAR/DFARS, and a cost proposal under the proposed OT, so that an evaluation may be made with respect to the cost

tradeoffs applicable under both situations. The Government reserves the right to negotiate either a FAR based procurement contract, or Other Transaction as it deems is warranted under the circumstances.

### **8.15 Technical and Administrative Support by Non-Government Personnel**

The DoD may use non-government personnel (e.g. contractor support personnel) in the review and administration of submittals for this BAA. Support contractor employees may have access to proposal information including information that may be considered proprietary. All contractor support personnel having access to any proprietary data are required to execute nondisclosure agreements certifying that they will not disclose any information pertaining to this solicitation including any proposal submittals, the identity of any submitters, or any other information relative to this BAA. The contracts for provision of support personnel contain Organizational Conflict of Interest provisions and include contractual requirements for non-disclosure of proprietary contractor information.

### **8.16 Foreign Participants (also known as Foreign Persons) means any person who is NOT:**

- a. a citizen or national of the United States; or
- b. a lawful permanent resident; or
- c. a protected individual as defined by 8 U.S.C. § 1324b(a)(3).

"Lawful permanent resident" is a person having the status of having been lawfully accorded the privilege of residing permanently in the United States as an immigrant in accordance with the immigration laws and such status not having changed.

"Protected individual" is an alien who is lawfully admitted for permanent residence, is granted the status of an alien lawfully admitted for temporary residence under 8 U.S.C. § 1160(a) or 8 U.S.C. § 1255a(a)(1), is admitted as a refugee under 8 U.S.C. § 1157, or is granted asylum under Section 8 U.S.C. § 1158; but does not include (i) an alien who fails to apply for naturalization within six months of the date the alien first becomes eligible (by virtue of period of lawful permanent residence) to apply for naturalization or, if later, within six months after November 6, 1986, and (ii) an alien who has applied on a timely basis, but has not been naturalized as a citizen within 2 years after the date of the application, unless the alien can establish that the alien is actively pursuing naturalization, except that time consumed in the Service's processing the application shall not be counted toward the 2-year period.

## **9.0 Requirements**

### **9.1 Introduction and Priorities Table**

Each white paper must support one of the following specific component

requirements or a defense-wide rapid innovation science and technology thrust area, as highlighted below, and more fully described in paragraph 9.2:

<b>Requirement Number</b>	<b>Requirement Title</b>
<b>Joint Science and Technology Office for Chemical and Biological Defense (CBD)</b>	
CBD-13-BAA-RIF-0001	Environmentally Acceptable Scaled-up Manufacturing of Multi-functional Omniphobic Coated Textiles
CBD-13-BAA-RIF-0002	Coating additives for minimizing surface energy/spreading of Chemical Warfare Agents (CWA's)
<b>Chief Information Officer/Defense Information Systems Agency (CIO/DISA)</b>	
CIO_DISA-13-BAA-RIF-0001	Insider Threat Identification
CIO_DISA-13-BAA-RIF-0002	Storing Department Data on Commercial Cloud
CIO_DISA-13-BAA-RIF-0003	Integrity of Decision Support Systems
<b>Combating Terrorism Technical Support Office (CTTSO)</b>	
CTTSO-13-BAA-RIF-0001	Identity Discovery
CTTSO-13-BAA-RIF-0002	Identity Intelligence (I2) Exploitation
CTTSO-13-BAA-RIF-0003	Global Multilingual Social Media Analytical Tool
<b>Developmental Test &amp; Evaluation (DT&amp;E) / Test Resource Management Center (TRMC)</b>	
DT&E-13-BAA-RIF-0001	Ruggedized Ethernet Switch for Airborne Systems
<b>Defense Health Program (DHP)</b>	
DHP-13-BAA-RIF-0001	Commercializing Desktop and Mobile, Cloud-Based, Speech Recognition and Natural Language Processing (NLP), To Improve Clinical Encounter and Inpatient Documentation in Military Medicine
DHP-13-BAA-RIF-0002	Automated Knowledge Structuring of Medical Charts Data - Extend Environment, Epidemiology, and Etiology Surveillance and Analysis Toolkit (E3SAT) to Support Donor Hemovigilance
DHP-13-BAA-RIF-0003	Commercializing the Integrated Clinical Environment (ICE) To Improve Neurocritical Care Patient Safety and Outcomes
<b>Defense Logistics Agency (DLA)</b>	
DLA-13-BAA-RIF-0001	Material Identification Technology
DLA-13-BAA-RIF-0002	Anti-Counterfeiting Protection: Single Authentication Technology for Multiple High-Risk Commodities
DLA-13-BAA-RIF-0003	Clinical-to-Logistics Information Exchange for Improved Materiel Support
<b>Defense Threat Reduction Agency (DTRA)</b>	
DTRA-13-BAA-RIF-0001	Large-scale Integrated Weapons of Mass Destruction (WMD) Technical Information Database and Archive
DTRA-13-BAA-RIF-0002	Mobile Device for Exploitation and Elimination Planning
DTRA-13-BAA-RIF-0003	Neutron Detectors for Direct Replacement of Helium-3 Tubes in Military Systems
<b>Missile Defense Agency (MDA)</b>	
MDA-13-BAA-RIF-0001	Clutter Suppression and Debris Mitigation Techniques and Algorithms
MDA-13-BAA-RIF-0002	Technologies for a Common Kill Vehicle
MDA-13-BAA-RIF-0003	Integrated Circuit (IC) Forensics: A New Paradigm for Counterfeit Detection and Security Protection
<b>North American Aerospace Defense Command / US Northern Command (NORAD / USNORTHCOM)</b>	
NORTHCOM-13-BAA-RIF-0001	Industrial Control Systems Cyber Intrusion Detection System (IDS)

NORTHCOM-13-BAA-RIF-0002	Interceptor Robotic Sentry Vehicle
NORTHCOM-13-BAA-RIF-0003	Mine and Improvised Explosive Device (IED) Countermeasures in the Maritime Domain
<b>National Reconnaissance Office (NRO)</b>	
NRO-13-BAA-RIF-0001	DoD Multi-mission 6U Nanosatellite Bus
<b>Assistant Secretary of Defense for Operational Energy Plans and Programs (OEPP)</b>	
OEPP-13-BAA-RIF-0001	Advanced 100W Solar Blanket for Squad Power
OEPP-13-BAA-RIF-0002	250W JP-8 Fueled Fuel Cell Power Source for Man Transportable Robotic System (MTRS) Increment II CPD (5 hours of operation)
OEPP-13-BAA-RIF-0003	Efficient Power Takeoff for Bradley Combat Vehicle
<b>U.S. Pacific Command (USPACOM)</b>	
PACOM-13-BAA-RIF-0001	Jam Resistant Positioning Navigation and Timing (PNT) system for Micro UAS
PACOM-13-BAA-RIF-0002	Infrared Kestrel Eye
PACOM-13-BAA-RIF-0003	Electronic Warfare UUV
<b>U.S. Special Operations Command (USSOCOM)</b>	
SOCOM-13-BAA-RIF-0001	Personnel Protection
SOCOM-13-BAA-RIF-0002	Sensor Fusion for Dismounted Soldier (Small Team Situational Awareness)
SOCOM-13-BAA-RIF-0003	Preservation of the Force and Families (POTFF)

**Defense-Wide Rapid Innovation Science & Technology Thrust Areas:**

<b>Requirement Number</b>	<b>Requirement Title</b>
DoD-13-BAA-RIF-0001	Enhancing Energy Security and Independence
DoD-13-BAA-RIF-0002	Developing, Utilizing, and Maintaining Advanced Materials
DoD-13-BAA-RIF-0003	Improving Manufacturing Technologies & Capabilities
DoD-13-BAA-RIF-0004	Advanced Microelectronics
DoD-13-BAA-RIF-0005	Developing CyberSecurity Tools

**9.2 Description of Component Requirements and Defense-Wide Rapid Innovation Science & Technology Thrust Areas**

**9.2.1 Component Requirements:**

**Joint Science and Technology Office for Chemical and Biological Defense (CBD)**

**Requirement Number: CBD-13-BAA-RIF-0001**

Requirement Title: Environmentally Acceptable Scaled-up Manufacturing of Multi-functional Omniphobic Coated Textiles

Requirement Description:

- Scale-up and demonstrate a manufacture-able process for a low-cost (added cost to fabric  $\leq$  \$10/lb. yd) omniphobic coating technology to provide soldiers with self-cleaning and enhanced shell material (50:50 Nylon: Cotton, % 100 cotton, % 100 nylon and others suggested by the vendor) for Chemical and Biological protective clothing. Multifunctional characteristics

such as flame retardant, insect repellent, and/or antimicrobial (use American Society for Testing and Materials (ASTM) E2180 - 07(2012)) are also desirable. Requires repellency as per American Association of Textile Chemists and Colorists test methods 118, 193 and 22). Repellency and contact angle data for chemical agents (e.g. HD, GD, and VX) is desired; otherwise repellency and contact angle data for simulants such as diisopropyl fluorophosphate and tributyl phosphate are acceptable. Show that the treatment maintains substrate breathability measured as per ASTM D737, and fire resistance as per National Fire Protection Association 2112. Show through lab testing (e.g. abrasion, flex, and/or washing) that treatment is sufficiently robust to maintain repellency for  $\geq 90$  days of field wear. Repellency treatment must not be C6 or C8 based (as per pending EPA restrictions) and must be otherwise environmentally acceptable.

**Requirement Number: CBD-13-BAA-RIF-0002**

Requirement Title: Coating Additives for Minimizing Surface Energy / Spreading of Chemical Warfare Agents (CWAs)

Requirement Description:

- Mature and demonstrate coating additives that can be added directly to 64159 chemical agent resistant coatings (CARC) and 85285-APC (advanced performance aircraft topcoat) Type IV and demonstrate that the coatings retain milspec compliance; minimize the spread and absorbance of the CWA agents such as HD, GD, and VX (desired) or simulants tributyl phosphate, 3-hepten-2-one, and methyl salicylate; the additives are shelf-life stable; and the coatings can be applied using standard spraying equipment.

**Chief Information Officer/Defense Information Systems Agency (CIO/DISA)**

**Requirement Number: CIO\_DISA-13-BAA-RIF-0001**

Requirement Title: Insider Threat Identification

Requirement Description:

- Demonstrate the ability to analyze trends, patterns and other relevant data to identify insider threats on that exist on DoD networks. Utilize available data sets from various data sources to define normal baseline activity for users or sets of users to be useful for identifying abnormal usage or access patterns post facto or in real time.

**Requirement Number: CIO\_DISA-13-BAA-RIF-0002**

Requirement Title: Storing Department Data on Commercial Cloud

Requirement Description:

- To avail the Department of cheaper storage rates for an increasing amount of data captured from any number of Information Assurance and DoD internet usage monitors there needs to be a way to turn such data BLACK. The proposed system will allow multi-users to access BLACK data on the commercial cloud in a vendor independent manner through Defense

Enterprise Computing Centers interfaces employing Type I encryption and appropriate Public/Private Key technologies.

**Requirement Number: CIO\_DISA-13-BAA-RIF-0003**

Requirement Title: Integrity of Decision Support Systems

Requirement Description:

- Develop methodology and framework to validate the integrity of Decision Support Systems to include evaluating source data integrity, linkage to proper source data, interfaces and other relevant areas. Develop auditing system and criteria to assess data linkages and test outcomes based on known data sets and compare to operational systems.

**Combating Terrorism Technical Support Office (CTTSO)**

**Requirement Number: CTTSO-13-BAA-RIF-0001**

Requirement Title: Identity Discovery

Requirement Description:

- Develop and demonstrate advanced technologies and processes to reveal identity attributes (i.e. fingerprints, palm prints, iris, facial, DNA, other phenotypical) of an individual, persona, system, or group in order to distinguish between foreign persons-of-interest, terrorists and criminals, who pose a potential threat to the U.S.

**Requirement Number: CTTSO-13-BAA-RIF-0002**

Requirement Title: Identity Intelligence (I2) Exploitation

Requirement Description:

- Refine and demonstrate means for collection, analysis, exploitation and management of identity attributes and associated technologies and processes. I2 leverages the biometrics, forensic science (especially pre-/post-blast forensics and other trace), multimedia (Document and Media Exploitation, Cellular Exploitation, audio/video, and currency), and weapons intelligence submissions and data collections and integrates both with all-source intelligence in order to locate, track, and maintain continuity on unattributed identities across multiple or disparate instances, or space and time. This includes efforts to provide Special Operations Forces and the Intelligence Community with a 24/7/365, Process, Exploit and Disseminate (PED) analytic capability that provides a near-real time response to identity based collections and reach back support. Tactically focused products shall support a wide-range of global Special Operations Forces operations to enable operators with added tactical forensic and exploitation training to make critical decisions while operations are on-going.

**Requirement Number: CTTSO-13-BAA-RIF-0003**

Requirement Title: Global Multilingual Social Media Analytical Tool

Requirement Description:

- Develop capability for DoD forces to analyze all forms of communications on social media outlets from areas or groups of interest. Capability is needed to enhance decision making from the tactical to strategic level. Garnish information, trends, and sentiments in near real time providing worldwide situational awareness. Analyze any information source with priority on social media outlets. Translate from key foreign languages including Arabic (threshold), French (objective), Russian (objective), and Farsi (objective) to English. Use the most advanced data mining processing, with time saving, user friendly analytical front ends. Portray information through selected filters, with links, standard geospatial maps or temporally.

**Developmental Test & Evaluation (DT&E) / Test Resource Management Center (TRMC)**

**Requirement Number: DT&E-13-BAA-RIF-0001**

Requirement Title: Ruggedized Ethernet Switch for Airborne Systems

Requirement Description:

- Prototype and demonstrate a ruggedized layer 3, 8-port Ethernet switch, suitable for airborne applications with a cubic volume size less than 5000cm<sup>3</sup>. The switch will need to be non-blocking and support both electrical and optical Ethernet interfaces from 10/100/1000Mbps to 10Gbps at full line rate, as well as support for multicast and management capabilities (e.g., Internet Group Management Protocol (IGMP) and Virtual Local Area Networks (VLANs), etc.). The switch will need to support Institute of Electrical and Electronics Engineers (IEEE) 1588 for time distribution, as well as synchronous Ethernet for timing distribution on all interfaces.

**Defense Health Program (DHP)**

**Requirement Number: DHP-13-BAA-RIF-0001**

Requirement Title: Commercializing Desktop and Mobile, Cloud-Based, Speech Recognition and Natural Language Processing (NLP), To Improve Clinical Encounter and Inpatient Documentation in Military Medicine

Requirement Description:

- Commercialize Speech Recognition and Natural Language Processing in mobile and desktop, cloud-based implementations to facilitate inpatient and outpatient data entry in DOD and VA Electronic Health Records, and provide for Clinical Language Understanding. Speech Recognition converts voice to text and helps clinicians facilitate data entry in to Electronic Health Records Systems, and Natural Language Processing then converts text to computable codes, for use in clinical decision support algorithms, and to support remediation of patient safety issues. NLP also is used to support Population Health Studies, improved Pharmacovigilance, Post-Marketing Drug Surveillance, Bio-Surveillance, and other Patient Safety, Quality Assurance, Performance Improvement and Research studies. Test

application in Telemedicine and Advanced Technology Research Center  
Early Stage Platform.

**Requirement Number: DHP-13-BAA-RIF-0002**

Requirement Title: Automated Knowledge Structuring of Medical Charts Data -  
Extend Environment, Epidemiology, and Etiology Surveillance  
and Analysis Toolkit (E3SAT) to Support Donor  
Hemovigilance

Requirement Description:

- Goal of project would be to finalize development and begin transition of an information system to which captures and analyzes donor reaction information from the nation's blood centers. Specific objectives include conducting study to analyze delayed vs immediate reactions in donor hemovigilance; conduct annual studies of trends and metrics in US donor reaction rates and trends; recruit more organizations to participate in an industry-wide stakeholder development team, comprised of scientists and business leaders from the public and private sectors, including DoD, Department of Health and Human Services (DHHS), the American Red Cross, America's Blood Centers, and others.

**Requirement Number: DHP-13-BAA-RIF-0003**

Requirement Title: Commercializing the Integrated Clinical Environment (ICE) To  
Improve Neurocritical Care Patient Safety and Outcomes

Requirement Description:

- Commercialize ICE components to support improved neurocritical care outcomes and patient safety, as initiated by companies like Moberg Research, DocBox, Draper Labs, and others. ICE is an emerging concept backed by relatively new ASTM F2761 - 09 and ISO/IEEE 11073 standards, to create an information environment around an acute patient, that can provide for medical device plug-and-play interoperability and integration with time-synchronized data from other sources. ICE is comprised of various components such as adapters, aggregators, controllers, supervisors, data loggers, learning systems, simulators, and physiological simulation systems that can support clinical decision support between devices, and output rich visualizations of data to help improve patient outcomes.

**Defense Logistics Agency (DLA)**

**Requirement Number: DLA-13-BAA-RIF-0001**

Requirement Title: Material Identification Technology

Requirement Description:

- DLA requires technologies that are capable of identifying the National Stock Number (NSN), part number, or other nomenclature of materiel that may lack these identifying characteristics. The ability to identify similar materiel or replacement items is also desirable.

- Such capability has multiple user communities who are involved in DoD weapons system sustainment. One such group, DLA Disposition Services, is tasked to:
  - identify property that has reuse and sales potential
  - identify property that must be destroyed or “demilitarized”

**Requirement Number: DLA-13-BAA-RIF-0002**

Requirement Title: Anti-Counterfeiting Protection: Single Authentication Technology for Multiple High-Risk Commodities

Requirement Description:

- Develop and demonstrate a single authentication technology that is applicable to multiple Federal Supply Class commodities at high risk of counterfeit. The authentication technology should be affordable and effective across electrical and mechanical commodities. Establish methods to identify authentic products and thereby deter counterfeits from infiltrating the DoD supply chains.

**Requirement Number: DLA-13-BAA-RIF-0003**

Requirement Title: Clinical-to-Logistics Information Exchange for Improved Materiel Support

Requirement Description:

- Design and develop the processes and business applications for quad-Service clinical and logistical subject matter experts in their mission to develop clinical treatment guidelines and associated materiel used for medical demand planning. A workflow process will streamline today’s manual and error-prone population processes and drive quality by synergizing clinical-logistical expertise. This will lead to efficiencies in medical logistics support to COCOM (combatant command) readiness posture and allow improved cross-Service medical materiel standardization and availability.

**Defense Threat Reduction Agency (DTRA)**

**Requirement Number: DTRA-13-BAA-RIF-0001**

Requirement Title: Large-scale Integrated Weapons of Mass Destruction (WMD) Technical Information Database and Archive

Requirement Description:

- Develop and demonstrate a large-scale searchable archive of finished technical and intelligence reports on WMD topics. Apply commercial archiving/indexing software to existing DoD and Intelligence Community report collections and WMD databases. Apply this approach to databases on Joint Worldwide Intelligence Communications System , Secret Internet Protocol Router Network , and Stone Ghost networks.

**Requirement Number: DTRA-13-BAA-RIF-0002**

Requirement Title: Mobile Device for Exploitation and Elimination Planning

Requirement Description:

- Develop, demonstrate, and field tools that support the Weapons of Mass Destruction (WMD) site exploitation and elimination mission. The currently used DTRA WMD Facility, Equipment, and Munitions Identification Handbook resource is out of print and stock, and the 8th Army and 20th Support Command have been requesting an interactive version for more than 2 years; DTRA seeks to satisfy this requirement with an interactive catalog of equipment, processes, and components to enable the exploitation of target facilities, including the ability to identify, capture, geo-tag, log, and document key equipment and materials to support further analysis and the planning of follow on elimination missions; compatibility and tight integration with the DARPA Transformative Apps program framework is required.

**Requirement Number: DTRA-13-BAA-RIF-0003**

Requirement Title: Neutron Detectors for Direct Replacement of Helium-3 Tubes in Military Systems

Requirement Description:

- Develop low-cost, enabling Helium-3 (3He) replacement detectors that can be packaged in 1" and 2" diameter tubes, demonstrate detection efficiency equivalent to that of 3He tubes of the same size, and filled to a pressure up to 4 atmospheres. Significant performance benefits over 3He tubes will also be demonstrated, including no pressurization, lower power consumption, larger/faster signals, and lower cost electronics. The replacement tubes will be substituted directly into existing deployed devices without physical modifications, in place of 3He tubes.

**Missile Defense Agency (MDA)**

**Requirement Number: MDA-13-BAA-RIF-0001**

Requirement Title: Clutter Suppression and Debris Mitigation Techniques and Algorithms

Requirement Description:

- Develop a clutter/debris mitigation algorithm utilizing various suppression techniques and testing against a wide variety of scenarios, especially those associated with an attack from adversaries and missile raids. The environment around a ballistic missile engagement will likely include intentional and non-intentional clutter as well as a large number of small debris fragments potentially decreasing the ability of missile defense radar to detect, track, and discriminate objects of interest. Desired are algorithms that mitigate the effects of these intentional and/or non-intentional clutter and debris backgrounds while maintaining all required radar data on objects of interest.

**Requirement Number: MDA-13-BAA-RIF-0002**

Requirement Title: Technologies for a Common Kill Vehicle

Requirement Description:

- Identify, develop, and mature technologies for a common interceptor kill vehicle (KV), that incorporate shared components, algorithms, software, interfaces, and/or standards in part or in whole for all BMDS exo-atmospheric missions. Areas of particular interest include maximizing kill vehicle commonality; modular, open and upgradeable architectures; discriminating sensors; lightweight, miniaturized avionics; high performance, lightweight maneuvering propulsion; lightweight structures; lethality improvements; shipboard compliant propulsion and leak mitigation systems; algorithms for engagement management, discrimination, guidance, navigation, and control; manufacturability, affordability, reliability, suitability, maintainability, testability and operational effectiveness.

**Requirement Number: MDA-13-BAA-RIF-0003**

Requirement Title: Integrated Circuit (IC) Forensics: A New Paradigm for Counterfeit Detection and Security Protection

Requirement Description:

- As the capabilities of digital integrated circuits have increase, quality assurance requires robust electrical tests for counterfeit parts screening. The requirement is to develop specific diagnostic tests guided by understanding the physics of integrated circuit failure mechanisms, hot-carrier injection, bias temperature instability, oxide breakdown, and electromigration. In addition, apply rigorous test and analysis to evaluate the effectiveness of novel integrated circuit testing methods to include research and development of atypical test methodologies where the detailed design information is NOT available for extensive modeling.

**North American Aerospace Defense Command / US Northern Command  
(NORAD / USNORTHCOM)**

**Requirement Number: NORTHCOM-13-BAA-RIF-0001**

Requirement Title: Industrial Control Systems Cyber Intrusion Detection System (IDS)

Requirement Description:

- Develop hardware or tools to detect, identify, classify and mitigate cyber threats to industrial control systems supporting critical infrastructure. The solution should be dynamic to meet new, variant cyber threats and capable of detection and notification of adversarial attacks based on control system-specific failure scenarios and attack techniques. The IDS must have access to the data necessary to detect the attack techniques, to include encrypted traffic if applicable and should support DoD installation resiliency and ability to continue primary missions.

**Requirement Number: NORTHCOM-13-BAA-RIF-0002**

Requirement Title: Interceptor Robotic Sentry Vehicle (US Army)

Requirement Description:

- Provide a semi-autonomous Unmanned Ground Vehicle to demonstrate a mobile assessment/response capability to compliment primary sensors in select locales or operate as a single assessment capability to reduce troop to task for daily operations. The system will be able to operate in austere environments such as the arctic where temperatures reach -40 degrees below zero. Must carry a customer defined non-lethal sensor payload. System must be sustainable via locally procurable repair parts.

**Requirement Number: NORTHCOM-13-BAA-RIF-0003**

Requirement Title: Mine and Improvised Explosive Device (IED)  
Countermeasures in the Maritime Domain

Requirement Description:

- Demonstrate ability to fuse, automate, and visually represent (imagery files) in a user friendly display. Sonar sensor data are gathered by Forward Looking Sonar and Side Scan Sonar in shallow water baseline and secondary ocean bottom scans. These scans reduce risk and counter mine and IED's placed in the transit of High Value Assets and in a mining or IED event where a port or harbor must be cleared to be reopened. Contemporary systems are not automated and require the use of two laptop computers-one for sonar operations, the second for off-line retrieval and playback of previous surveys/searches (change detection).

**National Reconnaissance Office (NRO)**

**Requirement Number: NRO-13-BAA-RIF-0001**

Requirement Title: DoD Multi-mission 6U Nanosatellite Bus

Requirement Description:

- Develop and demonstrate a multi-mission 6 Unit (U) CubeSat bus capable of supporting a wide variety of DoD space and intelligence missions in a contested environment, including but not limited to: environmental sensing; intelligence, surveillance and reconnaissance; satellite communications; missile warning; position, navigation and timing. The bus must provide an open mechanical, electrical and communications interface to the payload which allows third parties to develop and integrate payloads without participation from the bus developer. The bus must provide for at payloads of at least 3,000 cubic centimeters and provide 2,000 watt-minutes power to the payload per orbit. The bus must be compatible with the Mobile CubeSat Command & Control (MC3) ground stations and include minimum 1 megabit per second primary downlink communications with National Security Agency (NSA) approved Type 1 encryption. Performance goals include 3-axis attitude control capable of 0.01 degree pointing knowledge and 0.1 degree pointing accuracy; complete rigorous ground testing to certify as spaceflight worthy at completion of effort; compatible with existing government 6U launch adapters. Minimum 24 months operations

in low Earth orbit 350-750 kilometers, 0 to 98.8 degree inclination following launch. Target cost of less than \$500K when produced in quantities of five or more.

**Assistant Secretary of Defense for Operational Energy Plans and Programs (OEPP)**

**Requirement Number: OEPP-13-BAA-RIF-0001**

Requirement Title: Advanced 100Watt Solar Blanket for Squad Power

Requirement Description:

- Develop solar blanket prototypes that will utilize advanced gallium arsenide and/or thin crystalline silicon technologies to demonstrate a minimum 100Watt squad power capability that enables greater low light performance, reduced footprint (while employed), and lower system weight. The use of higher efficiency materials will enable recharge capability for the squad on long duration missions while reducing soldier burden and minimizing system size. Prototypes will address the capability gap for 100W (T) Squad Power identified by Army Maneuver Center of Excellence. The technology will achieve TRL6 by FY14-15.

**Requirement Number: OEPP-13-BAA-RIF-0002**

Requirement Title: 250W JP-8 Fueled Fuel Cell Power Source for Man Transportable Robotic System (MTRS) Increment II CPD (5 hours of operation)

Requirement Description:

- MTRS Increment II Capability Plan Development (CPD) phase requires 5 hours operation which it cannot meet. Development of JP-8 Fueled 250Watt Fuel Cell Power Source can help it achieve well above that requirement while maintaining low acoustic profile. This would also increase other items in its CPD, such as Mobility and Range while reducing required external battery chargers and excess cabling. Would deliver multiple units for test and evaluation.

**Requirement Number: OEPP-13-BAA-RIF-0003**

Requirement Title: Efficient Power Takeoff for Bradley Combat Vehicle (Requirement: Increased vehicle mobility (greater sprocket horsepower), increased cooling capability (greater fan speed), increased vehicle range (increased efficiency) and additional on-board electrical power)

Requirement Description:

- The Program Manager (PM) Bradley Fighting Vehicle (BFV) desires to increase efficiency of the power take-off (PTO) as well as improve on-board electrical power with potential for additional cooling and electrical needs while utilizing as much of the current system as possible. The goal is to redesign and integrate into the Bradley a new PTO assembly with the capability of driving generator(s) to produce 1000 Amps 28VDC and

allowing for intelligent cooling fan control to maximizing fuel savings, free up engine power, and minimize overheat stressing of the engine and compartment liquids in the BFV. Technology innovation is desired to address these requirements at a TRL 7 level for possible inclusion as an engineering change proposal in FY 2014.

### **U.S. Pacific Command (USPACOM)**

#### **Requirement Number: PACOM-13-BAA-RIF-0001**

Requirement Title: Jamming Resistant Positioning Navigation and Timing (PNT) System for Micro UAS

Requirement Description:

- Develop an affordable, lightweight jamming resistant Global Positioning System (GPS) within the size, weight, and power constraints of a group one micro unmanned aircraft system (UAS). Integrate this system and a miniaturized inertial navigation system (INS) into a selected UAS and demonstrate navigation in a GPS denied environment. Work closely with U.S. Pacific Command, DoD Laboratories, and other partners throughout the process to ensure requirements are met.

#### **Requirement Number: PACOM-13-BAA-RIF-0002**

Requirement Title: Infrared Kestrel Eye

Requirement Description:

- Develop and demonstrate affordable, lightweight, low cost modified payload to Kestrel Eye (KE) small imaging satellite. Current KE program is to demonstrate small low cost imaging satellite to provide near-real time situational awareness directly to the tactical warfighter who also had tasked the satellite directly from theater. However KE is currently simply a visible sensor. This effort would be to build a new satellite to include an infrared payload, then KE concept could include additional capabilities such as nighttime imagery and maritime applications.

#### **Requirement Number: PACOM-13-BAA-RIF-0003**

Requirement Title: Electronic Warfare Unmanned Underwater Vehicle (UUV)

Requirement Description:

- Integrate an existing government owned electronic warfare capability into an existing UUV with the appropriate size, weight, and power. Coordinate with U.S. Pacific Command, DoD Laboratories, and other partners during development. Demonstrate the capability in an exercise or operational venue designated by U.S. Pacific Command.

### **U.S. Special Operations Command (USSOCOM)**

#### **Requirement Number: SOCOM-13-BAA-RIF-0001**

Requirement Title: Personnel Protection

Requirement Description:

- Develop and validate advanced ballistic plates/helmets for dismounted soldiers, and transparent armor for ground and rotary wing vehicles to include: Ballistic plate threshold goals—standalone configuration (no soft armor), defeat 1 shot of 7.62 x 54R API (2850-2900 ft/s), defeat 3 shots of 7.62 x 39 mm (2400-2450 ft/s, 2.5 inch shot spacing), less than 44 mm back face deformation (BFD), and a target areal density (A.D.) of less than or equal to 6.0 pounds per square foot (psf); Ballistic helmet threshold goals—less than or equal to 1.6 psf for finished helmet (paint, padding, suspension/retention), defeat 5 shots of 124 grain 9x19 mm FMJ RN projectile (1400-1450 ft/s), BFD of less than 25.4 mm (front and back) and less than 16.0 mm (crown, left, and right sides); and Transparent armor goals—focus on advanced material and manufacturing techniques to reduce the overall cost, weight and thickness, while improving capabilities to produce large scale and curved panels. Low Observable Ballistic Protection—develop novel form factor armor solutions that look like regular clothing but provide as much armor protection from edged weapons and projectiles as possible.

**Requirement Number: SOCOM-13-BAA-RIF-0002**

Requirement Title: Sensor Fusion for Dismounted Soldier (Small Team Situational Awareness)

Requirement Description:

- Develop capabilities that fuse and correlate battlefield information from a variety of sources and display it in an accurate and shared common operational picture. This includes fusion of threat signals of interest and full motion video with other sources of information, visually displayed in near real time to significantly improve the opportunities for knowledge management, situational awareness, and discovery during dismounted small team operations. Develop networked sensors for unconventional warfare scenarios that can provide situational awareness beyond line of sight and in an urban or suburban environment.

**Requirement Number: SOCOM-13-BAA-RIF-0003**

Requirement Title: Preservation of the Force and Families

Requirement Description:

- Develop and demonstrate novel capabilities / techniques to enhance Special Operations Forces soldier performance. Emphasis to be placed on physical enhancement (performance and rehabilitation factors), mental acuity and performance, and neuro-cognitive enhancements. Develop techniques and technology to address issues of Post-Traumatic Stress Disorder, Traumatic Brain Injury, and other psychological stress factors associated with SOF mission sets and community.

**9.2.2 Defense-Wide Rapid Innovation Science and Technology Thrust Areas**

**(Source: Senate Armed Services Committee, Report 112-173, as amended to include selected DoD requirements)**

**Requirement Number: DoD-13-BAA-RIF-0001**

Requirement Title: Enhancing Energy Security and Independence

Requirement Description:

- For investment in technologies that will improve energy efficiency, enhance energy security, and reduce the Department's dependence on fossil fuels through advances in traditional and alternative energy storage, power systems, renewable energy production and more energy efficient ground, air, and naval systems.

**Requirement Number: DoD-13-BAA-RIF-0002**

Requirement Title: Developing, Utilizing, and Maintaining Advanced Materials

Requirement Description:

- For a broad range of materials technologies that can provide: Enhanced performance in extreme environments; improved strength and reduced weight for the spectrum of applications ranging from aerospace to lighter soldier loads; greater survivability of ground, air, and naval systems; and reduced life cycle costs through better maintainability for a wide variety of the challenging environments and unique properties demanded of military systems. Such materials could include advanced composites and metals, nanomaterials, and rare-earth alternatives.

**Requirement Number: DoD-13-BAA-RIF-0003**

Requirement Title: Improving Manufacturing Technologies and Capabilities

Requirement Description:

- For advanced and innovative manufacturing technologies across the spectrum of applications to significantly compress design to production time cycles, reduce cost, minimize waste and energy consumption, and improve product quality and reliability. Based on coordination with the Office of the Deputy Assistant Secretary of Defense for Manufacturing and Industrial Base Policy, needed manufacturing technology advances include: Advanced joining techniques (e.g., composite bonding, friction stir welding, and laser welding) for shipbuilding, aviation and combat vehicle programs; flexible automation and advanced robotics to improve the yield of critical parts; techniques for improving transparent ceramics that satisfies performance, cost, and weight goals for both Soldier and weapon system armor; additive manufacturing to fabricate parts in a layer-by-layer fashion directly from a digital design; manufacturing for portable power such as fuel cells; electronics manufacturing for short wave infrared, photonics / radio frequency components and three-dimensional chip stacking including thermal management; and secure network applications that provide for secure protocol transfer, integrated data sharing, and protection of intellectual property.

**Requirement Number: DoD-13-BAA-RIF-0004**

Requirement Title: Advanced Microelectronics

Requirement Description:

- The development of resilient advanced microprocessors, application-specific integrated circuits, field programmable gate arrays, printed circuit boards, photonics devices, and other related electronics components for the next-generation of military and intelligence systems, including commercial-off-the-shelf (COTS) technologies or applications for the Advanced Components for Electronic Warfare (ACE) Program: Developing integrated photonic circuits (IPC); millimeter-wave source and receiver components for EW (MMW); reconfigurable and adaptive RF electronics (RARE); and heterogeneous integration for photonic sources (HIPS).

**Requirement Number: DoD-13-BAA-RIF-0005**

Requirement Title: Developing Cybersecurity Tools

Requirement Description:

- Full-spectrum cyberspace operations require full situational awareness of the battlespace in the cyber domain that allow for complementary offensive and defensive actions. To support this requirement, develop and demonstrate capabilities to rapidly and thoroughly enumerate, characterize, and visualize friendly, neutral, and adversary networks down to the device level. Specific elements of interest include: Cooperative and non-cooperative mapping techniques/capabilities, including internet and network mapping; geo-location of network devices and nodes; techniques for inferring additional system details; techniques to increase the speed of mapping and discovery; software reverse engineering and vulnerability analysis; network data collection and analysis; and new innovative defensive techniques against cyber-attacks—especially in virtual environments, and integrated cloud security capabilities.