Proposer Information Pamphlet

for

BAA04-TDT

TACTIC Program
Threat Agent Cloud Tactical Intercept & Countermeasure

Detection Technologies

23 February 2004

this page intentionally left blank

TABLE OF CONTENTS

PROPOSER INFORMATION PAMPHLET FOR BAA04-TDT
TACTIC PROGRAM: DETECTION TECHNOLOGIES

1 TACTIC Detection Technologies

The Defense Advanced Research Projects Agency (DARPA) Special Projects Office (SPO) is soliciting proposals (both technical and cost) from qualified corporations, research institutions, universities, Federally Funded Research and Development Centers (FFRDCs), and Department of Energy (DoE) laboratories in support of the Threat Agent Cloud Tactical Intercept and Countermeasure (TACTIC) Program Detection Technologies (DT), under Broad Agency Announcement (BAA) 04-TDT.

The Government foresees funding multiple TACTIC-DT awards in an effort to develop optimal technologies to be integrated into the TACTIC system. Some proposals deemed technically acceptable may not be funded. Decisions to fund proposals are based on funds available, scientific and technical merit, and potential contribution and relevance to the DARPA mission and the TACTIC Program. All responsible sources capable of satisfying the Government's needs may submit a proposal for consideration.

2 TACTIC Program Overview

The threat of foreign military use of chemical and biological warfare agents (CWA and BWA) is a concern, as many existing and prospective adversaries of the United States (US) and their allies are suspected to have interests in, or capabilities to produce, CWA/BWA weapons. The specific concern addressed here is the battlefield threat of chemical/biological aerosol/vapor clouds. These can be produced during military operations either by defensive measures against an adversary or by intentional agent dissemination/release by an adversary. The release of such agents may have profound effects on the battlefield by placing large numbers of troops at risk and by disrupting mission tempo by contaminating the battlefield with potentially deadly amounts of these agents.

Despite the fact that high-level threats to military personnel and missions from enemy CWA/BWA attacks have been recognized for many years, the paradigm for responding to such attacks has not changed over the years – it remains survival by assuming a protective posture and response to the attack after significant delay due to the time necessary to conduct decontamination protocols. This places a large logistics burden on today's highly mobile forces to carry the proper protective gear and sufficient quantities of decontamination supplies.

The TACTIC Program seeks to change this paradigm from a passive response to a proactive response of detection and interception. To achieve this shift in paradigm, two critical capabilities must be developed: 1) detection technologies that can rapidly discriminate and identify chemical and biological airborne clouds with low false-alarm rates, and 2) technologies that can defeat (via precipitation and/or neutralization) the clouds before they can reach their intended targets. In support of the first critical capability, development of detection technologies, DARPA, through the US Army Research, Development and Engineering Command (RDECOM), is releasing BAA04-TDT as part of Phase I of the TACTIC Program; this Proposer Information Pamphlet (PIP) provides information for the submission of proposals in response to this BAA. In support of the second critical capability above, development of countermeasure technologies, DARPA is simultaneously

releasing a separate announcement, BAA04-TCM (TACTIC-CM). Upon successful completion of this first phase, a new solicitation will be released in Phase II for the development of end-to-end systems for detection and countermeasures of threat agent clouds. Systems demonstrations will be conducted at Government aerosol chamber testbed facilities at the US Army Edgewood Chemical Biological Center (ECBC), at Aberdeen Proving Ground (APG), Maryland (MD). If this testing is successful, a Phase III effort will make the system field-ready and full-scale field testing will be carried out.

TACTIC performers will have extensive interaction with Government testing facilities and personnel throughout the program.

3 TACTIC Detection Technologies Objectives

The CWA/BWA threat to allied forces typically arises as a cloud of agent released from a weapon or storage container. Upon initial release, this cloud contains a high concentration of agent that disperses as the cloud expands and transports downwind. The overarching goal of the TACTIC Program is to intercept and defeat the cloud before the agent reaches deployed troops. In order to achieve this goal, the threat must be detected in a timeframe that enables an effective countermeasure. Thus the objective of the work performed under BAA04-TDT is to develop rapid, sensitive and selective CWA/BWA cloud discrimination and identification technologies.

The greatest detection potential exists at the time of, or very shortly after, the initial cloud formation because it is at this point that the cloud is most concentrated. While technologies such as Light Detection and Ranging (LIDAR) and Radio Detection and Ranging (RADAR) can detect the presence of a high concentration of particulate materials in the air, on the battlefield these clouds are often simply dust kicked up by vehicles, smoke from burning materials, or particulate from conventional munitions. In order to differentiate between actual threats and battlefield background, it is necessary to develop technologies that can rapidly discriminate and identify the agent cloud with a low false-alarm rates.

The rapid, long-distance detection of CWA/BWA threat agent clouds is a challenging task. Two examples of strategies that might be employed are; 1) injection of taggants into the cloud that change properties upon exposure to a specific agent (or class of agents) and measurement of that change using standoff detection, or 2) deployment of remote point sensors directly into the cloud that report the identity of the agent using a communications link. Other approaches that show promise for meeting the detection goals set in §4 are also of interest.

A factor that should be considered in developing a detection solution is the potential human health effects from exposure to the detection technology (e.g., chemicals used as taggants, etc.). Techniques that provide the requisite performance with minimal health effects are ultimately desired.

4 Testing and Evaluation

Initial analytical studies have been used to establish a performance goal for the detection technology. The analyses have shown that aerosol clouds of chemical and biological agents have concentrations on the order of $10g/m^3$ (chemical) and 10^8 particles/m^3 (biological) in the early (~1 minute) stages of development. Also, to establish a working range, it is assumed that the protected area lies ~10 km from the cloud release location. Finally, analyses have indicated that the cloud must be accurately detected with a probability of detection (P_D) of at least 0.9 and a probability of false alarm (P_{FA}) of $< 10^{-2}$.

The detection technology developed in the TACTIC Program is specifically intended to detect, discriminate (against background), and identify a broad band of chemical and/or biological agents in an aerosol/vapor cloud. The technologies therefore must be tested and validated in aerosol test chambers.

The Performer team must have the capability to carry out testing, with simulants, in aerosol chambers. The simulants must be chosen by the Performers, with the concurrence of the Government, to accurately reflect the properties of the CWA/BWA that are applicable to the detection concept.

Throughout the course of the program, at three-month intervals or more frequently, the Performers must evaluate the detection performance in their facilities against the aforementioned standards. Near the end of Phase I, the technology will be evaluated at Government aerosol testing facilities (testbeds) located at the US Army ECBC, APG, MD. Each Performer will be required to transport a version of the technology to the Government testbed and assist in the operation of the equipment during simulant testing. Performers will work with the Government testbed personnel to establish the proper simulants and protocols for the testing. A test plan and Test Readiness Review (TRR) must be completed and approved by DARPA prior to the initiation of Government testing. Extensive testing with variations in background clutter must be carried out to establish detection performance (P_D and P_{FA}) with statistical significance.

5 Technical Scope

DARPA seeks to develop technologies that provide detection across a broad spectrum of CWA/BWA agents, including nerve, blood and blister chemical agents as well as toxin, bacterial, and viral biological agents. Although a single detection technology for a broad range of agents is ultimately desired, the Government is interested in all promising technologies that could be used by the military to specifically detect an airborne threat agent cloud on the battlefield.

The Performer will be required to demonstrate the detection phenomenology using aerosolized/vaporized CWA/BWA simulants. By the end of Phase I, the performance of the technology must meet the requirements described in §4. In support of this development, the Performer must develop a mathematical model that captures the chemistry and physics of the detection mechanism sufficiently to enable the prediction of the probability of detection and false-alarm rates for a broad range of chemical and biological threats under variations in range, agent concentration, clutter concentration, and environmental conditions.

The development and demonstration of the detection technology and associated mathematical model represents the entire technical scope of Phase I TACTIC-DT.

6 Program Structure

TACTIC-DT will be structured as a single phase of approximately 15 months in duration. During this 15-month period, the Performer must:

- Demonstrate the technology and the capability to attain performance specifications in Performer laboratories and testbeds
- Demonstrate the technology capability to attain performance specifications in Government testbeds
- Demonstrate the ability for the model to accurately predict performance of the detection technology
- Assess the capability for broadband agent detection

At the end of Phase I, a new competition will open to choose a contractor (or contractors) to integrate the successful Phase I components into a complete prototype TACTIC system. DARPA expects to stimulate this process by holding informational meetings for prospective systems integrators near the end of Phase I efforts. While these meetings will be held under strict non-disclosure, the Phase I contractors are expected to legally protect any intellectual property resulting from the DARPA-funded effort. Participation by Phase I contractors in subsequent phases of the TACTIC Program will be through teaming with system integrators as complete systems are developed.

It is expected that Phase II efforts will culminate about 18 months after Phase I with aerosol testing, in chambers and wind tunnels, of the complete TACTIC concept of early detection and countermeasure. If these efforts appear promising, a Phase III effort, full-scale field testing, will be carried out.

7 Deliverables

With the exception of any financial information in the reports, the deliverables under this work may be released to outside organizations, both US Government and non-Government, in support of efforts to develop detection technologies for airborne CWA/BWA attacks. The Performer may recommend a preferred format for each deliverable, but the final format will be determined by the Government. Monthly Status Reports are due within two weeks of the end of each month; Quarterly Reports are due at the time of the Quarterly Reviews, and; the Final Report is due at the conclusion of the effort.

Deliverables for TACTIC-DT are as follows:

- Program Kickoff Report, due shortly after contract award: this report will provide an in-depth review of the technology that forms the basis of the Performer effort, including any

modifications from the initial proposal. In addition, the Performer will provide a master plan and schedule for the program, including any modifications from information provided in the proposal. This report will be in the form of a briefing to DARPA and will be provided in both paper and electronic formats.

- First Quarterly Report, due approximately three months after kickoff: this report will include initial results from bench-level tests, initial modeling results, as well as refined plans and schedule for the entire effort. This report will be in the form of a briefing to DARPA and will be provided in both paper and electronic formats.

- Subsequent Quarterly Reports, due at approximately three-month intervals: These reports will describe the progress of the effort to transition the development from bench-phase, to laboratory aerosol phase, and then to refereed test phase. At each quarterly review the Performer must present the results of the testing carried out in aerosol chambers against the detection goals described in §4. The status of the development of the model and its accuracy in describing the aerosol test must also be provided. In addition, the reports must reference the plans and schedule provided at the First Quarterly Review and provide amendments (agreed to by the Government) to the master plan and schedule. This report will be in the form of a briefing to DARPA and will be provided in both paper and electronic formats.

- Government testbed plan and TRR must be completed and approved by DARPA in advance of final testing. The test plan must include, at least, the number of tests to be carried out, the simulants to be used, a detailed schedule, and the procedures by which the test gear will be installed and operated at the Government testbed. Following approval of the test plan and installation of the test equipment at the testbed, a final TRR will be conducted. This review will include a walkthrough of the testing facility, demonstration of the functionality of the test equipment, and a final plan and schedule for testing.

- Final Report of results (to include a detailed written report and a shorter report in briefing format), including: a full technical description of the detection technology; a full technical description of models (along with source code); a description of all experiments and tests carried out during the effort; all data and analyses, including uncertainty analyses, and; recommendations for the use of the technology in follow-on efforts.

- Monthly Status Reports: showing task schedule, current task status, and task costs-to-date (written report). Tasks significantly behind schedule or over budget may require more documentation at the discretion of the Government.

8 Schedule

The anticipated TACTIC Program schedule is shown below. Changes to the dates in §8.1 will be sent to all organizations that have registered their interest in this BAA (see §11). Changes to the dates in §8.2 will be communicated directly to the Performers.

8.1 Solicitation Schedule

A Pre-Proposal Conference will be held on 19 March 2004, and participants must register by 16 March 2004 to attend (see §13.3 for details). To be considered for the first round of evaluation, proposals must be received as described in §13.5 by 1600 EST, 26 April 2004. Source Selection will be completed in mid May 2004, followed immediately by contracting. Kickoff meetings will take place in early June 2004.

Table 1: Tentative schedule of events and deadlines associated with BAA04-TDT

DATE	EVENT/DEADLINE
23 February 2004	FedBizOpps announcement published
16 March 2004	Registration ends for Pre-Proposal Conference
19 March 2004	Pre-Proposal Conference
26 April 2004	Proposals due
Mid May 2004	Source Selection completed; Contract negotiations
Early June 2004	Team kickoff meetings

8.2 Performer Schedule (Major Milestones and Activities)

- June 2004 Kickoff meeting
- Each Quarter Quarterly reviews with DARPA Program Manager and Contracting Officer
- Each Month Monthly Reports due to DARPA
- August 2005 Refereed testing at Government Facility
- September 2005 Final Report due to DARPA

9 Funding

The Government estimates that funding for each Performer for TACTIC-DT will be in the range of $1M per year with a period of performance of 15 months. However, DARPA is interested in the most promising technologies for TACTIC-DT and proposals outside this guideline will be accepted. The Government will evaluate each proposal, on an individual basis, using the criteria in §12.

10 Security

It is expected that the work for TACTIC-DT will be conducted on CWA/BWA simulants only and will be at the UNCLASSIFIED level. The overarching classification guidance is provided in Army Regulation (AR) 380-86, "Classification of Former Chemical Warfare, Chemical and Biological Defense, and Nuclear, Biological, Chemical Contamination Survivability Information," 30 June 1999.

11 Proposal Preparation Instructions

This BAA shall remain open for competition for one year from the date of publication in the Federal Business Opportunities (FedBizOpps). All proposals received by 1600 EST on 26 April 2004 will be evaluated for the first phase of potential awards. It is the intention of the Government to select multiple proposals for award at that time. Following this initial selection, the Government may select proposals for award at any time during the open competition period. The Government anticipates that initial awards will be made during the third quarter of the fiscal year (FY) 2004 (mid to late May). Proposers should submit multiple year proposals for the 15-month period of performance. All information a Proposer deems pertinent to the proposal should be submitted with the proposal. Proposals will consist of two volumes: Volume I – Technical Proposal, and Volume II – Cost Proposal. Proposals must be submitted in both printed and electronic formats, as described in §13.5. Proposals will be prepared in the following format: single-sided, 8.5 × 11 inches, 12-point type, Times New Roman font, single-spaced with margins not less than one inch. Pages must be numbered sequentially.

Questions regarding proposal submission should be directed to one of the points of contacts listed in §13. Proposers are advised that only Contracting Officers are legally authorized to contractually bind or otherwise commit the Government.

11.1 Volume I – Technical Proposal

Volume I will be no longer than 40 pages in length, not including the cover page, table of contents, statement of work (SOW) and appendices. Foldouts are counted as a single page and must be no larger than 11 x 17 inches, with no more than five foldouts per proposal. Only the first 40 pages of Volume I of proposals will be evaluated. Proposals with fewer than the maximum number of pages are highly encouraged. Clarity in describing the work to be carried out will be used as an important indicator to Reviewers during the evaluation process as to the ability of the Proposer to plan and complete the work.

The minimum requirements for Volume I are listed below and must appear clearly and in the order indicated:

a) Cover Page* * Items not included in the Volume I maximum page limit
b) Table of Contents*
c) Executive Summary
d) Technical Background and Innovation
e) Statement of Work*
f) Description of Resources and Facilities
g) Schedule/Milestone Chart
h) Deliverables
i) Roles and Responsibilities
j) Key Personnel Summary

k) Ownership of Products

l) Organizational Conflict of Interest

m) Appendices*

11.1.1 COVER PAGE

The Cover Page must include the following information in the order indicated:

a) BAA Number:	BAA04-TDT
b) BAA Title:	TACTIC Program: Detection Technologies
c) Proposal Title:	(as selected by Proposer)
d) Volume:	Volume I – Technical Proposal
e) Prime Proposer:	(name of Prime)
f) Subcontractors:	(names listed, if applicable)
g) Technical Contact:	(name, address, telephone/facsimile numbers, electronic mail address)
h) Administrative Contact:	(name, address, telephone/facsimile numbers, electronic mail address)
i) Type of Business:	(large business, small disadvantaged business, other small business, Historically Black College or University (HBCU), Minority Institution (MI), other educational or nonprofit organizations)

11.1.2 EXECUTIVE SUMMARY

The Executive Summary will provide a brief description of the technological approach to the detection of airborne CWA/BWA and an overview of the plans to carry out the work described in this PIP. Any outstanding features of the proposal that the Proposer believes will distinguish it from other proposals should be summarized here.

11.1.3 TECHNICAL BACKGROUND AND INNOVATION

The Proposer will provide technical background for the SOW and describe the innovations and creative approaches to be investigated, with detail sufficient to convince the review panel of the potential of the approaches to meet the program goals. The material in this section must carefully and explicitly describe the physical mechanisms that are important to the success of the proposed work. This section must include discussion of:

- The theoretical background of the molecular sensing mechanism that provides specificity
- The classes of agents or specific agents that the technology will be designed to detect (what agents will be targeted using this technology)
- The degree to which the physical mechanisms are understood

- Potential limitations or unknown aspects of the technology/phenomenology
- A path for elucidating those critical aspects of the mechanisms that are poorly understood
- Experiments to be conducted to test the detection capability of the sensing mechanism
- Simulants chosen for the detection experiments and the extent to which those simulants are representative of BWAs and CWAs
- The approach to be taken to develop a model of the detection technology
- A conceptual system to exploit the sensing mechanism for agent discrimination and identification
- The estimated performance of the conceptual system (capability to reach the required P_{FA}, P_D, speed and standoff range), to whatever level this can be estimated
- Potential health effects to unprotected personnel

In all categories, Bidders should provide preliminary data or results that support their claims. This material must serve as the technical foundation for the SOW to follow; that is, it must provide clear guidance for determining the work plan.

11.1.4 Statement of Work

The Proposer will provide a SOW describing the proposed plans to carry out the work. The SOW will include:

- A breakdown of the work necessary to carry out the development, implementation, testing, optimization and evaluation of the agent cloud detection technology. The work breakdown must be supported by the technical material in the preceding section.

- A proposed plan, with a schedule, to complete the work. The plan is expected to show a concise approach for addressing unknown aspects of the technology.

Whenever multiple approaches are proposed for any aspect of this effort, the SOW must clearly identify the primary and supporting or optional approaches, and the costs associated with each.

11.1.5 Resources and Facilities

Proposers must describe laboratory facilities available for development of the technology and testing at the bench scale, along with aerosol testing chambers and associated equipment. The availability of these resources for the duration of the work must be described. Organizations that do not have all of the technical capabilities and facilities necessary to successfully carry out this effort in-house, should team with organizations that have complementary capabilities and experience.

When Proposers plan to subcontract with outside organizations not part of the original proposal, these organizations, their capabilities, and their commitment to providing the needed support must be clearly identified. Any interactions with, or agreements with, US Government facilities for this purpose must also be identified.

11.1.6 SCHEDULE AND MILESTONES

Proposals will include a graphic illustration showing the major milestones in the SOW arrayed against the proposed time and cost estimates.

11.1.7 DELIVERABLES

Proposals will include a list of deliverables, correlated with the corresponding SOW tasks. At a minimum, Proposers should include the deliverables listed in §7.

11.1.8 ROLES AND RESPONSIBILITIES

Proposals must clearly identify which organization(s) is responsible for performing each element of the SOW. The manner in which the prime Performer or team lead proposes to manage and integrate these efforts must also be specified, and will factor into the proposal evaluation.

11.1.9 KEY PERSONNEL SUMMARY

Certain skilled, experienced professional and/or technical personnel are essential for successful completion of the work to be performed. These "key personnel" will be identified by name in the proposal. The program lead and deputy, as well as at least one person from each subcontracting organization or team member must be clearly identified. The key personnel will be described concisely in the proposal appendix (see §11.1.12), with a summary of the qualifications and relevant past efforts of each. Their expected critical contributions and amount of effort committed to this work for each contract year will be described concisely within the proposal. All key personnel must work at least 25% of their time on this program. The Performer agrees that such personnel will not significantly change their proposed level of effort, be removed from work on this effort, or replaced. Other personnel identified for work on the proposal but not identified as critical to the success of the effort should also be listed in the proposal appendix (see §11.1.12).

If one or more of the key personnel, for whatever reason, becomes, or is expected to become, unavailable for work under this contract for a continuous period exceeding 15 work days, or is expected to devote substantially less effort to the work than indicated in the proposal, the Performer will immediately notify the DARPA Program Manager and the Contracting Officer, and will, subject to the concurrence of the Contracting Officer or his authorized representative, promptly replace such personnel with personnel of at least substantially equal ability and qualifications.

All requests for approval of such substitutions must be in writing and must provide a detailed explanation of the circumstances necessitating the proposed substitutions. They must contain a complete resume for the proposed substitute, and any other information requested or needed by the Contracting Officer to approve or disapprove the proposed substitute. The Contracting Officer, in collaboration with the DARPA Program Manager, will evaluate such requests and promptly notify the Performer in writing of approval or disapproval of the substitution.

If the Contracting Officer determines that suitable and timely replacement is not reasonably forthcoming for key personnel who have been reassigned, terminated, or otherwise become unavailable for the contract, or that resultant reduction of productive effort would be so substantial as to endanger successful or timely completion of the contract, then the contract may be terminated by the Contracting Officer for default or for the convenience of the Government, as appropriate. Or,

if the Contracting Officer finds the Performer at fault for the condition, the Contracting Officer may choose to equitably adjust downward the contract price to compensate the Government for the resultant delay, loss or damage.

11.1.10 OWNERSHIP OF PRODUCTS

The US Government will maintain ownership of all equipment and prototypes resulting from this effort. In addition, the Government may choose to disseminate reports and results publicly and may discuss them at conferences and at other public and private meetings. The results may form the basis for subsequent BAAs, Research Announcements (RAs) or other solicitations from DARPA or other Government organizations.

The Government expects to retain, at a minimum, Government Purpose Rights (GPR) to all intellectual property (IP) resulting from this effort, including technical data, computer software and documentation, as set forth in DFARS 252.227-7013 and DFARS 252.227-7014. The Government will entertain negotiations for exceptions from GPR, under limited circumstances, as set forth under DFARS 252.227-7013(b)(4) and DFARS 252.227-7014(b)(4). The proposal should include a summary of any previously existing proprietary claims to results, prototypes or systems that may play a role in this work, and describe what aspects of existing systems will not be divulged to the Government. If there are no proprietary claims, this section will consist of a statement to that effect. Any agreement for work resulting from this BAA will require continual supplementation of said proprietary claims summary. In addition, and where appropriate, Volume II of each proposal will have attached to it the information required by DFARS 252.227-7017, IDENTIFICATION AND ASSERTION OF USE, RELEASE OR DISCLOSURE RESTRICTIONS (JUNE 1995) and/or DFARS 252.227-7028 (JUNE 1995) TECHNICAL DATA OR COMPUTER SOFTWARE PREVIOUSLY DELIVERED TO THE GOVERNMENT.

11.1.11ORGANIZATIONAL CONFLICT OF INTEREST

All awards made under this BAA are subject to the provisions of the FAR Subpart 9.5, Organizational Conflict of Interest. All Proposers and proposed Subcontractors must affirmatively state if they are supporting any DARPA technical office(s) through an active contract or subcontract. All affirmations must state which office(s) the Proposer supports and identify the prime contract number. Affirmations must be furnished at the time of proposal submission. All facts relevant to the existence or potential existence of organizational conflicts of interest, as that term is defined in FAR 9.501, must be disclosed. This disclosure must include a description of the action the Proposer has taken, or proposes to take, to avoid, neutralize or mitigate such conflict. If the Proposer believes that no such conflict exists, then it must so state in this section.

Only those Proposers whose proposals are expected to result in contract award will be required to submit a completed and signed copy of "Representations, Certifications and other Statements by Proposers or Quoters." This document is not required for the submission of a proposal unless specifically requested. Proposers are notified that this document is frequently updated and any Proposer selected for award may be requested to submit an updated "Representations, Certifications and Other Statements by Proposers or Quoters."

11.1.12 APPENDIX

This material is not included in the maximum page limit for proposals:

- PERSONNEL: The proposal will include a list of Key Personnel, identified to work on the program, as described in §11.1.9. A concise resume will be provided for each person listed in this section, describing their qualifications and relevant past efforts.

- ASSOCIATE CONTRACTOR AGREEMENTS: Proposals will list all subcontractor and other agreements, existing or planned, to support this work, including a description of the status of each such agreement.

- GOVERNMENT FURNISHED PROPERTY/EQUIPMENT (GFP/GFE): If any portion of the research is predicated upon the use of Government-owned resources of any type, the Proposer will specifically identify the property or other resource required, the date the property or resource is required, the duration of the requirement, the source from which the resource is required, if known, and the impact on the research if the resource cannot be provided. If no GFP/GFE is required to conduct the proposed research, this section will consist of a statement to that effect.

11.2 Volume II – Cost Proposal

Cost Proposals have no page length limitations; however, Proposers are requested to keep Cost Proposals to 30 pages as a goal. The electronic version of the Cost Proposal must be contained on the same CD that contains the Technical Proposal, and any soft-copy spreadsheets must be submitted in Microsoft Excel format.

The Cost Proposal must contain the following sections, in the order listed:

a) Cover Page
b) Table of Contents
c) Budget Summary
d) Budget Details
e) Details of any cost sharing by the Proposer (if proposed)

In addition, each Cost Proposal must contain a section that identifies the Proposer's Taxpayer Identification Number (TIN), DFARS 204.7202-3; Corporate and Government Entity (CAGE) code, DFARS 204.7202-1; and Contractor Establishment Code (CEC), DFARS 204.7202-2. The codes provided must be those of the Proposer and not of the principal place of performance, if the two are different.

11.2.1 COVER PAGE

The Cover Page is the same as that for Volume I/Technical Proposal (see §11.1.1), except that item d) will read "Volume II – Cost Proposal."

11.2.2 BUDGET SUMMARY

Proposals must include a separate budget summary (broken down by Government Fiscal Year, October through September) with: the cost for each task identified in the SOW of the Technical Proposal, including the manpower levels of effort (labor hours and cost) by task, and; the cost of equipment, travel, general and administrative (G&A) and other expenses. Costs for team members or other subcontractors must be clearly identified under the appropriate tasks, and the net amount, with cost breakdown, proposed for each organization must also be clearly labeled.

11.2.3 BUDGET DETAILS

The cost to carry out the effort (including costs for team members and other subcontractors) will be specified in detail, showing the information below by Government fiscal year (October through September).

- Labor hours for each labor category, divided into the tasks and subtasks identified in the SOW, Volume I. Optional tasks/subtasks must be listed individually and priced separately.
- Personnel (name, rate in dollars per labor hour, and percent time on project).
- Total cost by task/subtask identified in the SOW/Volume I.
- Total cost by labor category, with subtotals for each task.
- Proposed Performer-acquired equipment itemized with costs or estimated costs. An explanation of any estimating factors, including their derivation and application, must be provided. A brief description of the procurement method to be used must be included under Budget Details.
- Travel costs.
- Materials costs.
- Other direct/indirect costs.
- Any other information important for supplementing the Budget Summary.

12 Proposal Evaluation

12.1 Evaluators

It is the policy of DARPA and the US Army RDECOM to treat all proposals as competitive information, and to disclose the contents only for the purposes of evaluation. The Government intends to use Government Contractor Personnel (GCP) as special resources to assist with the logistics of administering the proposal evaluations and to provide selected technical assistance

related to proposal evaluations. GCP are restricted by their contracts from disclosing proposal information for any purpose and are required to sign Organizational Conflict of Interest and/or Non-Disclosure Agreements. By submission of its proposal, each Proposer agrees that the proposal information may be disclosed to these selected GCP for the limited purpose stated above. Any information not intended for limited release to GCP must be clearly marked and segregated from other submitted proposal materials.

12.2 Evaluation Criteria

Evaluation of Proposals for Detection Technologies for the TACTIC Program will be performed using the following criteria, which are listed in descending order of relative importance:

- Scientific and technical merit
- Proposer qualifications
- Cost realism

12.2.1 Scientific and Technical Merit

The most important factor in evaluating the proposals is the scientific and technical merit of the proposed approach to solving the problem, especially the quality of that approach and its completeness. The evaluation of merit includes the following specific aspects:

- Technical merit of the proposed technological solution including:
  - Number of agents, of different classes, to be detected
  - Simulant selection
  - Experimental design and protocols
  - Expected detection sensitivity (P_d, P_{fa}), specificity, and speed
  - Mechanism for providing a standoff or remote detection capability
  - Detection mechanism
  - Approaches for addressing limitations or unknowns about the technology/phenomenology
  - Expected range of standoff or remote capability
- Description of potential human health or environmental concerns associated with the technology.
- Soundness of the modeling approach (applicability to various agents under variable conditions) and the quality of the plan to couple experimental data with modeling.
- Innovation displayed in the proposal.
- Clarity and soundness of the proposed SOW.
- Quality of the plan to integrate the technical activities with the management of subcontractors or team members (if applicable).

- Expected likelihood of the Proposer to meet the objectives of the BAA and for an award to result in the development and demonstration of effective and practical BWA/CWA cloud detection technologies.

12.2.2 PROPOSER QUALIFICATIONS

The next most important factor in evaluating the proposals is the demonstrated ability of the Proposer to successfully carry out the proposed work. The evaluation includes these aspects:

- The Proposer's capabilities and experience relative to the planned work.
- Capabilities of other team members or subcontractors (if any) that complement the capabilities of the lead organization.
- The Proposer's resources and facilities committed to this work, as well as agreements with outside organizations for access to necessary facilities. The test laboratories are of particular interest.
- The selection of key personnel with the range of skills and expertise required to accomplish the tasking and their availability for the duration of the contract.

12.2.3 COST REALISM.

Cost will be evaluated to determine whether the Proposer's estimate is reasonable and realistic for the technical and management approach offered, as well as to determine the Proposer's practical understanding of the effort. Cost reasonableness will be evaluated by assessing the number of labor hours and labor mix proposed, as well as the reasonableness of other cost elements (e.g., travel, materials, subcontractors, etc.). Cost realism will only be used as an evaluation criterion if there is reason to believe that the Proposer has significantly under- or over-estimated costs to complete the effort.

13 Administrative Information and Proposal Submission

Information announcing and updating this BAA and PIP is published on the Federal Business Opportunities (FedBizOpps) website at http://www.fedbizopps.gov, the TACTIC Program website at https://dtsn.darpa.mil/TACTIC, and the DARPA website at http://www.darpa.mil. Other material, such as TACTIC Program updates, initial registration to express program interest, and registration for all meetings, will be available through the TACTIC Program website.

This PIP, along with the FedBizOpps announcement, constitutes a BAA as stated in FAR 6.102 (d)(2)(i). Prospective Proposers must refer to this PIP before submitting a proposal. This announcement does not commit the Government to pay for any proposal preparation cost. The cost of preparing proposals in response to this BAA is not considered an allowable direct charge to any other contract. However, it may be an allowable expense as specified in FAR 31.205-18.

13.1 Solicitation Registration

All parties interested in this BAA should register their interest by providing the following information for their organization: a principal point of contact (POC), name of organization, address, telephone and facsimile numbers, and e-mail address. This information can be submitted directly on the TACTIC Program website. DARPA will make available to all who register a complete list of the registered organizations and respective contact information and capabilities/interests, unless any organization specifically requests not to be included on such a list. By submitting this information on the TACTIC Program website, organizations will have opportunities to advertise their capabilities to perspective teammates seeking complementary expertise.

13.2 Solicitation Website

At the time of registration, each organization will be provided a password for accessing the TACTIC Program website. This website will contain regularly updated information about this solicitation, as necessary. It will include a list of Frequently Asked Questions (FAQ) and respective answers. It is also the location where brief descriptions will be posted describing the capabilities of organizations interested in teaming opportunities.

13.3 Pre-Proposal Conference

DARPA will host a Pre-Proposal Conference. The conference will take place on 19 March 2004 at ANSER Analytic Services, Inc. in Arlington, Virginia. Each organization that plans to attend this meeting must indicate their intention by registering on the TACTIC Program website. Each organization must provide the names of all planned attendees. Additional instructions will be provided to those who register.

During the Pre-Proposal Conference, organizations will have the opportunity to briefly describe their capabilities and interests to other attendees, as a step in forming teams with the full range of technical capabilities necessary to respond successfully to this BAA.

13.4 Contacting DARPA

The DARPA TACTIC Program Manager will be available for meetings, telephone conferences, or video telephone conferences to discuss technical approaches from Proposers, during the two week period following the Pre-Proposal Conference. These can be scheduled by contacting BAA04-TDT@darpa.mil.

Contractual or administrative questions will only be answered if they are submitted by e-mail or on the TACTIC website; questions will not be answered by telephone. Inquiries may be submitted through the website after registration. Questions will be accepted until one month after the Pre-Proposal Conference (19 April 2004).

Regardless of how questions are sent to DARPA, the contractual or administrative question and its answer (without the name of originator) will be appended to the FAQ file on the TACTIC website for viewing by all registered organizations.

13.5 Submission Process

Proposers must submit an original proposal consisting of Volumes I and II, five (5) paper copies and one electronic copy on Compact Disk (CD). The CD must contain the technical proposal in Microsoft Word format and the Cost Proposal in Microsoft Excel format; both must reference BAA04-TDT. Proposals must be received by 1600 Eastern Standard Time (EST) on 26 April 2004, in order to be considered for review. Send to: Dr. Wayne Bryden/BAA04-TDT, DARPA/SPO, 3701 North Fairfax Drive, Arlington, Virginia 22203-1714. Proposals submitted by other means will be disregarded.

13.6 Awards

The Government reserves the right to select for award all, some, or none of the proposals received in response to this announcement. Awards may be traditional FAR/DFARS contracts, grants, cooperative agreements, and/or other transaction agreements. The Government is seeking participation from the widest number of Proposers. All responsible sources may submit a proposal, which will be considered by the Government. Small Businesses, Historically Black Colleges and Universities (HBCU) and Minority Institutions (MI) are encouraged to submit proposals and/or team with others in submitting proposals; however, no portion of this BAA is set aside for Small Businesses, HBCU and MI participation due to the impracticality of reserving discrete or severable areas of technology for exclusive competition among these entities.