

1. Questions involving the need for a System Integrator in responses to the BAA:

There is no specific requirement for a system integrator, but it would be desirable for the responding team to consider this need. Phase 1 of the program requires the development of a “benchtop” system capable of a certain sensitivity and selectivity, which in turn requires integration of source (Terahertz), sample cell, detector, processor, etc., to meet these goals. Balancing these needs is system integration.

2. Questions involving specific frequency range of the MACS instrument:

The statement was made: “It was pointed out that the solicitation explicitly lists 1.0 THz as the lowest frequency of interest.” I have not looked back at the BAA, but if this is true, we may need to modify this statement. In fact, all the data I showed lay in the frequency range 200-400 GHz (i.e., from 0.2 – 0.4 THz), quite a bit lower than 1.0 THz. As someone else pointed out (in a blue card), “Few molecules of interest have rotational transitions in the terahertz region ...” My feeling is that we should acknowledge that the MACS sensor would preferentially operate in the region below 1.0 THz, probably in the band from 200-500 GHz.

3. Questions involving elaboration of the sampling system, and is it intended to fit within the volume restrictions we set forth:

I pointed out that we did not define the characteristics of the sampling system within the MACS sensor, and that this matter should elicit some innovative responses, which could weigh the selection toward a particularly brilliant submission. There is much uncertainty here, depending upon the particular threat we are addressing and what its spectrum of chemical emittants is. The sampling must be done on a gas which could have a great variety of chemistries, and the actual sampling might be done at a distance from the MACS sensor. The selection committee would appreciate some guidance from the community making the proposals.

4. Questions involving the probability of detection (P_D) and probability of false-alarm (P_{FA}), and the apparent inconsistency between individual and multiple analytes:

I agreed with the questioner that we expect responders will be able to show a P_D of 0.9999 or better for any one, or a few, analytes in the mixture of gases. That to have to show an overall probability of detection of this magnitude for all the analytes in the mixture (>50) would require an “outlandishly high reliability for any realizable instrument”. Again, we should confirm that this is a misstatement in the BAA.

5. Questions involving potential biological applications for the MACS Sensor:

I pointed out that we did not address the question of detection of biological materials, at least not directly. We want to develop a chemical sensor, which could detect and identify byproducts of biological threats. To relate this detection to a particular pathogen requires knowing all the chemistries that are intermediate; since MACS is intended to identify families of byproducts, it might be very valuable for this application.

6. Questions involving the generation of a spectral database:

I agreed, tacitly, that the MACS BAA is shy of identifying a database of chemical analytes and their rotational spectra, upon which accurate usage of the sensor will rely.

Noone, yet, is generating a database (although I am told by John Pearson of Cal Tech./JPL that portions of such a database exist). We will have to get back to this need after we have made our contractor selections in this phase of the program.

7. Questions involving the number of awards anticipated:

DARPA has not disclosed the number of awards anticipated under this program. The number of prime awards may depend on the number of selectable proposals received.

8. Questions involving the level of funding available:

DARPA has disclosed the level of funding available for this program. The amount of funding made available may depend on the proposed cost estimates received.

9. Questions involving the location of the BAA and associated documents:

The BAA and associated documents are available for viewing and download on the FedBizOpps.gov website at

<http://www.fedbizopps.gov/spg/ODA/DARPA/CMO/BAA06%2D01/listing.html>.

10. Questions involving the availability of Dr. Patten's and the proposers' presentations from the Proposers' Day:

Presentations from the Proposers' Day, to include Dr. Patten's, will be available for viewing and download on the DARPA/ATO MACS website at

<http://www.darpa.mil/ato/solicit/MACS/index.htm> as soon as possible. Some proposer presentations may be excluded, at the request of the presenting organization.

11. Questions involving the submarine infrastructure reference in the Proposers' Information Pamphlet (PIP):

The sentence, "Specifically address, quantitatively if possible, the gains afforded by the proposed technology on submarine infrastructure cost" in paragraph 4.2.1 of the PIP was included in error. DARPA anticipates issuing an amendment to the PIP to delete this sentence.

12. Questions involving proposal deadline:

The BAA will be open for one (1) year from the date of its publication in FedBizOpps.gov, i.e., through 18 OCT 2006. However, the Government anticipates that the majority of initial funding for this program will be committed during Initial Selections. To be considered for funding during Initial Selections, full proposals must be received no later than 12:00 noon EST on 5 December 2005.