

**THE DEPARTMENT OF HOMELAND SECURITY**  
**SMALL BUSINESS INNOVATION RESEARCH (SBIR) PROGRAM**

**PROGRAM SOLICITATION FY07.1**

**Full Solicitation Issued on: 04/20/2007**

**Revised: 05/07/2007**

1. The purpose of this Amendment is to provide the below Questions and Answers.

**ALL OTHER TERMS AND CONDITIONS OF PROGRAM SOLICITATION FY07.1 REMAIN UNCHANGED.**

Question 1: Would it be possible to receive a copy of the solicitation for the areas you are seeking proposals for, i.e., chemical, biological, radiological, explosives, infrastructure protection and geophysical, boarder and maritime security.

Question 2: I am interested in learning more about the type of proposals DHS is seeking pertaining to DHSSBIRFY07.1. Could you point me to the appropriate URL or provide relevant documents?

**Answer (to Questions 1 and 2):** The Department of Homeland Security (DHS) Office of Procurement Operations posted the FY07.1 Small Business Innovation Research (SBIR) solicitation on April 20, 2007. The solicitation includes topic descriptions from both the Science and Technology Directorate and the Domestic Nuclear Detection Office (DNDO). The solicitation is available on the Federal Business Opportunities web site at <http://www.fedbizopps.gov/> and on the SBIR Portal at <http://www.sbir.dhs.gov>.

Question 3: For topic SB07.1-005, we are considering partnering with a university that is sensitive to personal and publication restrictions. Is it known if this project will be subject to either?"

**Answer:** The Government protects all proprietary information, regardless of type, submitted in a proposal for a funding agreement under the SBIR Program, from disclosure.

**Furthermore, the Project Summary on the cover sheets contains NO proprietary information. In the event of an award, this project summary will be posted at <http://www.sbir.dhs.gov>. Mark proprietary information within the technical proposal as instructed in Section 5.6; wherein it is stated (in-part) that "The proposal submitted in response to this solicitation may contain technical and other data that the proposer does not want disclosed to the public or used by the Government for any purpose other than proposal evaluation. Information**

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contained in unsuccessful proposals will remain the property of the proposer except for the proposal cover sheet. The Government may, however, retain copies of all proposals. Public release of information in any proposal submitted will be subject to existing statutory and regulatory requirements". Please refer to Sections 3.3 and 5.6 of the Solicitation for additional information.

In addition, the SBIR program protects, from disclosure, and non-governmental use all SBIR technical data developed from work performed under an SBIR funding agreement for a period of not less than four years from delivery of the last deliverable under that agreement (This includes, Phase I, Phase II, or federally-funded SBIR Phase III) unless, the agency obtains permission to disclose the SBIR technical data from the awardee or SBIR applicant. SBIR technical data rights protection apply to all SBIR awards, including subcontracts to such awards.

Lastly, only US citizens and permanent resident aliens can perform work on DHS efforts. If you are proposing to use non US citizens, please follow the guidance in the solicitation under Key Personnel and identify the researcher, the country of origin, and the percentage of time proposed for the project.

Question 4: The PI is a global supply chain professor from a university, who also owns 40% of a small business, and CEO of that business, which is involved in trucking and packaging. The professor is not on contract with the university in June, July and Aug, so works full time with the small business company. At other times the professor works with the small business part time, nights and weekends. If this professor/CEO is the PI, are there any percentage of time restrictions on being the PI; or, should the professor/CEO only be the PI full time during the summer months and have a co-PI from the small company other times beyond summer?

Answer: Page 16 of 52, Item (4) of the SBIR Policy Directive (that can be accessed at [http://www.sba.gov/sbir/SBIR\\_PolicyDirective.pdf](http://www.sba.gov/sbir/SBIR_PolicyDirective.pdf)) provides the following guidance:

“For both Phase I and Phase II, the primary employment of the principal investigator must be with the SBC at the time of award and during the conduct of the proposed project. Primary employment means that more than one-half of the principal investigator's time is spent in the employ of the SBC. This precludes full-time employment with another organization. Occasionally, deviations from this requirement may occur, and must be approved in writing by the funding agreement officer after consultation with the agency SBIR Program Manager/Coordinator. Further, an SBC may replace the principal investigator on an SBIR Phase I or Phase II award, subject to approval in writing by the funding agreement officer. For purposes of the SBIR Program, personnel obtained through a Professional Employer Organization or other similar personnel leasing company may be considered employees of the awardee. This is consistent with SBA’s size regulations, 13 CFR §121.106 - Small Business Size Regulations.”

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Question 5: Topic H-SB07.1-004 – Are there specific identity databases (e.g. IAFIS/EFTS for fingerprints) that the system should interface to, or are there ongoing development efforts with which you would like the awardee to coordinate?

**Answer: There are no specified databases for the system to interface to in this phase. Future phases may require existing DHS databases, such as IDENT and other law enforcement databases such as IAFIS/EFTS.**

Question 6: Topic H-SB07.1-004 – In terms of operational use, do you see the system targeted more at general-purpose border patrol use (somewhat rugged, but very cost-effective), or for USCG ship boarding/interdiction (more rugged, but thus more expensive)?

**Answer: If there are additional phases to this project, we will be looking for innovative approaches to satisfy the Department's Homeland Security mission, which includes both operational uses you specified. The future approach chosen to accomplish this will be contractor initiated in order that the Government does not constrain innovative ideas and approaches.**

Question 7: Topic H-SB07.1-004 – How self-contained should the system be, in terms of both communications and biometric instrumentation: is having reachback communications and biometrics integrated into a handheld system of paramount importance, or can these be more traditional solutions mounted in the vehicle (truck or boat)?

**Answer: The Government has specifically left this unstated in order to provide potential offerors with the greatest latitude to innovate solutions. It is left for the offeror to inform the Government of their approach for what they believe is achievable.**

Question 8: Topic H-SB07.1-004 Is (uncooperative) standoff recognition/ID in-scope, or do you see this system as for use in cooperative screening/registration only?

**Answer: It is left to the offeror based upon the constraints of this SBIR topic and their technical approach to determine achievable scope.**

Question 9: Topic H-SB07.1-007 – Are the polymers as material completely excluded. Are conductive polymers as material considered as applicable?

**Answer: Any polymeric material is acceptable.**

Question 10: Topic H-SB07.1-007- Are the only small molecule gasses of interest CO, SO<sub>2</sub> and Cl<sub>2</sub> (as mentioned in the solicitation). Are there others? What are the detection limits required?

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**Answer: We have not limited the small molecule list. Those mentioned in the topic are just examples. Others might be NO<sub>2</sub>, NO. IDLH to PEL detection limits.**

Question 11: Topic H-SB07.1-007 – Should this array only be sensitive to small molecules I.e. It does not have to detect organic vapors like petroleum which the existing polymer based arrays are sensitive to?

**Answer: Organic vapors will still be targets of interest.**

Question 12: Topic H-SB07.1-007 – What is the minimum acceptable lifetime for the sensor array before it is replaced in the detector?

**Answer: Lifetimes of up to at least six months.**

Question 13: Topic H-SB07.1-007 – Regarding the pattern recognition algorithm needed to be developed for data analysis, do you need a very extensive description in Phase 1 proposal? Or can your agency make available algorithms that are available in the existing arrays (to be trained with the new array)?

**Answer: This topic description is focused on materials. Algorithm development is not a focus, nor will algorithms be provided.**

Question 14: Topic H-SB07.1-002 – How common are underground tunnels should we primarily consider in our proposal? Should we mainly aim at the multilayer tunnels like the subway at New York City or only single layer tunnels in common cities' subway?

**Answer: This SBIR topic area considers both vehicular and rail tunnels as applicable. Potential approaches may lend themselves more to one type than another. So no attempt is made within the SBIR Topic area to confine or discourage one way or the other. It is up to the proposer to determine the technical approach and whether that technological solution could be of benefit in one tunnel type or the other or in both. The proposer should address and propose their technological approach as defined within the topic description. In addition, the proposer must determine whether their technological approach and solution would be best suited for a single or multiple layer tunnel configuration. It can be assumed that if the technological approach/solution proposed is suitable for single layer tunnel configurations, it may be adapted, post Phase III, for multilayer configurations. It can also be assumed that if a multilayer technological approach/solution is suitable for multilayer configurations that single layer configuration tunnels could likewise be, post Phase III, developed to meet that configuration and application. However, in both of these cases there is not commitment or guarantee such post Phase III adaptations, changes or continuance will be conducted or pursued by the tunnel authorities or DHS.**

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Question 15: Topic H-SB07.1-002 – Do you prefer the proposed systems/devices is stand-alone or integrated with the tunnels' infrastructure?

**Answer: Technological approach may play heavily in this decision. There is no preference as to a stand alone or integrated system/device configuration. The technological approach/solution to one of the sub topic areas may consist of a standalone configuration or integrated, however there is no guarantee such support systems, devices or components are or will be made available from the tunnel authority. The proposer to this SBIR is responsible for detailing / describing the application of their proposed technical approach within a Subterranean Response and Evacuation topic area. It must be noted however, the objectives declared in this Subterranean Response and Evacuation Topic Area must be adhered to for that specific sub-topic. That is:**

**"1. Automatic event alert system for first responders (transit police, local police and fire, operating authorities, security operations centers) with sensors reporting one or more of the following:**

**location of the event;**

**nature of the event (explosion, fire, collision, etc.).**

**2. Communications technology which enhances one or more of the following:**

**a. subterranean communications between first responders (preferably interoperable among multiple first responding agencies).**

**b. communications between subterranean first responders and remote security operations centers.**

**The above subtopic areas indicate a preference for interoperability under bullet #2 for communications and under #1 there is a requirement for automatic event alert system for first responders to include their security operations centers.**

Question 16: Topic H-SB07.1-002 – Are there separate evacuation routes in every tunnels? Do we also need to consider evacuating people through the regular tunnel in that subway cars and buses run?

**Answer: It is widely accepted that vehicular and rail tunnels do have exit or evacuation routes other than the entrance and exit of the tunnel. However, this can not be guaranteed. The responsibility will be on the proposer to investigate the tunnels they envision and seek to address within their proposal and detail that tunnel configuration. Please refer to the following citation from the SBIR Subterranean Response and Evacuation topic area here:**

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**"3. Devices that perform one or more of the following:**

- **assist first responders in gaining safe access to victims.**
- **evacuate passive victims (first responder operated).**
- **assist or direct self-evacuating passengers (passengers operated).**
- **diminish or protect from deleterious post-blast effects (e.g., fire, smoke)."**

**The above statement does not indicate that the proposer or their proposed technical approach/solution would conduct the evacuation of passengers or victims. It specifically indicates that the first responders would operate the technical solution proposed (first responder operated) OR the technical approach/solution proposed would assist in the self-evacuation of passengers (passengers operated). The tunnel traffic selection is defined by the proposer (i.e., subway cars or buses run).**

Question 17: Topic H-SB07.1-005 – Would it be acceptable to use this technology to create a wired body network between the various sensors and a central pre-processing and communication node? This node could then communicate wirelessly with other external nodes, such as command vehicles and other emergency responders.

**Answer: Yes, as long as the communication reaches the incident commander.**

Question 18: Topic H-SB07.1-005 – Where does the wireless network have to communicate to – a person in the group or one fire truck? How far does the signal have to travel and in what conditions?

**Answer: The network could be used for multiple receivers, for instance the incident commander and the safety officer may both require that information.**

Question 19: Topic H-SB07.1-005 – Other than pulse oximetry, blood pressure, and body temperature, what are other high priority signals to monitor, (i.e. EKG, phlethysmography)?

**Answer: The following would be beneficial to track/trend: Respirations, pulse, Blood Pressure (without constrictive device such as a BP Cuff), Pulse Oxymetry Saturation Level, ECG, Body Temperature.**

Question 20: Topic H-SB07.1-008 – Is the proposed surveillance system required to have spectroscopic capabilities.

**Answer: No.**

Question 21: Topic H-SB07.1-001 – Are technologies that perform standoff detection of trace solid explosives or vapors of interest for this topic if they do not involve or require sample collection?

**Answer: The focus of the procurement is on sampling collection, concentration and presentation to COTS sensors. It is not on sensor development.**

Question 22: Topic H-SB07.1-001 – The topic description indicates the need for new explosives detectors that would respond to a far wider range of energetic threat materials. However, it is possible that methods other than trace and vapor detection would be more appropriate for detecting the broad variety of such materials. Would DHS consider a proposal responsive to the problem that does not follow the methods that are listed?

**Answer: DHS is open to any novel solutions. However, the thrust of this solicitation is on sampling methods for collection, concentration and presentation to various COTS devices.**

Question 23: DNDO Topic: With regard to the current DNDO neutron detection solicitation are liquid based detectors acceptable?

**Answer: This topic specifically states that we are interested in solid state technology. In this context, this should be understood to directly imply non-liquid and non-gas.**

Closed