Whole Genome Approach to Microbial Forensics (WGAMF)
Broad Agency Announcement BAA 12-11
(Conformed Through Amendment 00005)

Department of Homeland Security
Science & Technology (S&T) Directorate

Issuance Date: 13 July 2012
White Papers Due: 31 August 2012
Proposals Due: 14 December 2012

For Questions Regarding This Solicitation:
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1. GENERAL INFORMATION

1.1 Introduction

This solicitation is a Broad Agency Announcement (BAA) as contemplated in Federal Acquisition Regulation (FAR) 6.102(d)(2) and 35.016 to provide for competitive selection of research proposals. Contracts based on responses to this BAA are considered to be the result of full and open competition and in full compliance with the provisions of Public Law (PL) 98-369 "The Competition in Contracting Act of 1984." A formal Request for Proposals (RFP) will not be issued. Awards under this BAA are planned in Fiscal Year (FY) 2012. No contract awards or other instruments that obligate funds will be made until appropriated funds are available from which payment for contract purposes can be made.

1.2 Agency Name -

Department of Homeland Security
Science & Technology Directorate
Chemical Biological Division
Washington, DC 20528

1.3 Research Opportunity Title -

Whole Genome Approach to Microbial Forensics (WGAMF)

1.4 Program Name –

Bioforensics program (in the Threat Characterization and Attribution (TCA) Branch, Chemical and Biological Defense Division, Science and Technology Directorate, Department of Homeland Security)

1.5 Research Opportunity Number -

BAA 12-11

1.6 Solicitation and Response Approach

The Department of Homeland Security (DHS) Science & Technology (S&T) Directorate will not issue paper copies of this announcement. DHS S&T reserves the right to select for award and fund all, some, or none of the Full Proposals received in response to this solicitation. No funding

for direct reimbursement of proposal development costs will be allowed. White Papers, Technical and Cost Proposals (or any other material) submitted in response to this BAA will not be returned. However, depending on the markings on the proposal, DHS S&T will adhere to FAR policy on handling source selection information and proprietary proposals. It is the policy of DHS S&T to treat all proposals as sensitive competitive information and to disclose their contents only for the purposes of evaluation. Offerors are to provide unclassified proposals. Documents containing sensitive information that are not suitable for uncontrolled public dissemination should be marked "For Official Use Only" (FOUO).

Awards may take the form of contracts or other transactions (OTs) agreements. In the event an Offeror or subcontractor is a Federally Funded Research and Development Center (FFRDC), Department of Energy National Laboratory, or other Federally funded entity, DHS S&T will work with the appropriate sponsoring agency to issue an interagency agreement pursuant to the Economy Act (31 U.S.C. 1535) or other appropriate authority. Depending on the nature of the Full Proposals received, DHS S&T will also consider awarding a grant or cooperative agreement. Therefore, the applicable laws and regulations governing the legal vehicle used for award will depend on the legal vehicle chosen by DHS S&T. In this regard, Offerors should propose a preferred vehicle type for DHS S&T to consider for award.

A two-stage proposal selection process will be used for this solicitation to minimize the cost and effort for prospective offerors. Stage 1 will consist of the solicitation, receipt, and evaluation of white papers, technical section limited to 5 pages. No formal transmittal letter is required for the Stage 1 responses.

A down-selection process will be conducted by the DHS and those Stage 1 white papers selected will be invited to participate in Stage 2, which will consist of the solicitation, receipt, and evaluation of a Full Proposal, limited to 40 pages, excluding the Formal Transmittal Letter, Cover Page, and Table of Contents.

1.7 Response Dates

Item	Due Date
White Papers	31 August 2012
Full Proposals	14 December 2012

1.8 Research Opportunity Description -

The Homeland Security Act of 2002 (Public Law 107-296) states that DHS S&T will "support basic and applied homeland security research to promote revolutionary changes in technologies; advance the development, testing and evaluation, and deployment of critical homeland security technologies; and accelerate the prototyping and deployment of technologies that would address homeland security vulnerabilities." Pursuant to this mission the Chemical Biological Division (CBD) seeks technologies to prevent and defend against a chemical and biological attack. In

addition, the division is charged with pursuing research to improve response and restoration, conduct threat risk assessments, and invest in bioforensics research and development. The focus of this BAA is in the area of bioforensics research.

The threat of terrorist or criminal use of pathogenic organisms and their toxins remains of great concern in the United States. There are vulnerabilities and needs to perform microbial forensic analyses for attribution purposes in a rigorous scientific manner. As part of the effort to deter biological terrorism and strengthen the law enforcement response to such an act, Homeland Security Presidential Directive (HSPD) 10, "Biodefense for the 21st Century" established a dedicated central microbial forensic laboratory known as the National Bioforensics Analysis Center (NBFAC), as part of the Department of Homeland Security to provide bioforensics analysis of evidence associated with the event. The NBFAC operates in partnership with the Federal Bureau of Investigation (FBI), the lead investigative agency in acts of terrorism. This BAA seeks research in the following technical focus areas (TFAs) to support the missions of the NBFAC and FBI for evidentiary analysis and interpretation of results to support a criminal investigation. The ultimate goal of this joint mission is the capture, indictment, and prosecution of the perpetrator(s) of the biocrime or terrorist attack.

The NBFAC has instituted a robust, operational molecular biology program with enhanced capabilities to conduct genomic analysis of biological threat agents. The Bioforensics Research and Development Program supports NBFAC operational threat agent identification and characterization through investments in microbial forensics research and next generation technologies to include molecular biology, genomic comparison techniques, genotyping assays and physical/chemical analysis of sample matrix to better understand the origin, evolutionary history, production method and dissemination mechanism associated with the malicious use of biological agents. Pursuant to this mission the Bioforensics R&D Program seeks technologies to achieve the following goals:

- Development and application of mathematical models for statistical confidence measurements in metagenomic analysis
- Development of a procedure to support the transfer of viral cDNA generated in a BSL-3/4 laboratory to BSL-2 laboratory for genomic analysis
- Whole-genome sequencing to capture the global biodiversity of human, plant and animal pathogens (bacterial, viral and fungal) in support of microbial forensics analysis.

1.9 Program Structure and Objectives

This announcement contains 3 Technical Focus Areas (TFAs), each with an emphasis on a particular aspect of the whole genome sequence-based analytical approach. Bioforensics R&D intends to initially fund a 12 month period of performance for phase 1. TFA 1 and 2 projects will have the opportunity to apply for a phase 2 option year, which will be funded based on performance in the first year and funding availability and priorities. TFA 3 will have a multiple year phase 2 to be funded on a yearly basis based on funding availability, priorities and performance. For option years to be considered for TFA 1 and 2, they must be included in the proposal.

1.9.1 TFA-1: Development and application of mathematical models for statistical confidence measurements in metagenomic analysis.

Currently, it is difficult to assign confidence to the results of metagenomic analyses. For example, in metagenomic sequencing, what do a small number of reads that match a particular organism say about the probability that the organism is actually present in the sample? New methods are needed to assess the likelihood that an organism is present in a metagenomic sample and to provide confidence intervals on abundance estimates.

Bioforensics R&D is looking to invest in the development and application of mathematical models for (1) estimating the likelihood of a genome being present in a metagenomic sample, and (2) the most likely composition of a metagenomic sample including a list of genomes and their relative abundance. The system should go beyond metagenomic classification to provide a statistically supported estimate of sample composition that could be used in a biothreat agent detection context. Detection calls should be made at the most detailed level possible (at least species, and potentially strain), so that pathogens may be differentiated from their non-pathogenic relatives. The proposed approach should be adaptable to a range of sequence lengths and error profiles (e.g. Illumina and PacBio), and be tailored for execution in a high-performance computing environment, favoring accuracy over computing resources. The proposed methods should assume sensitive alignments (e.g. BLAST) between all sequencing reads and the search database are available, and such data can be provided, if needed, by the genomics group at the NBFAC. All software developed should be made freely available to non-commercial users, preferably using an open-source license.

Deliverables:

1. A technical report describing the mathematical model that addresses the needs of statistical confidence measures.
2. Peer-reviewed publication(s) describing the model.
3. Source code all associated software.
4. Monthly technical progress reports, monthly financial reports and quarterly technical telecons.

1.9.2 TFA-2: Development of a procedure to support the transfer of viral cDNA generated in a BSL-3/4 laboratory to BSL-2 laboratory for genomic analysis.

BSL-3/4 level (+) strand RNA viruses must be converted to cDNA prior to DNA sequencing in BSL-2 laboratories. However, the genomic RNA derived from those viruses remains infectious and is in many cases a Select Agent itself. Because of this, the cDNA must be treated to remove all remaining RNA and then it must be tested to ensure the absence of infectious RNA before transfer to a BSL-2 laboratory. The aim of this project would be to develop and validate an improved method for cDNA synthesis and subsequent (+) strand RNA removal. The method should produce cDNA of sufficient quality (not degraded into small fragments) and quantity for sequencing, and the method

should decrease the time required to convert BSL-3/4 (+) strand RNA to cDNA, which can be handled in BSL-2 laboratories.

Deliverables:

1. Standard operating procedure for the developed method.
2. Quality project performance plan addressing parameters outlined in the Appendix of this BAA.
3. Manuscript ready for publication describing the method and results of performance testing.
4. Monthly technical progress reports, monthly financial reports and quarterly technical telecons.

1.9.3 TFA-3: Whole-genome sequencing to capture the global biodiversity of human, plant and animal pathogens (bacterial, viral and fungal) in support of microbial forensics analysis.

The genome is the most specific signature of an organism and it can be used to unambiguously distinguish a particular organism from all others. Because of the ability to distinguish between closely related organisms, whole genome sequencing is particularly relevant to the field of microbial forensics. Whole genome sequencing holds great promise for forensic analysis in terms of accuracy in pathogen identification and characterization, but this approach is limited by the databases available for genome sequence comparisons. Some pathogens, such as *Bacillus anthracis* have many sequenced genomes available for comparison, but for other pathogens, whole genome sequences are either rare or not available in public databases. In addition, there is no accepted standard for capturing and archiving the genomes of contemporary pathogens as they emerge. A more comprehensive catalog of genomes is needed that covers the full diversity (phylogenetic, functional, spatial, and temporal) of pathogens and their associated near-neighbors, as well as a long-term strategy for sequencing and archiving the genomes of contemporary pathogens as they emerge.

Phase 1:

Bioforensics R&D is planning to invest funding in a sequencing program that will populate a pathogen comparative genomic database to be based at the National Center for Biotechnology Information (NCBI). This will expand the breadth of current sequence databases and serve as a model for collecting and sequencing emerging pathogens in the future. The first goal for phase 1 (year 1) of the project is to identify all available genomic sequences from groups within the US government, private industry, Academia, and internationally that are involved in genomic analysis of pathogens, with the objective of collecting existing genomic data. The identified data should be deposited at NCBI where possible; otherwise data should be deposited at NBFAC. The second goal is to begin sequencing high priority pathogen strains. Year one will require 5 tasks:

1. Survey all available microbial genome sequences for the microbial threat agents listed in Appendix E including relevant near neighbors, in order to assess if the

number and diversity is adequate for forensic purposes (metagenomic analysis, characterization, assay development and validation, and comparative genomics). This effort should include bacteria, viruses and fungi, and report on the state of the whole genome sequences for each pathogen with regard to draft or finished genomes.

2. Make recommendations of additional strains for whole genome sequencing based on the results of the survey, including the sequencing of non-pathogenic relatives that would increase the specificity of forensic analyses. This will be referred to as the sequencing plan.
3. Prioritize pathogens for surveillance, i.e. which species should be isolated and sequenced on a routine basis to maintain an accurate picture of the global evolutionary landscape.
4. Establish a relationship with NCBI, to include organization of a working group containing government stakeholders to define database quality, metadata, and annotation standards required to effectively support pathogen genomics, outbreak response, and microbial forensics.
5. Begin sequencing the strains identified in task 2.

Tasks 1 and 2 must be completed and briefed to the government sponsor and the above mentioned working group prior to beginning task 5. The sequencing plan must be approved by the government sponsor prior to beginning any sequencing, mainly with regard to strain priority.

In this process, experts in the fields of virology, bacteriology, genomics, microbial ecology, epidemiology, and agriculture should be engaged to help develop an understanding of the spectrum of natural diversity and ecological distribution of microbial agents that would be informative for forensic purposes and sample comparisons.

There will be one award for this TFA. The awardee is expected to be a consortium of relevant experts so teaming is expected. At least one member of the team should have BSL-3 laboratory facilities and have the ability to accept and process isolates that require this level of containment. Access to BSL-4 facilities is not a requirement but will be considered a plus as will access to DNA (for sequencing) that has been isolated from any relevant BSL-4 organisms in Appendix E. Areas of expertise in the team should include:

- Genomics
- High-throughput sequencing
- Virology
- Bacteriology
- Microbial ecology
- Bioinformatics
- Epidemiology
- Agriculture

Deliverables:

1. Report outlining the availability of whole genome sequences for each pathogen with a discussion on the current knowledge of the global diversity and gaps.
2. Plan for addressing sequencing gaps to include plan of accessing strains, sequencing strategy and sequence cost analysis.
3. Report on database requirements identified by NCBI working group, including plan for data quality control, normalized annotation and standardization of metadata.
4. Whole genome sequences – high quality draft sufficient for placement in a phylogeny
5. Monthly technical progress reports, monthly financial reports and quarterly technical telecons.

Awardee will be selected based on

- Approach to the survey
- Plan for accessing relevant pathogen strains
- Plan for sequencing
- Plan for data release following the guidelines outlined in Appendix F
- Approach to quality control of the data
- A sequencing cost analysis (can be costed out by high quality draft per strain – proposer will need to define what they mean by high quality draft).

Phase 2:

Sequencing will continue in phase 2. Phase 2 will be a multi-year phase and each year will be awarded based on performance, funding availability and funding priorities. Establishment of a good relationship with NCBI is a must since all sequenced genomes will need to be submitted to GenBank. DHS would like to see the database modeled after the NCBI Influenza Virus Resource Database, where all sequences and metadata are deposited in GenBank and the site hosted by NCBI. DHS will not fund any private, proprietary databases for this project. All sequences and related metadata funded under the project will need to be publically released without restriction.

The following metadata should be included where possible and in a form to provide useful reports:

- Species
- Standardized strain/isolate designation
- Date and location of collection
- Host or vector species
- Epidemiology information
- Virulence and phenotype data
- Sequence data
- Data references
- Number of passages
- Method(s) of passaging

- Physical location of isolate stocks
- Point of contact
- Curator

The database architecture and standards will be developed by NCBI with input from the data providers. All sequences deposited in the database will be required to meet the defined quality standards, and must be verified for accuracy and completeness prior to submission. Limited quality control checks will also be performed by NCBI as appropriate. The goal of this database will be to serve as a central resource for the continued compilation and annotation pathogen sequence data.

Deliverables:

1. Whole genome sequences – high quality draft sufficient for placement in a phylogeny.
2. Manuscripts reporting on the global diversity and genomic phylogeny studies of the different pathogens.

1.10 Requirements

All methodology development approaches will require Standard Operating Procedures (SOPs), Quality Project Performance Plans (QPPP) and a publishable final report or peer-reviewed paper as part of the deliverables. Appendix C outlines the components that are required in the SOP format. Appendix D lists and explains the parameters to address in the quality project performance plan. A definition of each of these parameters is required for each procedure developed and will constitute the standard by which the procedure will be verified by Bioforensics R&D customers.

1.11 Program Schedule and Phases

Bioforensics R&D anticipates that award announcements will be made by 31 January 2013, and intends to fund a one-year period of performance with potential option years as noted above. Continuation of work initiated under this solicitation for option years will depend upon the technical performance of these efforts, the availability of funds, and other programmatic considerations. Bioforensics R&D anticipates the potential of making 3 awards under this solicitation.

1.12 Deliverables

To the exclusion of exceptions negotiated at time of award, any of the deliverables associated with this program may be released by DHS Bioforensics R&D to outside organizations, both U.

S. Government and non-Government, in support of DHS missions. The Government will provide a preferred format for monthly technical progress reports and SOPs (see Appendix B and C).

As determined by the period of performance, the Offerors will provide to the Bioforensics Program Manager, the following reports as deliverables, in addition to any other deliverable outlined in their final proposal and Statement of Work. As part of each report, the offeror shall provide results of all task work conducted during the reporting period. The Bioforensics Program Manager shall review the documents within 30 calendar days of receipt and provide any additions, deletions or editorial changes. Lack of a response by the Government will constitute acceptance.

The following deliverables will be required for all efforts under traditional procurement contracts or other transactions agreements awarded to those offerors whose full proposals are selected for award.

1.12.1 Monthly Financial Report

The Monthly Financial Status Report provides a means to capture a comprehensive assessment of expenditures. This report will describe financial expenditures (including expenditures during the past calendar month period plus cumulative expenditures, and projected expenditures for the coming calendar month).

Monthly Financial Report Submission Requirements:

- **Frequency*:*** Input once per month for the duration of the period of performance.
- **Reporting Period:** Report on performance during previous month.
- **Due Date:** Submit by the 15th calendar day of the month. Post-award initial submission will be submitted within 30 calendar days of award.

1.12.2 Monthly Technical Report

The Monthly R&D Technical Status Report provides the scientific and technical managers the precise nature and results of analytical studies, research development, test and evaluation (RDT&E) on an assigned task(s). The document shall not exceed ten pages and the content shall be clearly written, describing accomplishments and other facts adequately with no technical errors. The report will describe the previous 30 calendar days' activities, including; the technical principles involved in the actual work, technical progress achieved against goals, difficulties encountered, recovery plans (if needed), and funds expended against each task, as well as a detailed technical plan for the next 30 day period. The reports shall be formatted in accordance with the report template provided by the program manager. The level of detail should be typical of an executive summary to include procedures performed and results.

Monthly R&D Technical Status Report Submission Requirements:

- **Frequency:** Input 12 times per year for the duration of the award.
- **Reporting Period:** Report on performance during the previous 30 days.
- **Due Date:** Submit by the last business day of the month.

1.12.3 Quarterly Technical Teleconference

The Quarterly R&D Technical Teleconference provides the scientific and technical managers the ability to discuss results outlined in the previous 3 monthly progress reports to get a better understanding of the status of the project. Any technical concerns should be discussed with the program manager at this time.

Quarterly R&D Technical Teleconference Requirements:

- **Frequency:** Input four times per year for the duration of the award.
- **Reporting Period:** A 30 minute telecon will be conducted in November, February, May and August of each year.
- **Due Date:** November, February, May and August.

1.13 Other Deliverables

Performers should define additional program-specific deliverables as appropriate for the proposed approach (reports, publications, presentation materials, SOPs, etc..). These deliverables should be clearly stated in the proposal as directed below. **** PLEASE NOTE the difference between milestones and deliverables – all deliverables are milestones but not all milestones are deliverables. This section should be devoted to deliverables – tangible items (reports, SOPs, data, QPPP, other documents) that are intended to be delivered to DHS.****

Final deliverables for all funded efforts should include a final report or papers that can be published in peer-reviewed journals. All methodology development approaches will require Standard Operating Procedures (SOPs) and Quality Project Performance Plans (QPPP) as part of the deliverables (See Appendices C and D). The Government may describe additional deliverables at the time full proposals are requested.

1.14 Project Meetings and Reviews

Annual program reviews will be held at or near DHS S&T, Washington D.C. (Usually in August). The format is conference style with half hour presentations of progress toward deliverables presented by all primary investigators (or representatives of PIs) funded under the Bioforensics program. Periodic project status reviews may also be requested by the program manager to provide for reviews of the latest results from experiments and any other incremental progress towards the final deliverables. These meetings may be held at various sites throughout the country. For costing purposes, offerors should assume that 60 percent of these meetings will

be at or near DHS S&T, Washington D.C., and 40 percent at other contractor or government facilities. The program manager may also request these interim meetings be accomplished via video telephone conferences, telephone conferences, or Web-based collaboration tools.

1.15 Government Furnished Equipment and Resources

The government will consider requests from individuals or teams for government-furnished resources and technologies.

1.16 Government Representatives -

Science and Technology: Technical POC

Dr. Traci K. Pals, Ph.D.
Program Manager
Department of Homeland Security
Science and Technology Directorate
Washington, DC 20528

Business: Contract POC

Mr. Aaron H. Ford
Procuring Contracting Officer
Department of Homeland Security
Office of Procurement Operations
Science & Technology Acquisition Division
245 Murray Lane
Washington, DC 20528

2. AWARD INFORMATION

2.1. Available Amount of Funding Expected to be Awarded Through this BAA

Although subject to official fiscal appropriation and availability, it is anticipated that the Bioforensics R&D Program will have up to **$3,500,000** for award under this BAA.

2.2. Limitation of Funds.

The Government reserves the right to incrementally fund contracts awarded from this BAA as provided by the FAR 52.232-22, "Limitation of Funds." Contracts or other agreements that obligate funds that are awarded will not have an initial period of performance that exceeds 12 months from the receipt of funding by the performer. However, Offerors can propose a base year effort with option years as noted above.

2.3. Anticipated Number of Awards

DHS S&T expects to make 3 awards using its FY 2013 funds.

2.4. Anticipated Award Types

Award type is anticipated to be in the form of Cost Reimbursement type contracts. However the Government reserves the right to award grants, Cooperative Agreements (CAs), Other Transactions (OTs), or interagency agreements (IAA)s to appropriate parties should the situation warrant.

2.5. Anticipated Period of Performance for New Awards

The period of performance for research efforts and studies proposed should either be for a single period not exceeding **12 months**, or for multiple years having one base year with up to two option years. **If a multi-year project is proposed, something of tangible value must be provided in the first funding year**. Funding in the first year cannot be used for planning purposes, except where noted in the TFA descriptions, with the actual execution of the task to be performed in subsequent year(s). Multi-year proposals should make recommendations and present a plan that sets forth follow-on efforts in subsequent option years and estimated (rough order of magnitude) costs for the option years. Consideration of the funding of follow-on work in subsequent years will be contingent upon the value of the product(s) produced by the first-year efforts. The period of performance shall commence at the date of award. Proposals that build on current or previous work are encouraged. If Offerors are extending work performed under other DHS projects or projects for other sponsors, the proposal must clearly identify the point of departure and what existing work will be brought forward and what new effort will be performed under this BAA.

3. ELIGIBILITY INFORMATION

This BAA is open to **ALL** responsible sources.

Offerors may include single entities or teams from academia, private sector organizations, Government laboratories, and Federally Funded Research and Development Centers (FFRDCs), including Department of Energy National Laboratories and Centers.

3.1. Federally Funded Research & Development Centers

FFRDCs, including Department of Energy National Laboratories and Centers, are eligible to respond to this BAA, individually or as a team member of an eligible principal Offeror, so long as they are permitted under a sponsoring agreement between the Government and the specific FFRDC.

3.2. Nonprofit Organizations, Educational Institutions and Small Business Set Aside

The Government encourages nonprofit organizations, educational institutions, small businesses, small minority disadvantaged business (SDB) concerns, Historically Black Colleges and Universities (HBCU), Minority Institutions (MI) (HBCU/MIs), women-owned businesses (WB), and Historically Underutilized Business (HUB) zone enterprises as well as large businesses, academic institutions, and Government laboratories to submit research proposals for consideration and/or to join others in submitting proposals; however, no portion of the BAA will be set-aside for these special entities pursuant to FAR Part 19.502-2, because of the impracticality of reserving discrete or severable areas of research and development in any specific requirement area.

To ensure full consideration in these programs, registration in the https://baa2.st.dhs.gov/ website, described later in this document, requires the appropriate business type selection as well as accurate up-to-date information.

3.3. Organizational Conflict of Interest

Organizational Conflict of Interest issues will be evaluated on a case-by-case basis; as outlined below. Offers who have existing contract(s) to provide scientific, engineering, technical and/or administrative support directly to the DHS S&T will receive particular scrutiny.

(a) Determination. The Government has determined that this effort may result in an actual or potential conflict of interest, or may provide one or more Offerors with the potential to attain an unfair competitive advantage.

(b) If any such conflict of interest is found to exist, the Contracting Officer may (1) disqualify the Offeror, or (2) determine that it is otherwise in the best interest of the United States to contract with the Offeror and include the appropriate provisions to mitigate or avoid such conflict in the contract awarded. After discussion with the Offeror, the Contracting Officer may determine that the actual conflict cannot be avoided, neutralized, mitigated, or otherwise

resolved to the satisfaction of the Government, and the Offeror may be found ineligible for award.

(c) Disclosure: The Offeror must represent, as part of its proposal and to the best of its knowledge that: (1) It is not aware of any facts which create any actual or potential organizational conflicts of interest relating to the award of this contract; or (2) It has included information in its proposal, providing all current information bearing on the existence of any actual or potential organizational conflicts of interest, and has included the mitigation plan in accordance with paragraph (d) of this provision.

(d) Mitigation/Waiver. If an Offeror with a potential or actual conflict of interest or unfair competitive advantage believes it can be mitigated, neutralized, or avoided, the Offeror shall submit a mitigation plan to the Contracting Officer for review. Award of a contract where an actual or potential conflict of interest exists shall not occur before Government approval of the mitigation plan.

(e) Other Relevant Information: In addition to the mitigation plan, the Contracting Officer may require further relevant information from the Offeror. The Contracting Officer will use all information submitted by the Offeror, and any other relevant information known to DHS, to determine whether an award to the Offeror may take place, and whether the mitigation plan adequately neutralizes or mitigates the conflict.

(f) Corporation Change. The successful Offeror shall inform the Contracting Officer within thirty (30) calendar days of the effective date of any corporate mergers, acquisitions, and/or divestures that may affect this provision.

(g) Flow-down. The contractor shall insert the substance of this clause in each first tier subcontract that exceeds the simplified acquisition threshold.

4. APPLICATION AND SUBMISSION INFORMATION

4.1 BAA Package Download.

This BAA package may be downloaded in its entirety from the Federal Business Opportunities website http://www.fbo.gov or from https://baa2.st.dhs.gov.

Registration in not required to download the BAA package; however, a registration in https://baa2.st.dhs.gov/ is required to upload a response to the BAA.

4.2 Application and Submission Process

Submissions will not be accepted from organizations that have not registered. Any organization that wishes to participate in this solicitation must register at: https://baa2.st.dhs.gov/.

To submit your White Paper, go to https://baa2.st.dhs.gov and select the appropriate registration button, fill in the requisite fields, upload your files and then submit. Users will receive confirmation of their submission via e-mail. You may revise your White Paper submission until the deadline. Failure to submit a White Paper will disqualify an Offeror from consideration for submitting a Full Proposal.

In teaming situations, the lead organization must remain the same on both the White Paper, and if selected, the Full Proposal. Any Full Proposal submitted by organizations that were not the lead organization for the White Paper submission will be considered non-responsive.

Full Proposals shall be delivered via upload in accordance with instructions provided during registration.

No Classified White Papers or Full Proposals (or portions of proposals) will be accepted.

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

The DHS BAA website at https://baa2.st.dhs.gov offers electronic access to BAA solicitations, frequently asked questions (FAQs), answers to FAQs, abstracts of previously funded projects, and hyperlinks to other useful information.

Please refer to the "Registrations and Submissions Training Guide" at https://baa2.st.dhs.gov/portal/jsp/public/help/public_portal_registration_and_submissions_training_guide.pdf for step-by-step instructions for registering your company and submitting your proposal.

IMPORTANT: Before submitting a proposal for the first time, you must first register your company and user account in the system. It is recommended that the Business Official or an authorized representative designated by the Business Official be the first person to register for your company. Your company's Taxpayer Identification Number (TIN) is required during registration. If your company is registered, other new users may register and associated their information with the company's existing record. When registration is completed, users can submit and manage their proposals.

NOTE: User registration is not sufficient for registering the White Paper. To register your White Paper, you must log on with credentials. Click the "Start New Proposal" button. When the "Start the New Proposal" page displays, pick the solicitation and topic, and then enter the title of the white paper/proposal that you are submitting. Note: if the solicitation that you want to submit against is not listed, click on the "Click Here to Register a Solicitation" link to gain

access. When you have entered the title, click the "Add Proposal to Activity Worksheet" button. The "Proposal Activity Worksheet" page lists your proposal in the Proposals in progress section of the page. Your White Paper is registered at this point. Repeat this step before the White Paper registration deadline for every white paper you wish to register.

After you have completed the Coversheets and uploaded your White Paper document, you must click on "Submit White Paper" button to submit the White Paper; simply uploading the document is not sufficient. After you have uploaded your Full Proposal documents, you must click on the "Submit Proposal" button to submit the Full Proposal; simply uploading the documents is not sufficient.

4.3 White Paper Preparation and Submission Guidelines

White papers are required prior to submitting a full proposal.

The due date for white papers is no later than 4:30 P.M. (Local Eastern Time) on ***31 August 2012.*** A two-stage source selection process will be used. It is required that a white paper be submitted prior to a full proposal to determine the acceptability of the proposed concept to the BAA. This allows for comments on the white paper to the proposer and full proposals will be notified and invited based on white paper review. Initial DHS S&T evaluation of the white papers will be issued via e-mail notification on or about **19 *October 2012***. Awards will be made based on the full proposal.

Offerors may propose to more than one TFA but separate white papers/proposals must be submitted to each TFA. To avoid duplicative review of white papers/proposals, offerors are not to submit the same white paper/proposal to multiple TFAs.

White papers should be concise and limited to 5 pages in length for the technical portion with additional pages for supporting documentation (does not count in page limit). All pages shall be printed single-spaced on 8-1/2 by 11 inch paper with type not smaller than 12 point font. The page limitation for white papers includes all figures, tables, and charts. No formal transmittal letter is required. The white paper should contain the following sections:

- **Cover Sheet** (must be clearly marked "White Paper"): must include the Technical Point of Contact's information (name, address, phone, fax, email, lead organization and business type), the title of the proposed work, the estimated cost, and the duration (in months) of the proposed work. (Note: cover sheet does not count towards page limit.)
- **Executive Summary**: Briefly define the problem that this white paper will address and the effort's technical goals. Succinctly describe the uniqueness and benefits of the proposed approach.
- **Proposed Technical Approach and Research Plan**: This section is the centerpiece of the white paper. It should describe the research areas relevant to achieving program goals, detailed technical rationale, technical approach, and constructive plan for accomplishment of technical goals in support of program objectives, milestones and deliverables.

- **Team Expertise and Management Plan**: A summary of expertise of the key personnel on the project relevant to the program goals. If the team is multi-organizational, a proposed management structure should also be included. (Note: this section does not count towards page limit.)
- **Cost Estimates**: A cost estimate for resources over the proposed timeline. This cost estimate should include both labor and materials costs. (Note: this section does not count towards page limit.)

4.4 Full Proposal Preparation and Submission Guidelines

The due date for receipt of full proposals is 4:30 P.M. (Local Eastern Time) on ***14 December 2012.*** **Full Proposals WILL NOT BE ACCEPTED after the published due date. It is anticipated that award announcements will be made on or before *17 May 2013*.** As soon as the final proposal evaluation process is complete, the offeror will be notified via e-mail of its selection or non-selection for an award. Proposals exceeding the page limit will not be evaluated.

ONLY OFFERORS WHO SUBMIT A WHITE PAPER THAT IS DEEMED AS HAVING "PARTICULAR VALUE" TO DHS S&T WILL BE CONSIDERED FOR FULL PROPOSALS. THE GOVERNMENT WILL ADVISE IN WRITING THOSE OFFERORS SELECTED FOR FULL PROPOSALS. ***FULL PROPOSALS WILL NOT BE ACCEPTED FROM ANY OFFERORS OTHER THAN THOSE INVITED TO SUBMIT FULL PROPOSALS***.

Feedback will not be provided to those Offerors not encouraged to submit a full proposal.

Full proposals will consist of two volumes: a Technical volume and a Cost Proposal volume

- **Paper Size** – 8.5-by-11-inch paper
- **Margins** – 1 inch
- **Spacing** – Single- or double-spaced
- **Font** – Times New Roman, 12 point. Text embedded within graphics or tables in the body of the white paper or the quad chart may not be smaller than 10 point.
- **Number of Pages** –
  - **Volume 1: No more than 40 single-sided pages. Full proposals exceeding the page limit will not be evaluated**. The cover page, table of contents, resumes, and "Other DHS Support" appendix are excluded from the page limitations.
  - **Volume 2:** No page limitations.

- **Copies** – A proposal shall consist of one electronic file for technical volume and one electronic volume for cost proposal volume. Electronic files will be in portable document format (PDF), readable by IBM-compatible PCs. Each file size must be no more than 10 MB.

Full Proposal Content

Volume 1: Technical Proposal

Volume 1 of the full proposal shall be in the form of a technical volume, not to exceed 40 pages, and a cost proposal overview. Responsiveness to the order and content of sections listed in Volume 1 is important to assure thorough and fair evaluation of proposals. The submission of other supporting materials with the proposal is strongly discouraged and, if submitted, will not be reviewed. Nonconforming proposals will be rejected without review.

The technical proposal shall cover all elements of the white paper. In particular, the technical proposal must cover the following points in more detail:

- **Cover Page**: This should include the words "Technical Proposal" and the following:

    1. BAA number;
    2. Title of Proposal;
    3. Identity of prime Offeror and complete list of subcontractors, if applicable;
    4. Technical contact (name, address, phone/fax, electronic mail address);
    5. Administrative/business contact (name, address, phone/fax, electronic mail address); and,
    6. Duration of effort (separately identify the basic effort and any options)

- **Table of Contents**: **(This section will not count toward the 40 page limit).**

- **Official Transmittal Letter**: This is an official transmittal letter with authorizing official signature. For an electronic submission, the letter can be scanned into the electronic proposal. The letter of transmittal shall state whether this proposal has been submitted to another government agency, other than DHS S&T, and if so, which one and when? **(This section will not count toward the 40 page limit).**

- **Executive Summary:** Summarize the Proposal and the expected benefits of the solution. **(Not to exceed 1 page)**

- **Proposal and Technical Approach:** This describes the proposed work and the associated technical issues. This section should include appropriate scientific background; a detailed technical approach describing the proposed methodology; the significance and applicability of the proposed effort; and a justification and advantages gained from the technical approach proposed. **(Not to exceed 20 pages)**

- **Performance Goals:** Describes the overall methodology and how it will meet the objectives specified in the TFA. **(Not to exceed 1 page)**

- **Statement of Work (SOW), Schedule, and Milestones:** Include a Gantt chart that provides an integrated display for the proposed research, showing each task with major milestones and deliverables and suggested due dates (calendar days after effective date of award). Include a section clearly marked as the SOW you propose to undertake. It is anticipated that the proposed SOW will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing SOW without any proprietary restrictions, which can be attached to the contract or agreement award. **(Not to exceed 2 pages, including Gantt chart)**

- **Deliverables:** Provide a brief summary of all deliverables proposed under this effort, including data, and reports consistent with the objectives of the work; along with suggested due dates (calendar days after the effective date of award). This section shall be severable, i.e., it will begin on a new page and the following section shall begin on a new page. It is anticipated that the proposed detailed list and description of all deliverables will be incorporated as an attachment to the resultant award instrument. To this end, such proposals must include a severable self-standing detailed list and description of all deliverables without any proprietary restrictions, which can be attached to the contract or agreement award. **** PLEASE NOTE the difference between milestones and deliverables – all deliverables are milestones but not all milestones are deliverables. This section should be devoted to deliverables – tangible items (reports, SOPs, data, QPPP, other documents) that are intended to be delivered to DHS.** (Not to exceed 1 page)**

- **Management Plan:** Provide a brief summary of the management plan, including an explicit description of what role each participant or team member will play in the project, and their past experience in technical areas related to this proposal. **(Not to exceed 1 page)**

- **Risk Management Plan:** Describe the plan for identifying, analyzing, and prioritizing project risk factors. This subsection shall also describe the procedures for contingency planning and the methods to be used in tracking the various risk factors, evaluating changes in the levels of risk factors, and the responses to those changes. Risk factors that should be considered include risks in the acquirer-supplier relationship, contractual risks, technological risks, risks caused by the size and complexity of the product, risks in the development and target environments, risks in personnel acquisition, skill levels and retention, risks to schedule and budget, and risks in achieving acquirer acceptance of the product. **(not to exceed 2 pages)**

- **Facilities:** List the location(s) where the work will be performed, and the facilities to be used. Describe any specialized or unique facilities which directly affect the effort. **(Not to exceed 1 page)**

- **Government-Furnished Resources**: Provide a brief summary of required information and data which must be provided by the Government to support the proposed work, if any. **(Not to exceed 1 page)**

- **Cost Summary**: Summarize the projected total costs for each task in each year of the effort, including a summary of subcontracts, man hours, and consumables. **(Not to exceed 1 page)**

- **Resumes for Key Personnel**: In Appendix A, provide resumes and *curriculum vitae* (CVs) for each of the key personnel. **(Not to exceed 1 page per participant or team member)**.

- **Letters of Support:** Letters from subcontractors and/or consultants on the proposed effort indicating their support and willingness to contribute to the project. **(This section will not count toward the 40 page limit)**.

- **Other DHS Support**: As an appendix, provide a list of any current or pending awards or proposals with DHS. **(This section will not count toward the 40 page limit)**.

Volume 2: Cost Proposal

The Cost Proposal shall consist of a cover page and two parts, Part 1 and Part 2. Part 1 will provide a detailed cost breakdown of all costs by cost category by calendar/fiscal year and Part 2 will provide a detailed cost breakdown by task/sub-task using the same task numbers in the Statement of Work. Options must be separately priced. The cost proposal in the full proposal phase should not significantly exceed the cost estimate provided in the White Paper phase. Those full proposals that have a cost that is significantly higher than was previously provided in the white paper phase will be subjected to additional scrutiny and critical review to determine why the original estimate of cost was exceeded.

Cover Page: The words "Cost Proposal" should appear on the cover page in addition to the following information:

- BAA number;
- Title of Proposal;
- Identity of prime Offeror and complete list of subcontractors, if applicable;
- Technical contact (name, address, phone/fax, electronic mail address)
- Administrative/business contact (name, address, phone/fax, electronic mail address) and;
- Duration of effort (separately price out the basic effort and any options)

Part 1: Detailed breakdown of all costs by cost category by calendar/fiscal year. The offeror should provide a total estimated price for major demonstrations and other activities associated with the program, including cost sharing, if any. The offeror should state whether any Independent Research and Development (IR&D) program is or will be dedicated to this effort, or if IR&D is being pursued to benefit related programs as well. Any cost sharing estimates should include the type of cost share, i.e. cash or in-kind. If in-kind is proposed, the offeror should provide a discussion of how the cost share was valued.

- Direct Labor – Individual labor category or person, with associated labor hours and ***unburdened*** direct labor rates;
- Indirect Costs – Fringe Benefits, Overhead, G&A, COM, etc. (***Must show base amount and rate***)
- Travel – Number of trips, destinations, durations, etc.
- Subcontract – A cost proposal ***as detailed as the Offeror's cost proposal*** will be required to be submitted by the subcontractor. The subcontractor's cost proposal can be provided in a sealed envelope with the Offeror's cost proposal or will be requested from the subcontractor at a later date;
- Consultant – Provide consultant agreement or other document which verifies the proposed loaded daily/hourly rate;
- Materials should be specifically itemized with costs or estimated costs. Where possible, indicate purchasing method, (Competition, engineering estimate, market survey, etc.)
- Other Directs Costs, particularly any proposed items of equipment or facilities. Equipment and facilities generally must be furnished by the contractor/recipient. Justifications must be provided when Government funding for such items is sought
- Fee/Profit including fee percentage.

NOTE: Certified Cost and Pricing Data may be required.

Part 2: Cost breakdown by task/sub-task using the same task numbers in the Statement of Work.

The Cost Proposal should be consistent with your proposed SOW. Activities such as demonstrations required to reduce the various technical risks should be identified in the SOW and reflected in the Cost Proposal. The offeror should provide a total estimated price for the major Research, Development, Test, and Evaluation (RDT&E) activities associated with the program.

For the Cost Proposal, the DHS BAA website system has a web form where the Offeror may enter data regarding the cost proposal. The system does not allow Full Proposal to be submitted without completing this Cost Proposal web form. Offerors may choose to nt enter information in the Cost Proposal web form since the Cost Proposal will uploaded separately. However, Offerors will need to go to the last page of the Cost Proposal web form and hit the confirmation button noting that the Offeror has reviewed the empty web form and is submitting the web form blank.

4.5 Protection of Information Uploaded to BAA Website:

All data uploaded to https://baa2.st.dhs.gov/ is protected from public view or download. All submissions will be considered proprietary/source selection sensitive and protected accordingly. Documents may only be reviewed by the registrant, authorized Government representatives, and assigned evaluators.

4.6 Significant Dates and Times

DHS S&T will review all white papers in accordance with the below table, Anticipated Schedule of Events, using the evaluation criteria described below. After the white paper review, DHS S&T will notify offerors, electronically or in writing, either allowing or not allowing submission of a full proposal based upon that review. DHS S&T plans to review full proposals in accordance with the below anticipated schedule of events. A review panel will evaluate the full proposals using the criteria specified under the evaluation criteria discussed above. Following that review, offerors will be notified whether or not their proposal has been selected for negotiation. Multiple awards may be made under this BAA.

The Government reserves the right to fund none, some, or all of the proposals received. It is the intention upon completion of proposal evaluation to notify offerors of an initiation of negotiation for awards or rejection of their proposal. Awards will be made based on the evaluation, funds availability, and other programmatic considerations. If requested, there will be a verbal debriefing via teleconference for those proposals that are not selected.

Anticipated Schedule of Events*

Event	Date (MM/DD/YEAR)	Time (Local Eastern Time)
White Paper Due Date	***31 August 2012***	4:30 PM
Invitations to submit Full Proposals Sent	***19 October 2012***	N/A
Full Proposal Due Date	***14 December 2012***	4:30 PM
Notification of Selection for Award Negotiations	***17 May 2013***	N/A

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

4.7 Submission of Late White Papers and Full Proposals

White papers and full proposals **WILL NOT BE ACCEPTED** after the published due dates.

4.8 Further Assistance Needed for this BAA

The applicable electronic address for all correspondence for this BAA is:
Aaron.Ford@hq.dhs.gov

For technical assistance with using the https://baa2.st.dhs.gov/ website, submit questions to the administrators at dhsbaa@reisys.com, phone (703) 480-7676

4.9 BAA Contractual and Technical Questions.

All contractual and technical questions regarding this BAA including the published requirements and instructions must be directed to the Contracting Officer at Aaron.Ford@hq.dhs.gov The program and technical staff will not acknowledge, forward, or respond to any inquiries received in any other manner concerning this BAA. Contractual questions and answers will be posted periodically under the Frequently Asked Questions (FAQs) section on the www.fbo.gov and https://baa2.st.dhs.gov websites.

5. EVALUATION CRITERIA AND SELECTION PROCESS

This section discusses the evaluation criteria for white papers and proposals and the review and selection process.

5.1 Evaluation Criteria –

The evaluation of White Papers and Full Proposals will be accomplished through an independent technical review using the following criteria, which are listed in descending order of relative importance.

I. **Utility to DHS:** Potential of the proposed work for providing technology or solutions that address one or more of the TFAs set forth in this BAA.

II. **Sound Technical Approach**: Presentation of a sound technical approach to the proposed work that demonstrates reasonableness and responsiveness, as well as an understanding of the challenges presented by one or more of the TFAs.

III. **Capability to Perform and History of Performance:** Demonstration of a capability to perform the proposed work, including history of previous performance in developing related solutions and technologies. Proposals that utilize industry-academic partnering or utilize industry-Government partnering which enhances the development of novel S&T advances will be given favorable consideration.

IV. **Sound Management Approach:** Presentation of a sound managerial approach to the proposed work, including a demonstrated understanding of the issues and challenges associated with achieving the goals of the topic, and a strategy to address those issues and challenges. A successful team will possess multidisciplinary expertise to address the complexity of the effort

V. **Cost Realism:** Presentation of accurate, well-founded and reasonable estimates of all costs related to performance of the proposed effort, including an appropriate allocation of labor resources. Members of the Evaluation panel will be looking for overall best value to the government.

For proposed awards to be made as contracts to large businesses, the small business consideration section of each proposal will be evaluated based on the extent of the Offeror's commitment in providing meaningful subcontracting opportunities for small businesses, small disadvantaged businesses, woman-owned small businesses, HUBZone small businesses, veteran-owned small businesses, service disabled veteran-owned small businesses, historically black colleges and universities, and minority institutions.

Industry-Academia Partnering – DHS Bioforensics Program encourages partnering among industry and academia with a view toward speeding the incorporation of new science and technology into fielded systems. Proposals that utilize industry-academic partnering which enhances the development of novel S&T advances will be given favorable consideration.

Industry-Government Partnering – DHS Bioforensics Program highly encourages partnering among industry and Government with a view toward speeding the incorporation of new science and technology into fielded systems. Proposals that utilize industry-Government partnering which enhances the development of novel DHS S&T advances will be given favorable consideration.

NOTE: ***DHS S&T reserves the right to select for award and fund all, some, or none of the Full Proposals received in response to this announcement.***

5.2 Evaluation Panel

All properly submitted White Papers and Full Proposals that conform to the BAA requirements will be evaluated by a review panel comprised of government and non-government technical experts drawn from staff within DHS S&T, other Federal agencies and subject matter experts from contract support personnel. All government personnel are bound by public law to protect proprietary information. Contract personnel who will have access to any proprietary data will be bound by appropriate non-disclosure agreements to protect proprietary and source-selection information and shall certify that they have no financial interest in any submissions evaluated. They will not be permitted to release any source-selection information to third parties, including others in their organization. Submissions and information received in response to this BAA constitute permission to disclose that information to certified evaluators under these conditions.

5.3 Feedback

Due to the estimated number of white papers to be submitted in response to this BAA, the Government shall not provide feedback to Offerors not encouraged to submit a full proposal. The Government, shall, if requested by unsuccessful Full Proposal Offerors, provide feedback on full proposals submitted.

6. AWARD ADMINISTRATION INFORMATION

6.1 Reporting

The following minimum deliverables will be required under traditional procurement contracts or other transactions agreements awarded to those Offerors whose Full proposals are sleected for award.

Monthly Project Status Report

Reports of project status will be solicited on a monthly basis from all performs using "Monthly Project Status Report Forms." A sample of the Monthly Project Status Report Form is provided in Appendix B of this BAA. These reports will be electronically submitted to the Program within fifteen days after the last day of each month. The Monthly Project Status Report Forms provide a standardized format to collect the following information:

Static Information (Information that does no change monthly over the project):

- Project Title
- DHS Project Control #
- Period of Performance
- Principal Investigator's Name, Telephone Number, E-mail, and Unclassified/Secure Facsimile Number(s)
- Performer's Financial Contact Name and Telephone Number

Monthly Update Information to be Provided in Bulleted or Short Narrative Format:

- Activity During the Past Reporting Period
- Progress Achieved Against Deliverable(s) During the Reporting Period
- Progress Achieved Against Project Milestones and Tasks During the Reporting Period
- Deliverables Submitted This Period
- Milestones Reached/Achieved This Period
- Other Noteworthy Accomplishments (Meetings, Presentations, Publications, etc.)
- Topics of Concern/Slippage (Technical, Schedule, and/or Cost)
- Recovery Plan (if needed)
- Explicit Plans for Next Month
- Project Budget Information (Amount Spent During the Previous Reporting Period, Cumulative Amount Spent Since Project Inception, and Amount of Funding Remaining)

Performers are requested to provide monthly update information only in those sections of the form that are applicable to the activities performed during the reporting period. If there is no updated information to report in a section, it can be marked "N/A" for Not Applicable, or left blank.

The following deliverables primarily in Contractor format are anticipated as necessary. However, specific deliverables should be proposed by each Offeror and finalized with the Contracting Officer:

- Monthly Progress Status Report
- Presentation Material
- Other Documents or Reports
- Final Report (suitable for publishing and peer review)

6.2 Project Conferences, Meetings, and Reviews

The Bioforensics R&D Program schedules monthly telephone conferences in which all performers are encouraged to participate. Matters of general interest to the performers are provided on agendas that are e-mailed to the performers along with dial-in instructions for access to a toll-free telephone bridge. Those issues that are relevant only to one performer or proprietary in nature are discussed in separate telephone conferences between the performer and the Bioforensics R&D Program Office staff.

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 deliverables and major demonstrations. These meetings will be held at various sites throughout the country. For costing purposes, Offerors should assume that one of these one-day meetings will be at or near DHS S&T, Washington, D.C., and one other meeting will be held at the Contractor's or a nearby Government Facility.

6.3 Additional Deliverables

Performers should additional program-specific deliverables as appropriate for the proposed approach. The Government may describe additional deliverables at the time full proposals are requested.

It is desired, whenever possible, that final reports be in a format that is publishable in appropriate scientific journals so that peer review can be conducted.

6.4 Biological Weapons Convention (BWC) Compliance Documentation

Those Offerors, whose full proposals are selected for funding, will be provided two forms which will need to completed and expeditiously returned to the Bioforensics R&D Program Office. Blank forms will be provided with the letter confirming selection of the proposal. These forms consist of the following:

- BWC Treaty Compliance Project Summary Form
- Biological Weapons Convention (BWC) Checklist

7. OTHER INFORMATION

7.1 Government Property, Government Furnished Equipment (GFE) and Facilities

The Government may provide government-furnished equipment (GFE), resources (GFR), information (GFI), or services (GFS) under the terms of each negotiated contract or agreement. GFE, GFR, GFI, or GFS requested by an Offeror must be factored into the Offeror's project cost. Each Offeror must provide a very specific description of any equipment or hardware it needs to acquire to perform the work. This description should indicate whether or not each particular piece of equipment or hardware will be included as part of a deliverable item under the resulting award.

In addition, this description should identify the component, nomenclature, and configuration of the equipment or hardware that it proposes to purchase for this effort. The Government wants to have the contractor purchase the equipment or hardware for deliverable items under its contract. It will evaluate case-by-case the purchase, on a direct reimbursement basis, of special test equipment or other equipment, not included in a deliverable item will be evaluated for allowability on a case-by-case basis. Maximum use of Government integration, test, and experiment facilities is encouraged in each of the Offeror's proposals.

Government research facilities may be available, and should be considered as potential GFE. These facilities and resources are of high value, and some are in constant demand by multiple programs. The use of these facilities and resources will be negotiated as the program unfolds. Offerors should explain which of these facilities they recommend and why.

7.2 Security Classification

No Classified Project Description Forms or Full Proposals (or portions of proposals) will be accepted.

7.3 Organizational Conflict of Interest

The Contracting Officer is unaware of any organizational conflicts of interest that may exist with respect to your company accepting award as a result of this BAA. Neither is the Contracting Officer aware of any organizational conflicts of interest that may exist with respect to any employees of your company performing the services described in the Task Order. Pursuant to FAR Subpart 9.505 "Contracting Officer responsibilities," paragraph (e), the Contracting Officer cannot make award to any company for which a conflict of interest is determined to exist that cannot be avoided or mitigated.

If a conflict of interest is determined to exist, the Contracting Officer shall notify the Offeror, provide the reasons therefore, and allow the Offeror a reasonable opportunity to respond. If the Contracting Officer finds that it is in the best interest of the United States to award the task order notwithstanding any conflict of interest, the Contracting Officer shall submit a request in accordance with FAR Subpart 9.503.

7.4 SAFETY Act

As part of the Homeland Security Act of 2002, Congress enacted the Support Anti- Terrorism by Fostering Effective Technologies Act of 2002 (the "SAFETY Act"). The SAFETY Act puts limitations on the potential liability of firms that develop and provide qualified anti-terrorism technologies. DHS S&T, acting through its Office of SAFETY Act Implementation (OSAI), encourages the development and deployment of anti-terrorism technologies by making available the SAFETY Act's system of "risk management" and "liability management." Offerors submitting proposals in response to this BAA are encouraged to submit SAFETY Act applications for their existing technologies. They are invited to contact OSAI for more information, at 1-866-788-9318 or helpdesk@safetyact.gov. They also can visit OSAI's Web site at www.safetyact.gov

7.5 Information for White Paper and Full Proposal Respondents

This BAA seeks to solicit sound scientific studies and techniques to address the DHS Bioforensics Program objectives set forth in this document. It will not be construed as an obligation on the part of the Government to acquire any products or services. No entitlement to payment of direct or indirect costs or charges by the Government will arise as a result of submission of responses to this BAA and the Government's use of such information. Respondents to this BAA may be requested to provide additional information based on their submittals. Unnecessarily elaborate responses containing extensive marketing materials are not desired.

7.6 Subcontracting Plan

Successful proposals that exceed $650,000.00, submitted by all but small business concerns, will be required to submit a Small Business Subcontracting Plan in accordance with FAR 52.219-9, prior to award.

7.7 Certificate of Current Cost or Pricing Data

Successful contract proposals that exceed $700,000 may require the submission of a Certificate of Current Cost or Pricing Data in accordance with FAR 15.403-4(b)(2), prior to award.

7.8 Comments or Concerns about Solicitation

If Offerors have any comments or concerns about this solicitation, the DHS S&T Contracting Officer can be contacted by mail at:

U. S. Department of Homeland Security
ATTN: Mr. Aaron H. Ford
Office of Procurement Operations/Science & Technology Directorate—Stop 210
245 Murray Lane, SW
Washington, DC 20528

8. APPENDICES

8.1 Appendix A – List of Acronyms

8.2 Appendix B - Sample DHS Bioforensics Program "Monthly Project Status Reporting Form"

8.3 Appendix C – Components to include in SOPs

8.4 Appendix D – Quality Project Performance Plan parameters

8.5 Appendix E – Pathogen List

8.6 Appendix F – Data Release Plan Guidelines

8.1 Appendix A – List of Acronyms

BAA	Broad Agency Announcement
CA	Cooperative Agreement
CBD	Chemical Biological Division
DHS	U.S. Department of Homeland Security
DOE	U.S. Department of Energy
FAR	Federal Acquisition Regulations
FBI	Federal Bureau of Investigation
FedBizOpps	Federal Business Opportunities (www.FBO.gov)
FFRDC	Federally Funded Research and Development Center
G&A	General and Administrative Costs
HBCU	Historically Black Colleges and Universities
HSPD	Homeland Security Presidential Directive
IR&D	Independent Research and Development
MI	Minority Institutions
NBFAC	National BioForensics Analysis Center
NCBI	National Center for Biotechnology Information
OT	Other Transaction
OTA	Other Transaction Authority
POC	Point of Contact
S&T	Science and Technology (Directorate)
SOW	Statement of Work
TTA	Technical Topic Area

8.2 Appendix B- Sample DHS Bioforensics Program "Monthly Project Status Reporting Form"

DHS BIOFORENSICS PROGRAM
FY 2012 MONTHLY PROJECT STATUS REPORT FORM
PERFORMER: XXX
MONTHLY PROJECT STATUS REPORT # x
For: xxx 200X (Month/Yr.)
Date Submitted: xxx ,2012
(Must be submitted to DHS PM by 15th of following month)

Program: Bioforensics	
Project Title: Project Name XXX	
Purchase Request/IAA No.: XXX	**Period of Performance: Contract Award Date (C.A.D.) [xx/xx/2012] + X Months = xx/xx/200X**
Principal Investigator (PI): XXX	**PI Telephone No.: XXX**
PI Email: XXX	**PI Facsimile No.: XXX**
Financial Contact: XXX	**Financial Contact Telephone No.: XXX**
DHS Program Manager: XXX	**DHS PM Telephone No.: XXX**
DHS PM Email: XXX	**DHS PM Facsimile No.: XXX**

(Instructions: Provide bullets, short narrative and/or budget information updates in regular (non-Bold) red font at areas marked with "xxx," where applicable. If nothing relevant to report occurred during reporting period, leave "xxx" on form. Use Bold red font if a noteworthy technical accomplishment is being reported that is appropriate for bringing to the attention of DHS and other federal senior managers [e.g. White House]. Completed forms should be provided as attachments to an e-mail to XXX and XXX by COB, xxxx xx, 200X.)

Activity During Past Months: xxx

Progress Achieved Against Deliverables: (C.A.D. = Contract Award Date)
Deliverable 1: Deliverable Name XXX (C.A.D. + X Mo. = xx/xx/200x) xxx
Deliverable 2: Deliverable Name XXX (C.A.D. + X Mo. = xx/xx/200x) xxx
Deliverable n: Deliverable Name XXX (C.A.D. + X Mo. = xx/xx/200x) xxx

Progress Achieved Against Project/Milestones/Tasks This Reporting Period:
Task 1: Task Name XXX (C.A.D. + X Mo. = xx/xx/200x) xxx
Task 1.1: xxx
Task 1.2: xxx
Task 2: Task Name XXX (C.A.D. + X Mo. = xx/xx/200x) xxx
Task 2.1: xxx
Task 2.2: xxx
Task 2.n: xxx
Task 3: Task Name XXX (C.A.D. + X Mo. = xx/xx/200x) xxx

Task 3.1: xxx
Task 3.2: xxx
Task 3.n: xxx

Deliverables Submitted This Period: xxx

Milestones Reached/Achieved This Period: xxx

Other Noteworthy Accomplishments (Meetings, Presentations, Publications, etc.): xxx

Topics of Concern/Slippage: xxx
- **Technical -** xxx
- **Cost -** xxx
- **Schedule –** xxx

Recovery Plan (if needed): xxx

Explicit Plans for Next Month:
Task # _: xxx
Task # _: xxx

Project Budget Information:

Total FY 2012 Funding Available:	**$XXX**
Spent Last Month(month prior to reporting period):	**xxx**
Cumulative Amount Spent since Inception of Project:	**xxx**
Amount of Funding Remaining:	**xxx**

8.3 Appendix C – Components to include in SOPs

Bioforensics SOP guidelines

1. Introduction/Purpose
2. Supplies and equipment required - manufacturer, model number, settings
3. All reagents and methods of preparation - should include vendor and catalog numbers for specialized reagents
4. Calibration requirements for equipment and tests
5. Analyte to be assayed - quantity, purity and stability needed for analysis
6. All necessary controls (positive, negative, and/or internal)
7. Detailed stepwise instructions of the protocol, clearly explained - no step is too trivial to list
8. Criteria for analysis and interpretation of results
9. Personnel training requirements and what criteria would define proficiency to perform the procedure
10. Safety guidelines (chemical and biological)
11. References to support the theory or scientific basis of method

The SOP should be able to be followed by a first year laboratory technician.

8.4 Appendix D – Quality Project Performance Plan parameters

Accuracy is the measure of exactness of an analytical method, or the closeness of agreement between the measured value and the value that is accepted as a conventional true value or an accepted reference value.

Precision of a method is the degree of agreement among individual test results, when the procedure is applied repeatedly to multiple samplings of a homogeneous sample. Points to be considered include:

Specificity of a method defines the ability of the method to measure the analyte of interest to the exclusion of other relevant components.

Selectivity describes the ability of an analytical method to differentiate various substances in a sample.

Limit of Detection (LOD) of a method may be defined as the concentration of analyte which gives rise to a signal that is significantly different from the negative control or blank. The LOD is the lowest concentration of analyte that can be distinguished from background.

Limits of Quantitation (LOQ) are the lowest and the highest concentrations of analyte in a sample or specimen that can be measured with an acceptable level of accuracy and precision.

Linearity of a method is its ability to elicit results that are directly, or by a well defined mathematical transformation, proportional to the concentration of analyte in the sample. The range of the method is the area between the lower and the upper limits of quantitation that is also linear. Within the range of the method, results are accurate, precise and "linear."

Ruggedness is the measure of reproducibility of the test results obtained for identical samples under normal (but variable) test conditions.

Robustness of a procedure is a measure of its capacity to remain unaffected by small but deliberate variations in the method parameters and provides an indication of its reliability in normal usage.

Suitability for intended use. Is the method acceptable for application to bioforensics casework.

8.5 Appendix E: Pathogen List

Bacteria	Viruses	Plant Pathogens
Bacillus anthracis Brucella abortus Brucella melitensis Brucella suis Burkholderia mallei Burkholderia pseudomallei Campylobacter jejuni Clostridium botulinum species complex Clostridium perfringens Coccidioides posadasii/Coccidioides immitis Coxiella burnetii Ehrlichia ruminantium (Heartwater) Escherichia coli O157:H7 Francisella tularensis Listeria sp. Rickettsia prowazekii Rickettsia rickettsii Salmonella sp. Shigella sp. Staphylococcus sp. Yersinia pestis	Crimean-Congo hemorrhagic fever virus Ebola Lassa fever Marburg Monkeypox Camel pox virus Goat pox virus Sheep pox virus Smallpox virus (Variola major) Alastrim (Variola minor) South American hemorrhagic fever viruses: Flexal Guanarito Junin Machupo Sabia Tick-borne encephalitis complex viruses: Central European tick-borne encephalitis Far eastern tick-borne encephalitis Kyasanur forest disease Omsk hemorrhagic fever Russian spring and summer encephalitis Eastern Equine Encephalitis Japanese encephalitis virus Venezuelan Equine Encephalitis Western Equine Encephalitis Chikungunya virus Hendra virus Nipah virus Rift Valley fever virus Andes virus Black Creek Canal virus Sin Nombre virus Yellow fever Dengue virus West Nile Virus Hantaviruses African horse sickness virus African swine fever virus Classical swine fever virus Akabane virus Cercopithecine herpesvirus 1 (Herpes B virus) Foot-and-mouth disease virus Lumpy skin disease virus Malignant catarrhal fever virus Menangle virus Peste des petits ruminants virus Rinderpest virus Swine vesicular disease virus Vesicular stomatitis virus (exotic): Indiana subtypes VSV-IN2, VSV-IN3 Virulent Newcastle disease virus	Peronosclerospora philippinensis (Peronosclerospora sacchari) Phoma glycinicola (formerly Pyrenochaeta glycines) Puccinia spp (ex:graminis, triticina, striiformis) Ralstonia solanacearum race 3, biovar 2 Rathayibacter toxicus Sclerophthora rayssiae var zeae Synchytrium endobioticum Xanthomonas oryzae Xylella fastidiosa (citrus variegated chlorosis strain)

8.6 Appendix F: Data Release Guidelines

Genomics/"-Omics" and Metadata Sharing and Release Guidelines (adapted from NIAID Guidelines)

General Guidelines

Rapid and unrestricted sharing of data and research resources is essential for advancing research on biodefense, human health, and infectious diseases. The utility of the generated data to the scientific community is largely dependent on how quickly these data can be deposited into public databases and made accessible to the scientific community. DHS S&T is committed to the rapid release of genomic, "-omics," and other types of data while recognizing that clinical data and other metadata associated with the collected data are valuable research resources. For these reasons, DHS S&T endorses the rapid release of all these data sets. It is anticipated that data generated will be made freely available via deposition into publicly accessible and searchable international databases such as GenBank and NCBI or other databases designated and approved by DHS S&T.

The users of any released data are expected to act responsibly to recognize the scientific contribution of the data generators/producers by following normal standards of scientific etiquette and fair use of unpublished data. Such guidelines can be found in Sharing Data from Large-scale Biological Research Projects: A System of Tripartite Responsibility (PDF), and the Toronto Data Release Workshop (Nature 461, 168-170 (10 September 2009) | doi: 10.1038/461168a; Published online 9 September 2009).

Specific Guidelines

Sequence Data

All raw genome data from "next" generation sequencing instruments will be submitted as rapidly as possible to either the Trace Archive or, as appropriate, to the Sequence Read Archive at NCBI/NLM/NIH. These data should also include information on templates, vectors, and quality values for each sequence as appropriate. This includes RNA seq-transcriptomics data obtained from next generation sequencing.

Genome and metagenomic full and partial assemblies and their annotations should be deposited in appropriate databases at NCBI after verification by the center or data generator. Assuming no specific errors are detected during the validation process, final assemblies and final annotations will be submitted to GenBank for individual samples or for defined cohorts of samples as rapidly as possible and no later than 45 calendar days of being generated, followed by release to other web sites, as approved by DHS S&T.

Clinical Data and Other Metadata

DHS S&T also expects that relevant metadata (clinical data or any other type of data), which are essential for the biological interpretation of genome sequence data or other "-omics" and experimental data sets, will be made available to the scientific community as rapidly as possible through NCBI or other databases designated by DHS S&T. It is expected that a data release plan for metadata will be defined prior to the initiation of data generation and will be agreed upon by DHS S&T. The plan will include i) a list of metadata to be released, ii) the database(s) they will be released to, and iii) timelines of data release.

In unusual cases and as agreed upon by DHS S&T, release of the metadata can be delayed. In this case it is expected that the metadata will be submitted to a database designated by DHS S&T at the same time

that the genomics, "-omics," or other generated data types are submitted for public access to NCBI or another database designated by DHS S&T. These metadata will be embargoed at the aforementioned and DHS S&T approved databases for up to **9 months** or upon publication, whichever comes first and as agreed upon by the DHS S&T.

Release of Patient/Donor Identifying Data

The rights and privacy of human subjects who participate in research studies shall be protected at all times. It is recognized that genomic or other datasets, or a subset of the clinical and other metadata, may be potentially identifying of the donor and should be deposited in a controlled access database as designated by DHS S&T. In rare cases, identifying information will not be made available in controlled access databases.

Release of Metadata Sensitive to National Security

It is recognized that some genomic data may have associated metadata that is potentially sensitive to national security. In these exceptionally rare cases, the information will not be made publically available but will be deposited with the National Bioforensics Analysis Center and/or other government agencies designated by DHS S&T for controlled access.

SNP Data

Single nucleotide polymorphisms (SNP) should be submitted as rapidly as possible to NCBI and not later than 45 days from completion of standard quality control practices. Non-identifying clinical and other metadata should follow the release guidelines above.

Release of Other Data

Other data types not specifically addressed above, such as expression data, immunological data, proteomic data, and other "-omics" data, including unpublished data, must be rapidly deposited at NCBI or another site designated by DHS S&T.

In some cases, DHS S&T will consider minimal delay of up to **9 months** or upon publication, whichever comes first, in releasing other data types. Delayed release for these other types of data should be discussed in the data release plan submitted to DHS S&T and would require DHS S&T approval.

Analysis performed should be made available to the public upon acceptance of a manuscript for publication or within **one year** of generation, whichever comes first. This stipulation includes data analysis performed without data generation or with limited data generation by the Center or research program. The data release plan should discuss public accessibility of the analysis data and site where such data will be housed. It is anticipated that NCBI should house these data sets and should be discussed in the data release plans.

Sharing of Reagents and Other Resources

Reagents, such as "forensically relevant" microbial strains to be sequenced or clones, should be deposited when possible, in the National Bioforensic Analysis Center's repository.

Data Sharing and Release Plans

Data sharing and release plans should be based on guidelines outlined in this document for projects designated by DHS S&T to rapidly share data for public access and will be reviewed and approved by DHS S&T.