



## **BROAD AGENCY ANNOUNCEMENT (BAA)**

### **Counter Radio Controlled Improvised Explosive Device Electronic Warfare**

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## **INTRODUCTION:**

This publication constitutes a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016. A formal Request for Proposals (RFP), other solicitation, or additional information regarding this announcement will not be issued.

The Office of Naval Research (ONR) will not issue paper copies of this announcement. The ONR reserves the right to fund all, some or none of the proposals received under this BAA. ONR provides no funding for direct reimbursement of proposal development costs. Technical and cost proposals (or any other material) submitted in response to this BAA will not be returned. It is the policy of ONR to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation.

## **I. GENERAL INFORMATION:**

**1. Agency Name** - Office of Naval Research

**2. Research Opportunity Title** - Counter Radio Controlled Improvised Explosive Device Electronic Warfare

**3. Program Name** - Joint Counter Radio Controlled Improvised Explosive Device Electronic Warfare (JCREW) 3.3 Science and Technology (S&T)

**4. Research Opportunity Number** - 12-006

**5. Response Date** -

White Papers: 03/09/2012

Full Proposals: 05/28/2012

**6. Research Opportunity Description** –

In coordination with the Joint Counter Radio Controlled Improvised Explosive Device Electronic Warfare (JCREW) Science and Technology (S&T) Board and the JCREW 3.3 Program Office, the Office of Naval Research (ONR) is soliciting applied research proposals to develop and demonstrate technologies to improve virtually all aspects of performance related to next generation JCREW equipment. ONR seeks to improve counter-Radio Controlled IED (counter-RCIED) effectiveness by developing radio frequency (RF) related operational capabilities, including simultaneous transmit and receive, on-mission wireless communications, interoperability with blue force communications, comprehensive spectral awareness, and improved packaging.

The proposed research should investigate innovative approaches that enable revolutionary advances in technologies that support electronic warfare (EW) and communication systems, both single unit and distributed. New RF modules, RF components, system configurations, digital signal processing, and onboard decision making enabled by these BAA efforts will be key to future

JCREW electronic battlefield success. Specific areas of interest are provided with details below. In addition, for all proposed research the proposer should target the following JCREW backdrop goals and technology guidance:

- Interoperability (preferably simultaneity) between
  - o All unit-integrated RF functionalities: Comprehensive Spectral Awareness, Electronic Attack, Electronic Protect, Communications, and operations supporting Positioning, Navigation and Timing;
  - o Multiple, distributed JCREW units within wireless range; and
  - o Simultaneous transmit and receive (STAR)
- Supports and promotes scalable and open system designs;
- Digitally controllable modules;
- Reduced size, weight, and power (SWAP);
- Show how approach compares to the current state of the art; and
- Show how proposed component technology fits (interfaces) within an overall RF system and identify impact (positive or negative) to other architectural components.

In comparison to previous ONR JCREW BAA's, this announcement expands the interest area to include concepts and technology for a distributed multifunction JCREW (d-CREW) system of systems. It has been recognized that overall efficacy of JCREW operations may be improved by coordination and communication between individual JCREW units within wireless range.

Proposals that address hardware, software, technique, or technology developments are sought in the specific areas identified below.

#### A. High Efficiency High Performance Embedded Computing

As the sophistication grows with the JCREW system or with d-CREW, so will the demands on high performance computing. This task includes the development and/or implementation of components, sub-components, architectures, and concepts to reduce the power consumption associated with the digital signal processing and control elements of current CREW systems. Approaches which achieve a 50% reduction in power consumption and are relevant to the JCREW system, while maintaining current performance capabilities/levels, are of particular interest. Some areas which present opportunities for improvement include embedded processing solutions with more efficiency than field-programmable field arrays (FPGAs), such as software-defined application-specific integrated circuit (ASIC) or other flexible processing cores, fast Fourier transform (FFT) ASIC with a programmable length as well as flexible demodulation ASICs.

Completely within the digital processing domain, there are several capabilities that are of specific interest:

- Detect, de-interleave, de-spread, classify, provide signal descriptors for multiple simultaneous waveforms;
- Generate, precisely control (e.g., time and route), and multiplex multiple simultaneous EW and communication waveforms with high spectral purity;

- Techniques to create and handle multiple clock rates of multiple functions or multiple activities;
- Efficient software/firmware coding for reduced/minimal latency;
- For d-CREW systems: Coordinating and capitalizing on multi-JCREW operations (shared jamming, more precise geolocation), understanding what limits distributed behavior/capabilities, leveraging a network using Blue Force communications (BFC), increase effectiveness and reduce unit SWAP through networking;
- Fast waveform switching at nanosecond rates;
- There is a need to transition any standard wireless system (EW/Comms) signal processing functions (e.g., discrete Fourier transform (DFT), signal decimation, or digital filtering) to high performance low power components such as ASICs;
- Develop algorithms and computational techniques that
  - o Optimize and introduce new uses of integrated JCREW capabilities, distributed JCREW assets, and available comms/position, navigation & timing (PNT) assets within wireless range;
  - o Maximize real-time use (JCREW, BFC, PNT) of available spectrum and output RF powers, whether networked or not;
  - o Maximize function (communication, EW, and PNT) interoperability while minimizing SWAP of RF modules and embedded computing hardware; and
  - o Provide sophisticated networking jamming techniques.
- Surgical denial of devices supporting IED devices, utilizing spectral, temporal, or spatial techniques;
- Custom digital functions that can be implemented cost-effectively in ASIC or other more power efficient component;
- Discover and implementation of wise partitioning between electronically reconfigurable and hardware reconfigurable processing; when and how are FPGA's and ASIC's utilized;
- In lieu of adjacent channel simultaneous transmit and receive (aSTAR) and in support of co-channel transmit and receive, provide efficient means to coordinate operations between functions by spectral, temporal or spatial interleave--a system resource manager to configure system parameters and operating modes, such as waveform parameters and frequency and temporal protocols, for the coordination of multiple wireless functions critical to the operation. This technology is needed to optimize and de-conflict system resources for multiple competing wireless functions and provide adaptive spectrum allocation/management; and
- Both mounted and dismounted systems require significant amounts of digital signal processing which can consume a major fraction of the total power required. This can limit the functionality of the system and increase the SWAP. There is a need for low-power computing technologies that can empower future CREW systems. Metrics include MIPS/Watt. Potential needs include:
  - o Signal processing modules with low cost, high availability and adhering to open standards.
  - o Novel computing architectures featuring high power efficiency and flexibility.

## B. Receivers/Transmitters

This task includes the development of receiver and transmitter subcomponents, as well as components which support scalable system design, including switches, filters, multi-plexers, etc. that would be integral with developed hardware. All receiver and transmitter solutions will require digitally controllable parameters, functions and output levels to facilitate integration into closed loop C-RCIED systems. Solutions which target JCREW objective level performance extremes are

of particular interest.

## 1. Simultaneous Transmit and Receive (STAR)

ONR is also seeking disruptive electronics and photonics component technology proposals that will eliminate the necessity of blanking the receiver while transmitting when transmitting and receive from a single aperture. Efforts in this category should focus on either controlling transmitter unintended emissions, dramatically increased receiver dynamic range, analog subsections which are capable of achieving  $\gg 40$  dB of isolation of Tx and Rx over 2 octaves of frequency and with small insertion loss and low ripple, and digitally driven interference cancellation techniques. Techniques for increasing isolation at the antenna between co-located transmit and receive apertures to support STAR are also desired.

### 1.1 Adjacent Channel Simultaneous Transmit and Receive (aSTAR)

Multi-function systems will have to transmit and receive with maximum flexibility across a wide bandwidth, sometimes in adjacent channels and/or within the same frequency band and/or timeslot. New transmitter and receiver RF front-end technologies and configurations are needed for software defined EW and Communications systems that can adaptively maintain simultaneous multi-function operations. Target transmitter emissions levels and receiver susceptibility performance can be derived from the following functional goals for efficient, aSTAR capability:

- Transmitters that can be programed to emit multiple, arbitrary bandwidth and center-frequency waveforms simultaneous across the operational bandwidth while minimizing out of band unintended emissions (i.e., low noise, spurious, and harmonic power) are needed to minimize interference to other wireless systems;
- Tight control and easy access to transmissions for efficient, broadband cancellation;
- Receivers which can operate in the presence of high-power adjacent-channel interference are needed to work simultaneously with integrated JCREW transmitters, co-site non-JCREW transmitters, and signals in the electromagnetic environment (EME);
- Receivers that can be programmed to support system requirements for both communications and electronic support, i.e., both high sensitivity, narrowband operation and fast tuning, broadband and ultra-broadband operations;
- Multifunction receiver technologies
  - o Need rapid threat detection, classification, selective storage (forensic), and response;
  - o Real-time routing and processing of signals based on classification and identification; and
  - o Excision of unwanted signals, whether spectral or temporal overlap.
- Minimal spectral guard-bands between multiple simultaneous wireless channels;
- Maximum aSTAR spectral resolution, i.e., maximum number of adjacent channels that can operate simultaneously;
- Multiple use hardware to maximize versatility and minimize multifunction cost, size, weight, and power;
- Achieving the isolation necessary ( $> 100$ dB) for STAR will require layered isolation techniques that would likely include EM material, aperture directivity, passive filtering, active cancellation (analog and digital), polarization, etc. Proposals addressing single and multiple layers are of

interest;

- Dramatically increased receiver dynamic range or techniques to selectively (in frequency or time) reduce high-power signals prior to non-ideal (nonlinear) processing; and
- Multi-function techniques, subsystems and component technologies which support communication, EW, and PNT functionality.

## 1.2 Co-channel Simultaneous Transmit and Receive (cSTAR)

In addition to the Multi-function and electromagnetic capability (EMC) capability enabled with aSTAR technology, new software configurable approaches are needed which enable cross-function coordination, i.e., can provide frequency or time slots for multiple wireless functions. RF front-end technologies and configurations are needed to enable coordination between multiple wireless functions within a single spectral channel, thus increasing spectrum efficiency. Also of interest are technologies and methodologies that enable simultaneous transmit and receive functionality on the channel with minimal time coordination.

## 1.3 Distributed CREW (d-CREW)

Integrating multiple functions within single systems has the potential to enable time and spectrum coordination of spatially distributed JCREW units. Opportunities will be created for incorporation of an embedded resource manager to use the dynamic configurability of the system to optimize spectrum use and ensure EMC for otherwise incompatible wireless systems. This cross function coordination and optimization can contribute to overall mission objectives and could be seen as evolving over several capability steps, not necessarily sequentially. Coordinating communications and jamming signals avoids spectrum fratricide between similar and dissimilar wireless systems. The ability for JCREW systems to communicate with one another, as well as to both communicate with other platforms and systems in performance of the JCREW mission and transfer pertinent information, would provide a networked approach that maximizes protection capabilities and resources. Networked or multi-static operations could be used to geolocate all systems or to easily change JCREW system operating parameters. Networked operations could be used to develop a self-forming network topology or network-based jamming algorithms. Analysis of the topology could be used to recommend placements of JCREW hardware over a wide area for optimized operations. Access to event logs, fault logs, and other diagnostics will allow remote users to determine system readiness and possibly to perform limited repair procedures on failed units. This would also significantly reduce support costs and manpower requirements. Development of a secure, wireless link and associated network is needed to demonstrate this capability. Techniques for cross platform allocation and coordination of JCREW resources to maximize effectiveness and efficiency are desired. Additionally, techniques for cross-platform synchronization which do not rely on GPS are desired. Techniques which improve the protection of JCREW systems and mitigate the effects of network attack on JCREW devices are also of interest.

- Critical Transmitter/Receiver technologies include a low latency, robust, and secure coordination communication channel needed to enable the coordination of multiple multi-function systems for EMC and distributed JCREW collaboration;
- Guaranteed constant bit rates for data exchange because ultra-low bit rates (~10 bits/sec) could

transfer highly-valuable information (e.g., collaborative operations;

- System architectures, protocols, and tactics, techniques & procedures (TTPs) for flexibly distributing multiple functions among a group of dismounts while protecting the group as whole and enabling them to fulfill their mission;
- RF front-end technologies need to be modular with standard interfaces for easy system adaptability and scalability. Potential standard RF modules include:
  - o High power amplifiers (HPAs) /low-noise amplifiers (LNAs);
  - o Multiplexer(s);
  - o Custom/mission tailored EMC solutions, e.g., high power filters or active interference cancellation as needed for the platform, geo-location, service, and mission scenario;
  - o Transmit RF switch matrix and non-coherent signal combiner;
  - o Receiver RF switch matrix and signal splitter; and
  - o Easy re-configurability of RF backplane signal routing capability.

## 2. Receivers

JCREW systems require rapid threat detection and response over an extremely wide RF bandwidth. New RF receiver and transmitter technologies are desired which will maximize broadband RF coverage at frequencies between the mid-LF to mid-EHF frequency ranges while maintaining wide instantaneous bandwidth with high dynamic range at 10's of kHz resolutions. Hardware will require reduced size, weight, and power requirements with increased response time over current systems. Low insertion loss, low noise and high linearity will be necessary for all RF hardware. Specifically, receivers which maximize instantaneous bandwidth (> 1 GHz), dynamic range (> 80 dB), and demonstrate adaptable resolution bandwidth (10kHz-100kHz) are desired. Compressive receivers capable of very wide bandwidth detections are also of interest. Offerors must quantifiably describe how their approach compares to the current state of the art.

## 3. Transmitters

Transmitters and transmitter components are desired which are capable of supporting >100MHz/channel instantaneous bandwidth, efficiencies > 40%, high linearity, simultaneous transmission of multiple signal and frequencies, 100's of Watts of output for mounted and fixed applications and < 10's of Watts for dismounted applications. Amplifier blanking of < 10 microseconds (us) will be required with prime power draw and power output in < 10 us in order to increase efficiency and reduce Electro-Magnetic Interference (EMI). While blanked, transmitter emissions should be >120 dB below peak output. Easily reconfigurable hardware with special consideration for software defined architectures is desired. Offerors must also quantifiably describe how their approach compares to the current state of the art.

## 4. Isolation Techniques

Receivers will be required to reliably operate in the presence of out of band, co-site, and high power transmitters. Achieving the isolation necessary (> 100dB) for simultaneous transmit and receive will require layered isolation techniques (material, active cancellation, polarization, etc.). Techniques for maximizing isolation either using a single isolation approach or through the

layering of multiple approaches are desired. Techniques which maximize the achievable isolation of a particular approach and could potentially be combined with other isolation techniques to maximize overall system isolation are also of interest. Offerors must also quantifiably describe how their approach compares to the current state of the art.

### C. Modulators and Techniques

JCREW systems require the ability to generate multiple simultaneous and coherent jamming waveforms with low noise in response to detected RF emissions. These jamming responses will require high speed activation at up to GHz bandwidths and digitally controllable parameters and waveform selection to facilitate integration into closed loop architectures.

#### 1. Signal Generators

Waveform generators will require the ability to switch between waveforms at nsec speeds to support on-demand signal delivery to transmitters. Direct Digital Synthesizers (DDS), Arbitrary Waveform Generators (AWG), and Digital Radio Frequency Memory (DRFM) technologies or some hybrid of these technologies is of particular interest. Multi-function approaches which support the generation of both EW waveforms and communication waveforms from a common waveform generator are of particular interest. Offerors must also quantifiably describe how their approach compares to the current state of the art.

#### 2. Intelligent Network Jamming

As networked threat devices become more sophisticated, so will the JCREW systems need for sophisticated networking jamming techniques. Techniques for jamming individual RF devices participating in a network are desired. Such jamming techniques should not disable the RF network itself and should only affect selected devices participating on the network which are supporting IED operations. Offeror should address anticipated network responses to jamming techniques and robustness of jamming to network self-healing techniques

### D. Comprehensive Spectral Awareness

Before JCREW can properly engage the electromagnetic environment, the system needs complete spectral awareness including assessment of all signals. Technologies and methodologies are sought to address the following related challenges:

- Rapidly map the wideband RF environment in many dimensions (spatial, spectral, functional, etc.) in order to provide real-time RF situational awareness for signal processing, assessment, and recording means;
- Rapidly discriminate hostile and legitimate RF signals from the background RF emissions. Provide real-time signal assessment suited for rapid response;
- Demonstration of capabilities that provide direction and/or location of received threat emissions, with response times on the order of ms, angular accuracy < 35° for Direction Finding and < 100m accuracy for geolocation;

- Collect, store, and fuse situational awareness data from onboard and offboard sensors for application in d-CREW;
- Low latency monitoring of extremely wide spectral regions is very processing intensive. There is a need for techniques that accomplish this with lower complexity and power. Potential needs include:
  - o New efficient software-defined techniques that can be implemented in an open architecture system employing standard general-purpose processors (GPPs), graphics processing units (GPUs), digital signaling processors (DSPs), FPGAs, and ASICs; and
  - o Modular Digital RF Modules that can be inserted in IF or RF chains and perform waveform-specific functions.

### 1. Extremely Wideband Spectral Mapping

JCREW systems require the ability to rapidly map the RF environment in order to provide real-time RF situational awareness to signal processing and assessment tools. JCREW application will require extremely wide bandwidth with consideration for solutions between mid-LF and mid-EHF. Offerors must also quantifiably describe how their approach compares to the current state of the art.

### 2. Signal Assessment System (SAS)

JCREW systems will require the ability to rapidly discriminate hostile RF trigger signals from the background RF emissions, or to legitimize users of the RF spectrum based on assessment of the RF environment and activities. Signal assessment will be required in real-time. While the JCREW system is on-mission, the signal assessment must provide for rapid response to developing threats. This capability seeks to maximize countermeasure effectiveness, as well as to reduce power usage, blue force RF fratricide, and false alarms.

### 3. Direction Finding and Geo-Location

Successful direction finding (DF) or geolocation of threat devices will allow JCREW systems to more effectively focus jamming energy, thereby increasing protection range. Demonstration of capabilities to determine the direction and/or location of received threat emissions is desired with response times on the order of ms, angular accuracy  $< 35^\circ$  for DF and  $< 100\text{m}$  accuracy for geolocation. Interoperability between DF/geolocation components and other JCREW components (e.g., Signal Assessment System) is desired. Offerors must also quantifiably describe how their approach compares to the current state of the art.

### 4. Situational Awareness Data Fusion

Sensor systems, including EO/IR and ISR, operating in a common battlespace with JCREW systems either onboard a common platform or offboard and available via a network, can provide valuable situational awareness enhancements to RF spectrum data collected by JCREW alone. Capabilities and techniques are desired for fusing situational awareness data from onboard and offboard sensors with collected RF sensor data.

## E. Electromagnetic Compatibility

### 1. Blue Force Comms/Data/Video Interoperability

The ability of the warfighter to perform his functions safely and efficiently requires simultaneous operation of JCREW systems, Blue Force communications, and SIGINT activities. Improved JCREW hardware and software are required, which provide interoperability techniques to support the simultaneous and successful operation of these various systems. As a result, the development of methods and/or techniques to mitigate or eliminate interference and/or coordinate operations between functions is desired. Multi-function techniques, subsystems and component technologies which support both communication and EW functionality are of particular interest. (Note: If multi-functionality is the core of the proposed EMC solution, please submit under category G "Multifunction, Scalable, Open Architectures").

### 2. JCREW Network Centric Operations

The ability for JCREW systems to communicate with one another, as well as to both communicate with other platforms and systems in performance of the JCREW mission and transfer pertinent information, would provide a networked approach that maximizes protection capabilities and resources. Networked operations could be used to geolocate all systems or to easily change JCREW system operating parameters. Networked operations could be used to develop a self-forming network topology or network-based jamming algorithms. Analysis of the topology could be used to recommend placements of JCREW hardware over a wide area for optimized operations. Access to event logs, fault logs, and other diagnostics will allow remote users to determine system readiness and possibly to perform limited repair procedures on failed units. This would also significantly reduce support costs and manpower requirements. Development of a secure, wireless link and associated network is needed to demonstrate this capability. Techniques for cross platform allocation and coordination of JCREW resources to maximize effectiveness and efficiency are desired. Additionally, techniques for cross-platform synchronization which do not rely on GPS are desired. Techniques which improve the protection of JCREW systems and mitigate the effects of network attack on JCREW devices are also of interest.

## F. Weight Reduction, Packaging and Cooling

Size, weight, and power continue to limit JCREW operational utility, especially with the dismount, man-portable platform. There is a need for material technologies and techniques that can help reduce the size, weight, and power of the dismounted CREW systems while meeting performance requirements. ONR seeks technologies to address the following:

- Small Antennas Small and lightweight low frequency antennas that maximize bandwidth coverage between mid-Low Frequency and mid-Extremely High Frequency and provide low reflection (S11) without compromising efficiency;
- Cooling: In order to reduce size and weight and to improve efficiency, provide new approaches to cooling the power amplifier and digital processing system;
- Low power components and techniques, including:

- o Low power and lightweight components in modular configurations enabling flexible and changing roles of the warfighter; and
- o Non-algorithmic/clock-less or other techniques to dramatically lower component power consumption.

EA/ES techniques that lower the average power needed for specialized target receivers

#### 1. Weight reduction for dismounted applications

The ability of the dismounted warfighter to perform his functions safely and efficiently requires JCREW systems to be as lightweight as possible, while maintaining full operational effectiveness. Lighterweight JCREW hardware is required. Solutions which reduce current system weight (includes subassemblies, components, housings, etc...) by greater than 30% while maintaining full performance levels with little/no increase in unit cost are required, and, "breakthrough" solutions achieving 50% reduction or greater are of particular interest.

#### 2. Packaging and Cooling

A primary consideration affecting JCREW system design is the cooling necessary for the power amplifier and maintaining internal system temperatures within the operational specifications of the electronic components. Advanced packaging and cooling techniques and materials may yield reductions in size and weight, and increases in efficiencies. These methods and techniques should be investigated. Promising techniques should be modeled and demonstrated through prototype fabrication where appropriate. Focus should be towards maintaining internal system temperatures within electronic component specifications under ambient temperatures of 150 degrees F. Conduction cooling techniques for mounted and dismounted systems are preferred. Offerors must also quantifiably describe how their approach compares to the current state of the art.

#### G. Multi-Function, Scalable, Open Architectures

Future JCREW systems will require efficient performance in both single platform and multi-platform operations. As a result, these JCREW systems will require C-RCIED EW architectures both which can be networked via Blue Force communication (BFC) links to allow for the distribution of functionality and which are scalable with the number of available platforms, assets and resources. In addition, integration of subsystem components from a wide variety of vendors will require that this scalable architecture be open. The open, scalable architecture will be required to support 1.) coordination of EW functionality over available BFC networks; 2.) closed loop and adaptive parameter control utilizing digital data exchange between subsystems and components (e.g., adaptive instantaneously receive and transmit bandwidth coverage, transmit power, and sector coverage); and 3.) resource control with integrated, government provided, resource allocation management (RAM) tools. Architecture concepts should include techniques and approaches for the real-time distribution of maximum operating spectrum between mid-LF and mid-EHF across available networked JCREW systems and the sub-system distribution of maximum operating spectrum within a single JCREW system. Architectures which facilitate interoperability between communication and CREW functions, or which achieve single system integrated multi-

functionality, are of particular interest.

Integrating multiple functions within single systems has the potential to enable time and spectrum coordination of spatially distributed JCREW units. Opportunities will be created for incorporation of an embedded resource manager to use the dynamic configurability of the system to optimize spectrum use and ensure EMC for otherwise incompatible wireless systems. This cross function coordination and optimization can contribute to overall mission objectives and could be seen as evolving over several capability steps, not necessarily sequentially. Coordinating communications and jamming signals avoids spectrum fratricide between similar and dissimilar wireless systems. The ability for JCREW systems to communicate with one another, as well as to both communicate with other platforms and systems in performance of the JCREW mission and transfer pertinent information, would provide a networked approach that maximizes protection capabilities and resources. Networked or multi-static operations could be used to geolocate all systems or to easily change JCREW system operating parameters. Networked operations could be used to develop a self-forming network topology or network-based jamming algorithms. Analysis of the topology could be used to recommend placements of JCREW hardware over a wide area for optimized operations. Access to event logs, fault logs, and other diagnostics will allow remote users to determine system readiness and possibly to perform limited repair procedures on failed units. This would also significantly reduce support costs and manpower requirements. Development of a secure, wireless link and associated network is needed to demonstrate this capability. Techniques for cross platform allocation and coordination of JCREW resources to maximize effectiveness and efficiency are desired. Additionally, techniques for cross-platform synchronization which do not rely on GPS are desired. Techniques which improve the protection of JCREW systems and mitigate the effects of network attack on JCREW devices are also of interest.

#### H. Other JCREW Technologies

Vendor(s) possessing any additional technology, information, or recommendations that would improve existing JCREW systems are encouraged to submit proposal(s) to this BAA.

#### **7. Point(s) of Contact –**

Questions of a technical nature should be submitted to:

Primary Point of Contact:

Mr. David Tremper  
Office of Naval Research  
ONR Code 312 - Electronic Warfare Program Officer  
Electronics, Sensors, and Network Research Division  
875 North Randolph Street, Suite 1125  
Arlington, VA 22203-1995  
Email: [david.tremper@navy.mil](mailto:david.tremper@navy.mil)

Secondary Point of Contact:

Dr. Peter Craig

Office of Naval Research  
ONR Code 312 - Electronic Warfare Program Manager  
Electronics, Sensors, and Network Research Division  
875 North Randolph Street, Suite 1125  
Arlington, VA 22203-1995  
Email: [peter.craig@navy.mil](mailto:peter.craig@navy.mil)

Questions of a business nature should be submitted to:

Primary Point of Contact:  
Casey W. Ross, Sr. Contract Specialist  
Office of Naval Research  
Contract and Grant Awards Management, Code BD0251  
875 N. Randolph St., Suite 1272C  
Arlington, VA 22203-1995  
Email: [casey.w.ross@navy.mil](mailto:casey.w.ross@navy.mil)

Secondary Point of Contact  
Vera Carroll, Acquisition Branch Head  
Office of Naval Research  
Contract and Grant Awards Management, Code BD0251  
Office of Naval Research  
875 North Randolph Street -- Suite W1279  
Arlington, VA 22203-1995  
[vera.carroll@navy.mil](mailto:vera.carroll@navy.mil)

Any questions regarding this solicitation must be provided to the Technical Point of Contact and Business Point of Contact listed in this solicitation. All questions shall be submitted in writing by electronic mail.

Questions submitted within 2 weeks prior to a deadline may not be answered, and the due date for submission of the white paper and/or full proposal will not be extended.

Questions of a security nature should be submitted to:

Diana Pacheco  
Industrial Security Specialist  
Office of Naval Research  
Security Department, Code 43  
One Liberty Center  
875 N. Randolph Street  
Arlington, VA 22203-1995  
Email Address: [diana.pacheco@navy.mil](mailto:diana.pacheco@navy.mil)

Any CLASSIFIED questions shall be handled through the ONR Security POC. Specifically, any

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entity wanting to ask a CLASSIFIED question shall send an email to the ONR Security POC with copy to both the Technical POC and the Business POC stating that the entity would like to ask a CLASSIFIED question. DO NOT EMAIL ANY CLASSIFIED QUESTIONS. The Security POC will contact the entity and arrange for the CLASSIFIED question to be asked through a secure method of communication.

Amendments will be posted to one or more of the following webpages:

- Federal Business Opportunities (FEDBIZOPPS) Webpage - <https://www.fbo.gov/>
- ONR Broad Agency Announcement (BAA) Webpage - <http://www.onr.navy.mil/en/Contracts-Grants/Funding-Opportunities/Broad-Agency-Announcements.aspx>

## **8. Instrument Type(s) - Contracts**

Awards will be issued as Contracts. ONR reserves the right to award a different instrument type if deemed to be in the best interest of the Government.

Any contract awards resulting from this BAA will incorporate the most current FAR, DFARs, NMCARS and ONR clauses. Examples of model contracts can be found on the ONR website at the following link: <http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/contract-model-awards.aspx>

## **9. Catalog of Federal Domestic Assistance (CFDA) Numbers – N/A**

## **10. Catalog of Federal Domestic Assistance (CFDA) Titles – N/A**

## **11. Other Information –**

Work funded under a BAA may include basic research, applied research and some advanced technology development (ATD). With regard to any restrictions on the conduct or outcome of work funded under this BAA, ONR will follow the guidance on and definition of "contracted fundamental research" as provided in the Under Secretary of Defense (Acquisition, Technology and Logistics) Memorandum of 24 May 2010.

As defined therein the definition of "contracted fundamental research", in a DoD contractual context, includes [research performed under] grants and contracts that are (a) funded by Research, Development, Test, and Evaluation Budget Activity 1 (Basic Research), whether performed by universities or industry or (b) funded by Budget Activity 2 (Applied Research) and performed on campus at a university. The research shall not be considered fundamental in those rare and exceptional circumstances where the applied research effort presents a high likelihood of disclosing performance characteristics of military systems or manufacturing technologies that are unique and critical to defense, and where agreement on restrictions have been recorded in the contract or grant.

Pursuant to DoD policy, research performed under grants and contracts that are a) funded by

Budget Category 6.2 (Applied Research) and NOT performed on-campus at a university or b) funded by Budget Category 6.3 (Advanced Research) does not meet the definition of "contracted fundamental research." In conformance with the USD(AT&L) guidance and National Security Decision Direction 189, ONR will place no restriction on the conduct or reporting of unclassified "contracted fundamental research," except as otherwise required by statute, regulation or Executive Order. For certain research projects, it may be possible that although the research being performed by the prime contractor is restricted research, a subcontractor may be conducting "contracted fundamental research." In those cases, it is the *prime contractor's responsibility* in the proposal to identify and describe the subcontracted unclassified research and include a statement confirming that the work has been scoped, negotiated, and determined to be fundamental research according to the prime contractor and research performer.

Normally, fundamental research is awarded under grants with universities and under contracts with industry. ATD is normally awarded under contracts and may require restrictions during the conduct of the research and DoD pre-publication review of research results due to subject matter sensitivity.

As regards to the present BAA, the Research and Development efforts to be funded will consist of applied research. The funds available to support awards are Budget Activity 2.

FAR Part 35 restricts the use of the Broad Agency Announcements (BAAs), such as this, to the acquisition of basic and applied research and that portion of advanced technology development not related to the development of a specific system or hardware procurement. Contracts and grants and other assistance agreements made under BAAs are for scientific study and experimentation directed towards advancing the state of the art and increasing knowledge or understanding.

***THIS ANNOUNCEMENT IS NOT FOR THE ACQUISITION OF TECHNICAL, ENGINEERING AND OTHER TYPES OF SUPPORT SERVICES.***

## **II. AWARD INFORMATION**

### **1. Amount and Period of Performance -**

The amount and period of performance of each selected proposal may vary depending on the research area and the technical approach to be pursued by the selected offeror.

ONR plans to fund individual awards of \$300,000.00 to \$750,000.00 per year per contract. However, lower and higher cost efforts will be considered. ONR anticipates a budget of up to \$14.0M for the total period of performance (3 years), subject to funds availability. The amount and period of performance of the award(s) may vary depending on the research area and the technical approach to be pursued by the offeror(s).

The period of performance of the awards will range from twelve (12) to thirty-six (36) months. It is the offeror's responsibility to determine the performance period for its proposed research effort. The award(s) will be made for the full performance period requested. Options will not be utilized.

## **2. Peer Reviews – N/A**

## **3. Production and Testing of Prototypes –**

In the case of funded proposals for the production and testing of prototypes, ONR may during the contract period add a contract line item or contract option for the provision of advanced component development or for the delivery of additional prototype units. However, such a contract addition shall be subject to the limitations contained in Section 819 of the National Defense Authorization Act for Fiscal Year 2010.

## **III. ELIGIBILITY INFORMATION**

All responsible sources from academia and industry may submit proposals under this BAA. Historically Black Colleges and Universities (HBCUs) and Minority Institutions (MIs) are encouraged to submit proposals and join others in submitting proposals. However, no portion of this BAA will be set aside for HBCU and MI participation.

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 so long as they are permitted under the sponsoring agreement between the Government and the specific FFRDC.

Navy laboratories and warfare centers as well as other Department of Defense and civilian agency laboratories are also not eligible to receive awards under this BAA and should not directly submit either white papers or full proposals in response to this BAA. If any such organization is interested in one or more of the programs described herein, the organization should contact an appropriate ONR POC to discuss its area of interest. The various scientific divisions of ONR are identified at <http://www.onr.navy.mil/>. As with FFRDCs, these types of federal organizations may team with other responsible sources from academia and industry that are submitting proposals under this BAA.

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

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, as well as with system integrators, selected by ONR.

Some topics 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 et seq.

## **IV. APPLICATION AND SUBMISSION INFORMATION**

### **1. Application and Submission Process - White Papers, Oral Presentations, and Full Proposals**

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## White Papers

The due date for white papers is no later than 3:00 PM (EST) on Friday, 09 March 2012. If an offeror does not submit a white paper before the due date and time, it is not eligible to participate in the remaining Full Proposal submission process and is not eligible for Fiscal Year (FY) 2012 funding. Each white paper should state that it is submitted in response to this BAA and cite the particular subsection of the Research Opportunity Description that the white paper is primarily addressing. The only acceptable method for submission of white papers is via e-mail. White papers must be e-mailed to [312\\_EC@onr.navy.mil](mailto:312_EC@onr.navy.mil) by the date and time indicated above. **NOTE: White Papers sent by fax will not be considered.** Navy evaluations of the white papers will be issued via e-mail notification on or about Friday, 23 March 2012 Any Offeror whose white paper technology was not identified as being of "particular value" to the Navy is ineligible to make an oral presentation or submit a full proposal under this BAA.

## Oral Presentations

ONR may request that the Principal Investigators (PIs) identified on proposals determined to be of "particular value" to the Navy provide expanded oral presentations of their white papers. The purpose of the oral presentation is to provide additional information and address how the proposed technology will affect JCREW applications. The requested oral presentations will be scheduled on or about Tuesday, 17 April 2012. The time, location, and briefing format of the oral presentations, if requested, will be provided at a later date via e-mail notification. Navy evaluations of the oral presentations will be issued via e-mail notification on or about Friday, 27 April 2012.

A full proposal will be subsequently encouraged from those Offerors whose proposed technologies have been reconfirmed through the aforementioned e-mail as being of "particular value" to the Navy. Any Offeror whose proposal following the oral presentation is not identified as being of "particular value" to the JCREW Program is ineligible to submit a full proposal under this BAA.

## Full Proposals

Full proposals will not be considered under this BAA unless a white paper was received before the white paper due date and time specified above. In addition, if an offeror's white paper and subsequent oral presentation were not both identified as being of "particular value" to the Navy, it is ineligible to submit a full proposal under this BAA. The due date for receipt of Full Proposals is 3:00 PM (EDT) on Monday, 28 May 2012. ONR will select the efforts to be funded for FY13 start-up based upon the quality and completeness of the full proposal and the level of available funding. It is anticipated that final selections will be made within four (4) weeks after full proposal submission. As soon as the final full proposal evaluation process is completed, PIs will be notified via e-mail of their project's selection or non-selection for FY13 funding. Full proposals received after the published due date and time will not be considered for funding in FY13. Full proposals exceeding the page limit may not be evaluated.

The only acceptable method for submission of full proposals for contracts is hard copy to the

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technical point of contact (David Trempeer) by the United States Postal Service (USPS) with delivery confirmation, or via a commercial carrier (FedEx and UPS).

*NOTE: Full Proposals for Contracts (unless classified) must be submitted via United States Postal Service (USPS) or a commercial carrier (FedEx or United Parcel Service (UPS)). Full Proposals sent by fax or email will not be considered. Full Proposals for Grants must be submitted via the Grants.Gov web site located at <http://www.grants.gov/>.*

## **2. Content and Format of White Papers/Full Proposals -**

White Papers and Full Proposals submitted under the BAA are expected to be unclassified; however, confidential/classified responses are permitted. If a classified response is submitted, the resultant contract will be unclassified.

### Unclassified Proposal Instructions:

Unclassified White Papers and Full Proposals shall be submitted in accordance with Section IV. Application and Submission Information.

### Classified Proposal Instructions:

Classified White Papers and Full Proposals shall be submitted directly to the attention of ONR's Document Control Unit at the following address:

OUTSIDE ENVELOPE (no classification marking):

Office of Naval Research  
Document Control Unit  
ONR Code 43  
875 North Randolph Street  
Arlington, VA 22203-1995

The inner wrapper of the classified proposal should be addressed to the attention of David Tremper ([tremper@onr.navy.mil](mailto:tremper@onr.navy.mil)), ONR Code 312 and marked in the following manner:

INNER ENVELOPE (stamped with the overall classification of the material)

Program: Counter Radio Controlled Improvised Explosive Device Electronic Warfare  
Office of Naval Research  
Attn: Tremper, David  
ONR Code: 312  
875 North Randolph Street, Suite 1125  
Arlington, VA 22203-1995

An 'unclassified' Statement of Work (SOW) must accompany any classified proposal.

Proposal submissions will be protected from unauthorized disclosure in accordance with FAR Subpart 15.207, applicable law, and DoD/DoN regulations. Offerors are expected to appropriately mark each page of their submission that contains proprietary information.

***IMPORTANT NOTE:** Titles given to the White Papers/Full Proposals should be descriptive of the work they cover and not be merely a copy of the title of this solicitation.*

**a. WHITE PAPERS**

**White Paper Format**

- Paper Size - 8.5 x 11 inch paper
- Margins - 1 inch
- Spacing - single spaced
- Font - Times New Roman, 12 point
- Max. Number of Pages permitted: four (4) pages (excluding cover page, resumes, bibliographies, and cost summary)
- Copies - One (1) electronic copy in Adobe PDF or Word 2007 delivered via email. Electronic (email) submissions should be sent to [312\\_EC@onr.navy.mil](mailto:312_EC@onr.navy.mil). The subject line of the email shall read "ONR BAA12-006 White Paper Submission."

**NOTE: 1) Do not send .ZIP files; and 2) Do not send password protected files.**

In order to provide traceability and evidence of submission, Offerors may wish to use the "Delivery Receipt" option available from Microsoft Outlook and other email programs that will automatically generate a response when the subject email is delivered to the recipient's email system. Consult the User's Manual for your email software for further details on this feature.

**White Paper Content**

- **Cover Page:** The Cover Page shall be labeled "WHITE PAPER", and shall include the BAA number 12-006, proposed title, Offeror's administrative and technical points of contact, with telephone numbers, facsimile numbers, and Internet addresses, and shall be signed by an authorized officer.
- **Technical Concept:** A description of the technology innovation, technical risk areas, and recent technical breakthroughs that will reduce risk. This section should also provide the relevance to BAA research opportunity description.
- **Operational Naval Concept:** A description of the project, the concept of operation for the new capabilities to be delivered and the expected operational performance improvements.
- **Operational Utility Assessment Plan:** A plan for demonstrating and evaluating the operational effectiveness of the Offeror's proposed products or processes in field

experiments and/or tests in a simulated environment.

- **Programmatic Section:** A programmatic section that includes milestones and a timetable.
- **Resumes:** A single page (each) summary resume (including previous relevant experience and pertinent publications) for the Project Manager and/or Principal Investigator.
- **Deliverables:** A list of proposed deliverables for the effort.
- **Cost:** A summary of costs segregated by tasks per fiscal year, as well as the total funding requested. The cost summary (not to exceed one (1) page) shall be segregated by both task and year (over the period of performance (i.e., 1, 2 or 3 years)).

## **b. FULL PROPOSALS**

### **INSTRUCTIONS FOR CONTRACTS (Does not include Grants)**

*NOTE: Submission instructions for BAAs issued after FY2010 have changed significantly from previous requirements. Potential Offerors are advised to carefully read and follow the instructions below. The new format and requirements have been developed to streamline and ease both the submission and review of proposals.*

*All proposals must include the following three (3) documents:*

- (1) Technical Proposal Template (pdf)*
- (2) Technical Content (word)*
- (3) Cost Proposal Spreadsheet (excel)*

*The documents can be found at: <http://www.onr.navy.mil/Contract-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx>.*

*All have instructions imbedded into them that will assist in completing the documents. Also, both the Template and the Spreadsheet require completion of cost-related information. Please note that all the attachments listed can be incorporated into the Technical proposal template for submission.*

The format requirements for any attachments to the Technical Proposal Template and Cost Proposal Spreadsheet are as follows:

- Paper Size 8.5 X 11 inch paper
- Margins – 1 inch
- Spacing- single or double spaced
- Font- Times New Roman, 12 point

The Cost Proposal Spreadsheet can be found by following this link:

<http://www.onr.navy.mil/Contracts-Grants/submit-proposal/contracts-proposal/cost-proposal.aspx>.

Click on the “proposal spreadsheet” link and save a copy of the spreadsheet. Instructions for completion have been embedded into the spreadsheet. Any proposed options that are identified in the Technical Proposal Template or Technical Content, but are not fully priced out in the Cost Proposal Spreadsheet will not be included in any resulting contract or other transaction. If proposing options, they **must** be separately priced and separate spreadsheets should be provided for the base period and each option period. In addition to providing summary by period of performance (base and any options), the Contractor is also responsible for providing a breakdown of cost for each task identified in the Statement of Work. The sum of all costs by task worksheets **MUST** equal the total cost summary.

For proposed subcontracts or interorganizational transfers over \$150,000, Offerors must provide a separate fully completed Cost Proposal Spreadsheet in support of the proposed costs. This spreadsheet, along with supporting documentation, must be provided either in a sealed envelope with the prime’s proposal or via e-mail directly to both the Program Officer and the Business Point of Contact at the same time the prime proposal is submitted. The e-mail should identify the proposal title, the prime Offeror and that the attached proposal is a subcontract, and should include a description of the effort to be performed by the subcontractor.

Offerors should submit one (1) original, plus five (5) hard copies and one (1) electronic copy on CD-ROM. Offerors shall follow the Technical Proposal Template and Cost Proposal Spreadsheet. The electronic Technical Proposal Template and Technical Content should be submitted in a secure, pdf compatible format, save for the electronic file for the Cost Proposal Spreadsheet which should be submitted in a Microsoft Excel 2007 compatible format. All attachments should be submitted in a secure, pdf compatible format.

The secure pdf compatible format is intended to prevent unauthorized editing of the proposal prior to any award. A password should not be required for opening the proposal document, but the Government must have the ability to print and copy text, images, and other content. Offerors may also submit their Technical Proposal Template and Technical Content in an electronic file that allows for revision (preferably in Microsoft Word) to facilitate the communication of potential revisions. Should an Offeror amend its Proposal package, the amended proposal should be submitted following the same hard and electronic copy guidance applicable to the original proposal.

The electronic submission of the Excel spreadsheet should be in a "useable condition" to aid the Government with its evaluation. The term “useable condition” indicates that the spreadsheet should visibly include and separately identify within each appropriate cell any and all inputs, formulas, calculations, etc. The Offeror should not provide “value only spreadsheets” similar to a hard copy.

### 3. Significant Dates and Times -

<b>Event</b>	<b>Date</b>	<b>Time</b>
White Paper Due Date	03/09/2012	3:00 PM Eastern Standard Time

Notification of White Paper Evaluation*	03/23/2012	
Oral Presentations*	04/17/2012	
Notification of Oral Presentation Evaluation*	04/27/2012	
Full Proposal Due Date	05/28/2012	3:00 PM Eastern Daylight Time
Notification of Selection: Full Proposals*	06/15/2012	
Awards*	11/01/2012	

*\*These dates are estimates as of the date of this announcement.*

**NOTE:** Due to changes in security procedures since September 11, 2001, the time required for hard-copy written materials to be received at the Office of Naval Research has increased. Materials submitted through the U.S. Postal Service, for example, may take seven days or more to be received, even when sent by Express Mail. Thus any hard-copy proposal should be submitted long enough before the deadline established in the solicitation so that it will not be received late and thus be ineligible for award consideration.

#### **4. Submission of Late Proposals -**

Any proposal, modification, or revision that is received at the designated Government office after the exact time specified for receipt of proposals is "late" and will not be considered unless it is received before award is made, the contracting officer determines that accepting the late proposal would not unduly delay the acquisition and:

- a. If it was transmitted through an electronic commerce method authorized by the announcement, it was received at the initial point of entry to the Government infrastructure not later than 5:00 P.M. one working day prior to the date specified for receipt of proposals; or
- b. There is acceptable evidence to establish that it was received at the Government installation designated for receipt of proposals and was under the Government's control prior to the time set for receipt of proposals; or
- c. It was the only proposal received.

However, a late modification of an otherwise timely and successful proposal that makes its terms more favorable to the Government will be considered at any time it is received and may be accepted.

Acceptable evidence to establish the time or receipt at the Government installation includes the time/date stamp of that installation on the proposal wrapper, other documentary evidence of receipt maintained by the installation, or oral testimony or statements of Government personnel.

If an emergency or unanticipated event interrupts normal Government processes so that proposals cannot be received at the Government office designated for receipt of proposals by the exact time

specified in the announcement, and urgent Government requirements preclude amendment of the announcement closing date, the time specified for receipt of proposals will be deemed to be extended to the same time of day specified in the announcement on the first work day on which normal Government processes resume.

The contracting officer must promptly notify any offeror if its proposal, modifications, or revision was received late and must inform the offeror whether its proposal will be considered.

## **5. Address for the Submission of Full Proposals**

Hard copies of Full Proposals for Contracts should be sent to the Office of Naval Research at the following address:

Office of Naval Research  
Attn: Mr. David Tremper  
ONR Department Code: 312  
875 North Randolph Street  
Arlington, VA 22203-1995

## **V. EVALUATION INFORMATION**

### **1. Evaluation Criteria -**

Award decisions will be based on a competitive selection of proposals resulting from a scientific and cost review. Evaluations will be conducted using the following evaluation criteria. Criteria 1 through 4 are significantly more important than Criterion 5, and Criteria 1 through 4 are of equal value.

- 1) Overall scientific and technical merits of the proposal;
- 2) Potential Naval relevance and contributions of the effort to the agency's specific mission;
- 3) The offeror's capabilities, related experience, facilities, techniques or unique combinations of these which are integral factors for achieving the proposal objectives;
- 4) The qualifications, capabilities and experience of the proposed Principal Investigator (PI), team leader and key personnel who are critical in achieving the proposal objectives; and
- 5) The realism of the proposed costs and availability of funds.

The degree of importance of cost will increase with the degree of equality of the proposals in relation to the other factors on which selection is to be based, or when the cost is so significantly high as to diminish the value of the proposal's technical superiority to the Government.

The ultimate recommendation for award of proposals is made by ONR's scientific/technical community. Recommended proposals will be forwarded to the contracts department will perform

costs analysis prior to any ensuing negotiations. Any notification received from ONR that indicates that the Offeror's full proposal has been recommended, does not ultimately guarantee an award will be made. This notice indicates that the proposal has been selected in accordance with the evaluation criteria above and has been sent to the contracting department to conduct cost analysis, determine the offeror's responsibility, and any take any other relevant steps necessary prior to commencing negotiations with the offeror

## **2. Small Business Participation -**

1) Subcontracting Plan - Each large business offeror shall provide a Small Business Subcontracting Plan that contains all elements required by FAR 52.219-9, as supplemented by DFARS 252.219-7003. *This plan will not be evaluated as part of the formal source selection process.* However, failure to submit the plan shall make the Offeror ineligible for contract award.

Offerors will be required to propose a plan that contains total subcontracted dollars for overall small business participation in accordance with the statutory goals found on the Small Business Administration website at: <http://www.sba.gov/content/small-business-goaling>

2) Statement of Commitment to Small Business – All offerors shall provide a statement on the extent the offeror's commitment in providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, women-owned small businesses, historically underutilized zone (HUBZone) small businesses, veteran-owned small businesses, service-disabled veteran-owned small businesses, and other concerns subject to socioeconomic considerations through its awards.

## **3. Evaluation Panel –**

Technical and cost proposals submitted under this BAA will be protected from unauthorized disclosure in accordance with FAR 3.104-4 and 15.207. The cognizant Program Officer and other Government scientific experts will perform the evaluation of technical proposals. Restrictive notices notwithstanding, one or more support contractors may be utilized as subject-matter-expert technical consultants. However, proposal selection and award decisions are solely the responsibility of Government personnel. Each support contractor's employee having access to technical and cost proposals submitted in response to this BAA will be required to sign a non-disclosure statement prior to receipt of any proposal submissions.

## **VI. AWARD ADMINISTRATION INFORMATION**

### **1. Administrative Requirements -**

- The North American Industry Classification System (NAICS) code - The NAICS code for this announcement is "541712" with a small business size standard of "500 employees".

- Central Contractor Registration: All Offerors submitting proposals or applications must:
  - (a) be registered in the Central Contractor Registration (CCR) prior to submission;
  - (b) maintain an active CCR registration with current information at all times during which it has an active Federal award or an application under consideration by any agency; and
  - (c) provide its DUNS number in each application or proposal it submits to the agency.
- Access to your Grant, Cooperative Agreement, Other Transaction and Contract Award

Effective 01 October 2011, hard copies of award/modification documents will no longer be mailed to Offerors. All Office of Naval Research (ONR) award/modification documents will be available via the Department of Defense (DoD) Electronic Document Access System (EDA).

## **EDA**

EDA is a web-based system that provides secure online access, storage, and retrieval of awards and modifications to DoD employees and vendors.

If you do not currently have access to EDA, you may complete a self-registration request as a "Vendor" via <http://eda.ogden.disa.mil> following the steps below:

Click "New User Registration" (from the left Menu)  
Click "Begin VENDOR User Registration Process"  
Click "EDA Registration Form" under Username/Password (enter the appropriate data)  
Complete & Submit Registration form

Allow five (5) business days for your registration to be processed. EDA will notify you by email when your account is approved.

Registration questions may be directed to the EDA help desk toll free at 1-866-618-5988, Commercial at 801-605-7095, or via email at [cscassig@csd.disa.mil](mailto:cscassig@csd.disa.mil) (Subject: EDA Assistance).

## **VII. OTHER INFORMATION**

### **1. Government Property/Government Furnished Equipment (GFE) and Facilities**

Government research facilities and operational military units are available and should be considered as potential government-furnished equipment/facilities. These facilities and resources are of high value and some are in constant demand by multiple programs. It is unlikely that all facilities would be used for any one specific program. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should indicate in the Technical Proposal Template, Section II, Blocks 8 and 9, which of these facilities are critical for the

project's success.

## **2. 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 in Section II, Block 11 of the Technical Proposal Template.

If it is determined that access to classified information will be required during the performance of an award, a Department of Defense (DD) Form 254 will be attached to the contract; and FAR 52.204-2 - Security Requirements will be incorporated into the contract.

## **3. Use of Animals and Human Subjects in Research**

RESERVED

## **4. Recombinant DNA**

RESERVED

## **5. Use of Arms, Ammunition and Explosives**

RESERVED

## **6. Department of Defense High Performance Computing Program**

The DoD High Performance Computing Program (HPCMP) furnishes the DoD S&T and RDT&E communities with use-access to very powerful high performance computing systems. Awardees of ONR contracts, grants, and assistance instruments may be eligible to use HPCMP assets in support of their funded activities if ONR Program Officer 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/>.

## **7. Organizational Conflicts of Interest**

All Offerors and proposed subcontractors must affirm whether they are providing scientific, engineering, and technical assistance (SETA) or similar support to any ONR technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the offeror supports and identify the prime contract numbers. Affirmations shall be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest (FAR 9.5) must be disclosed. The disclosure shall include a description of the action the offeror has taken or proposes to take to avoid, neutralize, or mitigate such conflict. In accordance with FAR 9.503 and without prior approval, a contractor cannot simultaneously be

a SETA and a research and development performer. Proposals that fail to fully disclose potential conflicts of interests will be rejected without technical evaluation and withdrawn from further consideration for award. Additional ONR OCI guidance can be found at <http://www.onr.navy.mil/About-ONR/compliance-protections/Organizational-Conflicts-Interest.aspx>. If a prospective offeror believes that any conflict of interest exists or may exist (whether organizational or otherwise), the offeror should promptly raise the issue with ONR by sending his/her contact information and a summary of the potential conflict by e-mail to the Business Point of Contact in Section I, item 7 above, before time and effort are expended in preparing a proposal and mitigation plan. If, in the sole opinion of the Contracting Officer after full consideration of the circumstances, any conflict situation cannot be effectively avoided, the proposal may be rejected without technical evaluation and withdrawn from further consideration for award under this BAA.

## **8. Project Meetings and Reviews**

Individual program reviews between the ONR sponsor and the performer may be held as necessary. Program status reviews may also be held to provide a forum for reviews of the latest results from experiments and any other incremental progress towards the major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, offerors should assume that 40% of these meetings will be at or near ONR, Arlington VA and 60% at other contractor or government facilities. Interim meetings are likely, but these will be accomplished via video telephone conferences, telephone conferences, or via web-based collaboration tools.

## **9. Executive Compensation and First-Tier Subcontract Reporting (APPLIES ONLY TO CONTRACTS)**

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.fsrc.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 North American Industry Classification System (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/execomp.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.

## **10. Disclosure of Information**

Awards made under this BAA will contain DFARS Clause 252.204-7000 entitled “Disclosure of Information”.