

Department of Homeland Security (DHS) Science and Technology Directorate
(S&T) Chemical and Biological Defense Division (CBD) BAA 14-003/Call 0013

1. **Announcement Number:** Open Broad Agency Announcement Number (OBAA) 14-003/Call 0013
2. **FBO Solicitation Number:** HSHQDC-14-R-B0009
3. **Solicitation Open/Close Dates:**
 - Full Proposal Due Date: 19 February 2016, 2:00 PM EST

Note: There will be no exceptions to the time and date on which responses are due, unless determined otherwise by the Government. Full Proposals received after the designated closing date/time will not be considered. This Call will be conducted in accordance with the Single-Phased Evaluation Process as described under Section 1.6 of the OBAA. The OBAA Solicitation HSHQDC-14-R-B00009 was posted on Federal Business Opportunities on June 16, 2014. See Link:

https://www.fbo.gov/index?s=opportunity&mode=form&id=3935288433485a6ee877134ac7d2a8a9&tab=core&_cview=1

This Call will consist of the solicitation, receipt, and evaluation of a Full Proposal (Technical Volume and Cost Volume), each limited to 10 pages, excluding the Formal Transmittal Letter, Cover Page, Table of Contents and resumes/biographical information for proposed performers. Once the Full Proposal peer/scientific review process has been completed, offerors will be notified via e-mail, or in writing, that its proposal has been selected, selected but not funded, or not selected for award.

4. OBAA Call Technical Topic Area (TTA) of Interest:

Agriculture Defense Areas of Interest CBD.07 – Vaccines and Therapeutics: New, cost-effective, biological-based countermeasures for foreign animal disease (FAD) and zoonotic pathogens affecting major domestic livestock species. Specific areas of interest are cattle and swine product candidates based on molecular or recombinant vaccine platforms, previously shown to be safe and effective against other infectious animal or human biodefense disease targets, panvalent vaccines and novel biological-derived broad spectrum antiviral agents with an established immune-based mechanism of action.

1. New, molecular-based or recombinant vaccine candidates that improve the onset of protective immunity and can differentiate infected from vaccinated animals.
2. Novel immunostimulants, adjuvants, or biological-based agents with an immune-based mechanism of action that can improve either pathogen-specific vaccine efficacy or vaccine potency, or both.
3. New molecular or recombinant-based vaccines that can increase spectrum of cross-protection against related strains.
4. New molecular or recombinant-based vaccines based on innovative state-of-the-art technologies (e.g., nanovaccines, VLPs).

5. New biological-based broad spectrum anti-viral therapeutics (small molecule drugs excluded) that can be used in combination with pathogen-specific vaccines.
6. Novel high throughput vaccine or biological delivery systems for livestock.

4.1. Research Opportunity Description

The Agriculture Defense Branch of Department of Homeland Security, Science and Technology Directorate is seeking information about the susceptibility of North American wildlife species to Foreign Animal Diseases (FADs) and zoonotic diseases deemed tier 2 and 3 by the United States Department of Agriculture (USDA) to provide gap analyses and inform potential future projects. Additional information is sought for surveillance methodologies, diagnostic sampling, testing, and disease countermeasures used in wildlife species. We are also seeking information regarding vector competence of North American arthropod species for High Consequence or Transboundary Foreign Animal Diseases and information on other diseases of wildlife with economic importance to agriculture or aquaculture.

4.1.1. DHS S&T: Susceptibility of U.S. Wildlife Species to Foreign Animal Diseases (FADs)

Background

The mission of the Agricultural Defense Branch of the Department of Homeland Security Science and Technology Directorate is to enhance current capabilities and develop state-of-the-art countermeasures for high priority foreign animal diseases (FAD). While significant effort and progress has been made in addressing FAD countermeasure capability gaps for domestic livestock species, little focus has been given to free-ranging wildlife species that interact with livestock. In direct response to a recommendation in GAO report GAO-09-178 "Veterinarian Workforce: Actions Are Needed to Ensure Sufficient Capacity for Protecting Public and Animal Health," this project will focus on knowledge gaps related to wildlife hosts and reservoirs for high consequence foreign animal/transboundary and zoonotic diseases; including distribution of susceptible wildlife species; propensity to transmit disease to livestock; temporal and geographic variations that can affect susceptibility, transmission and persistence; and countermeasures available for mitigating and controlling disease introduction and spread via wildlife populations.

4.1.2. Description of Technical Topic Areas

Pursuant to this mission, the Agriculture Defense Branch seeks research and information in the form of a technical report, documenting the current knowledge and understanding of any of the following three technical topic areas:

- 1) Distribution of wildlife species in the United States and susceptibility of these species to High Consequence Foreign Animal Diseases (FADs), as well as specific zoonotic diseases:

http://www.aphis.usda.gov/publications/animal_health/2013/fs_hc_diseases.pdf

- a. Other topics that should be included are: mechanisms of disease persistence in wildlife species; currently available screening and diagnostic techniques for diagnostic and/or surveillance purposes; and currently available vaccination and other countermeasure techniques used in wildlife populations.
- 2) Vector competence of North American arthropod species and reservoir competence of North American wildlife species for High Consequence or Transboundary Foreign Animal Diseases
- 3) Other diseases of wildlife with economic importance to agriculture or aquaculture

An offeror may submit a proposal for any one or more of the Technical Topic Areas (TTA); **however, a separate proposal must be submitted for each TTA. When proposing on a TTA, the offeror must address all Focus Areas within the TTA under a single proposal.**

4.1.2.1. Technical Topic Area 1:

Focus Area 1: Distribution, Susceptibility and Disease Persistence in U.S. Wildlife of High Priority Tier 2 and Tier 3 Foreign Animal Diseases (FADs) and select zoonotic pathogens

Final report must include at least an analysis and evaluation of susceptible wildlife (free-range, captive and farmed) populations within the U.S.; their distribution; proximity to livestock species; proximity to urban environments (for zoonotic pathogens); ability to either seroconvert or become infected, or both; ability to transmit the disease; and potential for the disease to persist within the population. Diseases of interest are categorized as Tier 2 or 3 that affect terrestrial, avian and/or aquatic species. Zoonotic pathogens of interest include: Glanders, Henipaviruses, Venezuelan Equine Encephalitis, Rift Valley Fever, Marburg and Ebola

Proposal Requirements:

- Each proposal must focus on at least a total of six high consequence, transboundary animal or zoonotic diseases. Transboundary animal diseases are defined as those epidemic diseases which are highly contagious or transmissible and have the potential for very rapid spread, irrespective of national borders, causing serious socio-economic and possibly public health consequences.
- The proposal must include a summary table with the following format:

Selected Disease of Interest from Tier 2, 3, or Zoonotic Pathogens	North American Susceptible Wildlife Species	Justification for disease selection (not to exceed 200 words)

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- The proposal must include a list of the sources that will be used to generate the review.

Research Deliverables:

- It is expected that an outline, draft literature review, and a final report will be delivered to the DHS Contracting Officer Representative at a predetermined time.
- The performer is expected to deliver **monthly** progress and financial expenditure reports to DHS S&T for all work performed.

Focus Area 2: Currently available screening and diagnostic techniques

This report must include a comprehensive analysis of on-going screening efforts and diagnostic techniques employed for wildlife (terrestrial, aquatic or avian) both in the U.S. and abroad for the diseases selected for Focus Area 1. The purpose is to identify diagnostic research challenges and gaps to inform future DHS investments. This includes identification of current organizations (Non-U.S. Government, academic, and private) performing testing, test type(s), approximate cost(s), assay time, sample type(s), and an evaluation of the advantages and disadvantages of these tests. Any available testing modalities that are amenable to high sample throughput should be included. Tests that are field deployable should also be included. The analysis should also include whether sampling is comprehensive in terms of population (age, sex) and information of what kind of species (if any) can be used as indicator species. The review should conclude with a list of point-of-contacts.

Proposal Requirements:

- The proposal must identify and discuss potential wildlife screening/surveillance programs for diseases selected for Focus Area 1 that will be evaluated in the final report. Currently, there may not be many surveillance programs available for foreign animal disease in wildlife. If indeed there are too few screening programs available to meet the above criteria, the contractor may discuss how the scope of the requirement may be amended to include identification of existing programs that have the potential to be modified or applied to screen a foreign animal disease outbreak.
- The proposal must identify and discuss diagnostic tests currently available for wildlife (terrestrial, aquatic or avian) for the diseases selected in focus area 1 that will be evaluated in the final report. Preference is given to diagnostics that are commercially available or in use by national laboratories. If too few diagnostic tests are available to meet the above criteria, the contractor may discuss how the scope of the requirement may be amended to

include identification of tests for other diseases that may be potentially modified or applied to screen a foreign animal disease outbreak.

- The proposal must include discussion of the sources of information that will be used to generate the review.

Research Deliverables:

- It is expected that an outline, draft literature review, and a final report will be delivered to the DHS Contracting Officer Representative at a predetermined time. The literature review must include names of agencies or companies with contact information for available diagnostic tests and screening programs.
- The performer is expected to deliver **monthly** progress reports and financial expenditure reports to DHS S&T for all work performed.

Focus Area 3: Currently available vaccination and other countermeasure techniques

This final report must include a comprehensive analysis of currently available vaccination efforts and countermeasures employed both in the U.S. and abroad for susceptible wildlife species to diseases selected in focus area 1. Vaccination and countermeasure efforts specifically associated with focus area 1 diseases are preferred; however, it can be broadened to include vaccination technologies currently employed for diseases with significant public health impact such as Rabies or Brucellosis, to include applied or modified. The review must include the size and scope of the efforts, and a point-of-contact list.

Proposal Requirements:

- The proposal must discuss wildlife vaccination or countermeasure programs for all diseases selected in Focus Area 1. If there are too few programs available to meet the above criteria, the contractor may discuss how the scope of the requirement may be amended to include existing countermeasure techniques that have the potential to be modified or applied to foreign animal disease outbreak.
- The proposal must include discussion of the sources of information that will be used to generate the review.

Research Deliverables:

- It is expected that an outline, draft literature review, and a final report will be delivered to the DHS Contracting Officer Representative at a predetermined time. The final report must include names of agencies or companies with contact information for available vaccines and countermeasures.

- The performer is expected to deliver **monthly** progress reports and financial expenditure reports to DHS S&T for all work performed.

4.1.2.2. Technical Topic Area 2:

Competence of North American Arthropod Vectors for High Consequence or Transboundary Foreign Animal Diseases

Many of the high consequence foreign animal diseases are arthropod-vectored which could aid in the transmission between and persistence of these diseases in wildlife and livestock populations, and potentially allow spillover into humans in the case of zoonotic diseases. DHS is interested in examining which arthropod vectors exist in North America that could be competent for HCADs and whether any diagnostic population screening tests are available for arthropods. Also of interest is a discussion of North American wildlife species that are known to be competent reservoirs of these HCADs.

Proposal Requirements:

- The proposal must include plans to identify and discuss North American arthropod species (biological and mechanical) that are competent vectors for all Tier 1 diseases (if arthropod-borne) and may include Tier 2 and 3 diseases. At least a total of three vectors shall be proposed.
- The proposal must include plans to identify and discuss North American wildlife species capable of serving as competent reservoirs for all arthropod-borne Tier 1 and Tier 2 diseases and may include Tier 3 diseases. At least a total of three wildlife species shall be proposed.
- The proposal must include a summary table with the following format:

Selected Disease of Interest from Tier 2, 3 or Zoonotic Pathogens	Competent Vector Type	North American Susceptible Wildlife Species	Justification for disease selection (not to exceed 200 words)

- The proposal must include plans to identify and discuss currently employed arthropod collection methods and diagnostic screening tests for these diseases and the strengths and weakness of these tests. If no tests exist, discuss what tests may be amenable to adaptation for a high consequence pathogen.

- The proposal must also include plans to identify and discuss any ongoing arthropod screening and surveillance programs in the U.S., conducted by academic institutions, or private entities. Screening and surveillance networks for other pathogens that could be adapted in the case of a transboundary animal disease should also be included in the discussion
- The proposal must include discussion of the sources of information that will be used to generate the review.

Research Deliverables:

- It is expected that an outline, draft literature review, and a final report will be delivered to the DHS Contracting Officer Representative at a predetermined time. The literature review will include names of agencies or companies with contact information for available vaccines and vector control.
- The performer is expected to deliver **monthly** progress reports and financial expenditure reports to DHS S&T for all work performed.

4.1.2.3. *Technical Topic Area 3: Diseases of wildlife of economic importance to agriculture or aquaculture*

There are many wildlife species that are not traditionally thought of as agricultural species, but directly or indirectly have significant economic impact on agriculture/aquaculture. DHS is interested in emerging or established diseases that could cause significant morbidity and mortality in these animal populations that could result in large economic consequences for agriculture/aquaculture. Example diseases include White Nose Syndrome of bats, Infectious Salmon Anemia virus and Infectious Hematopoietic Necrosis of salmon.

Proposal Requirements:

- Proposals should include the name(s) of the disease and justification (economic, public health concern, etc.) for why it should be considered important to agriculture.
- Available diagnostics and countermeasures, if any exist, should also be included.

Research Deliverables:

- It is expected that an outline, draft literature review, and a final report will be delivered to the DHS Contracting Officer Representative at a predetermined time. The final report will include names of agencies or companies with contact information for available diagnostics, vaccines and countermeasures.

- The performer is expected to deliver **monthly** progress reports and financial expenditure reports to DHS S&T for all work performed.

- 5. Number of Selections:** Based on the availability of funds and the quality of the proposals, the government reserves the right to make none or multiple selections for each of the topic areas.
- 6. Anticipated Ceiling:** Although subject to official fiscal appropriation and availability, it is anticipated that approximately \$230,250.00 of Fiscal Year (FY) 2015 funds will be available for any resultant awards under this BAA Call. **The Government will reserve the right to incrementally fund any resultant contracts awarded from this BAA Call as provided by the FAR 52.232-22, "Limitation of Funds."** Contracts or other agreements that obligate funds will not have an initial period of performance that exceeds 12 months from the date of contract award.
- 7. Anticipated Award Type:** Award type is anticipated to be in the form of Cost Reimbursement type contracts. However, the Government reserves the right to award firm-fixed price contracts, cooperative agreements, Other Transactions (OTs) (if authorized by law at time of award), or interagency agreements to appropriate parties should the situation warrant.

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.

8. Anticipated Award Dates:

The 2nd Quarter of Fiscal Year 2016 is when the Government anticipates making any resultant contract awards under this Call for those proposals that are selected. However, the award date for any resultant contract award may vary based on the quality and the number of proposal received. Evaluations will be based on an assessment of the overall best value to the government based on the evaluation criteria. Awards will be made based upon Full Proposal evaluation, funds availability, and other programmatic considerations, including awards to lesser priced proposals that are deemed technically more advantageous to the government.

- 9. White Paper Instructions:** No white papers are being requested in response to this solicitation.
- 10. Full Proposal Instructions:** Offerors shall submit their Full Proposals in accordance with BAA 14-003, Section 5.4 - Format and Content of Full Proposals

Evaluation Criteria: The evaluation of Full Proposals will be accomplished through an independent technical review using the following criteria, which are listed in descending order of relative importance:

Criterion I: Scientific Merit: The Offeror must demonstrate understanding of the pathogenesis and disease transmission pathways of transboundary animal, zoonotic, and vector borne diseases (if applicable to the TTAs disease). They must also demonstrate working knowledge of current, commercially available and newer, innovative, experimental diagnostic modalities, FAD vaccines and therapeutics. The offerors must provide sound justifications for diseases/organisms selected for inclusion in the final report. The rationale shall be scientifically sound, practical, and scientifically defensible.

Criterion II: Sound Technical Approach: Demonstrate how the literature review will be conducted to ensure new comprehensive information about current technologies and surveillance programs related to transboundary and zoonotic diseases in wildlife will inform future DHS S&T investments. The proposal will be judged on the sources used and the comprehensiveness of the proposal to the selected TTA. The proposal should have a clear definition of how the literature review will be developed, identifying any risk mitigation efforts required.

Criterion III: 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. Specific considerations will include:

- Potential pitfalls and alternative solutions
- Timetable and key milestones (e.g., GANTT)

Criterion IV: 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. Specific considerations will include:

- Demonstrated knowledge of the current diagnostic and therapeutic capabilities in human or veterinary medicine and ability to work across domains to solve a research question;
- Demonstrated access to a broad spectrum of scientific journals and subject matter experts;
- Rationale for the ability to build a collaborative team that reaches across multiple domains including academia, industry, etc;
- Offeror's team is sufficiently complete: key personnel are identified with the required range of competencies to execute this effort and the team collectively includes the appropriate level of experience to ensure successful outcome.

Criterion V: Cost Realism/Reasonableness: 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.

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NOTE: Any party who participated in the making of this announcement or is part of any other process in acquiring this effort is precluded from proposing on this Call.

- 11. Proprietary Information:** The Government will be utilizing non-federal employees for administrative assistance in accordance with Section 6.2 of the OBAA. **As a reminder, ALL contractors proposing are required to submit the completed company-to-company agreement. If company-to-company agreement is not received with the proposal at the time of proposal due date, the proposal will not be further evaluated for award.**

The list below contains Points of Contact (POC) within each Government support company who can facilitate a copy of the company-to-company agreement and in its completion.

Company: NOBLIS

POC: Alvin Smith: Alvin.smith@noblis.org

All responses shall be marked as containing proprietary information.

- 12. Foreign Concerns:** Foreign persons are advised that their participation may be subject to Export Control restrictions. Any such restrictions shall be reviewed on an individual award basis.
- 13. Questions:** Any questions concerning this call must be submitted via email to the Contracting Officer at Jigisha.patel@hq.dhs.gov with copy to Contracting Officer at Michael.Jones@hq.dhs.gov no later than **January 28, 2016 1:00 PM EST** in the following format:

Question #	Reference	Contractors' Question
1	General (if there is no specific document reference)	
2	(Example) BAA 14-003/Call 0013, page 15, Section 5.2, first paragraph, second sentence	
3	(Example) BAA 14-003/Call 0013, page 2, Section 9, first sentence	

Please include "Questions for BAA 14-003/ Call 0013" in the subject line. All questions and responses will be posted on the Federal Business Opportunities website <http://www.fbo.gov> and <https://baa2.st.dhs.gov>. Questions will only be accepted or answered electronically.