COMMUNICATIONS AND NETWORKING TECHNOLOGY
BAA 07-012

Questions and Answers
13 February 2007

QUESTION #1 - Will there be multiple awards? If so, what is the proportion of awards in the focus area vs. the other areas of interest?

ANSWER #1 – The award information can be found in Section II., Award Information, of the BAA.

QUESTION #2 - Historically speaking, how many awards are there usually?

ANSWER #2 - The number of awards varies depending on such factors as funding, requirement/ research effort, contract type, etc.

QUESTION #3 - Do the antennas have to cover the whole ELF/VLF band or part of the band?

ANSWER #3 – The antennas can cover part of the band as long as that band has good propagation and noise immunity. Hence the band proposed must be shown to be optimal for communications.

QUESTION #4 - What are the typical dimensions allowed for the antennas?

ANSWER #4 - Antenna size is constrained by deployment on small tactical UAVs (10' wing spans) as well as UUVs.

QUESTION #5 - Any particular modulation format required or we can use whatever modulations that work?

ANSWER #5 - Any modulation format can be proposed, including ones where compression (or higher order modulation), if any, to get more data rate over a smaller bandwidth.

QUESTION #6 - What kind of communication data rate is typically required at the ELF/VLF band?

ANSWER #6 - Typical data rates can be 20 kbps to 100 kbps. ONR would be interested in seeing distance-bit rate trade offs. If higher data rate is not feasible at a reasonable distance (say, up to 5 miles freespace from depth of 300m or so), a scenario could be use of RF as a control channel for rendezvous and time critical C2 info, with other modalities such as optical comms used for underwater high speed communications via surfaced UUV relays using regular RF (say UHF) for the airborne.