

ONR FOA Announcement #N00014-16-R-FO13
Amendment 0003
Questions and Answers
As of 27 July 2016

Questions received to date and their responses are as follows (similar questions are not repeated):

Question 1: Would multiple but related research areas within a Thrust Area be allowed or encouraged?

Answer 1: Multiple aspects to a single project that fit under a single thrust area should go under a single proposal. If the proposal covers significant areas in different thrust areas, then separate proposals should be submitted for each different thrust area.

Question 2: Would a combination of lasers with different pulse formats, such as a high peak intensity short pulse laser together with a HEL to enhance the overall lethality efficiency on a target, be of interest to JTO as one of the topics for Thrust Area 3? It is well known that a high rep rate pulsed laser can do more damage to a target when compared to a CW laser of the same average power.

Answer 2: See Amendment 0002 Question 1. "Temporal Combining" is different than beam combining methods currently used in high energy laser programs, and as you indicated may increase lethality, thus indicating a relevant proposal topic. The key to a successful proposal in any thrust area is to provide a convincing and practical path to increasing laser system effectiveness.

Question 3: Would reducing the number of adaptive optics subsystems (one per laser in a coherent or incoherent combining scheme) be an acceptable research area under Thrust Area 3?

Answer 3: As stated in the call, reducing weight and complexity while improving the ruggedness of laser systems is an objective Thrust Area 3. In general, reducing the number of parts in a system will reduce complexity, but when looked at as part of a system may have other negative tradeoffs that would also need to be addressed by the proposal. All proposals for Thrust Area 3 should include beam combination methods that are not currently used in high energy laser programs.

Question 4: Would it be possible for the Air Force Research Laboratory/Army Research Laboratory/Naval Research Laboratory to participate at cost or no cost in a proposed JTO-MRI?

Answer 4: See Amendment 0002 Question 3. DoD labs CANNOT be the primary proposer for this opportunity but can be teamed as a sub with a university who is the primary proposer. Proposers may have teaming relationships with military laboratories, FFRDCs, businesses, and other institutions, as described in Part III. Eligibility Information of this FOA.

Question 5: Would an improvement on the combining efficiency of an existing combining architecture be an acceptable area for Thrust Area 3. Existing combining architectures include fully coherent schemes, and spectral combining. The FOA calling for something completely different raises questions. Can you provide any guidance on what you envisage?

Answer 5: See Amendment 0002 Questions 1 and 6. As stated in the call, we are looking for methods different from current high energy laser programs. Beam combining methods have been developed in past HEL-JTO and other DoD high energy laser programs. Thrust Area 3 specifically states that “approaches should be different from coupling methods currently used in high energy laser programs.”

Question 6: What limits are placed on the publication of research funded by these grants?

Answer 6: In general, there are no restrictions on publications. Historically, the High Energy Laser Joint Technology Office holds yearly open reviews of the programs that are funded by these grants, and has encouraged publication of the results of the research.

Question 7: Are researchers from Military/DoD/Government Academic Institutions eligible to be the Principal Investigator (PI)/Principal Offerors for proposals to this FOA?

Answer 7: No. Researchers from Military/DoD/Government Academic Institutions CANNOT be the Principal Investigator (PI)/Principal Offeror on any grant awarded for this FOA.

Question 8: The HEL-JTO FOA mentions that foreign universities may collaborate on the research. Can foreign industry also collaborate on the project? Can we have a sub-award to the foreign industry? If so, can they receive funds as a sub-award from HEL-JTO program?

Answer 8: Foreign universities and industry may collaborate as subs to a US university but will be subject to ITAR regulations.

Question 9: Does laser "lethality" always include the laser shooting to enemy soldiers? Or is blowing up enemy's weapon and equipment more generally regarded as lethality?

Answer 9: Laser “lethality” refers to the effect of the laser on a target of interest. The evolving nature of military equipment of potential adversaries makes it impossible to define specific targets of interest for the expected timeframe of these grants. However, humans are not a target of any current high energy laser program, and are not expected to be a target of any high energy laser program. Open literature and news reports list general classes of targets for which a high energy laser system would be particularly effective. For experiments involving laser lethality, proposers are encouraged to refer to the "High Energy Laser (HEL) Lethality Data Collection Standards," jointly published by the HEL-JTO and Directed Energy Professional Society (<http://www.deps.org/store/merchandise/TOCs/lethHandbookPreface.html>).

Question 10: Is the main "deliverable" at the end of the project a new laser system rather than developing a new laser technology, or both?

Answer 10: See Amendment 0002, Question 7. The main deliverable of these grants are information and technologies that could be applied or transitioned to high energy laser weapons systems, making them more practical and effective. The actual building of an operational weapon system is a process that is far beyond the scope or funding level of these grants.

Question 11: Should we specify a certain level of lethality in terms of parameters in the proposal, such as characterizing the laser beam and performing damage measurements on several samples?

Answer 11: Due diligence suggests that prior to proposing, the principal investigator will have performed some basic analysis or have some experimental results that suggests the validity of the proposal. If this prior analysis suggests that various performance parameters can be obtained, it would be helpful to include such information in the proposal. For specific questions on lethality testing, it is helpful to refer to the "High Energy Laser (HEL) Lethality Data Collection Standards," jointly published by the HEL-JTO and Directed Energy Professional Society (<http://www.deps.org/store/merchandise/TOCs/lethHandbookPreface.html>).

Question 12: If we propose a program that will cost roughly twice the expected award amount listed in the call, will our proposal be automatically eliminated or will it be given a full hearing?

Answer 12: The anticipated average award for these grants will be approximately \$600K. While this is an average amount, and not a maximum amount, proposals exceeding this level should be aware that price is a consideration. The higher the price per grant, then fewer grants will be awarded overall. Proposals should give suitable justification for their budget, regardless of amount. Specifically, a project that is projected to be twice as expensive as the average project would need to give commensurate value of two average projects.

Question 13: Can I discuss with you an idea I have for a proposal?

Answer 13: To maintain impartiality in the proposal process, it would not be fair to all proposers to analyze and discuss the specific merits of your ideas. However, proposers are encouraged to discuss their ideas and receive feedback from other subject matter experts in the DoD high energy laser community. Such feedback can be quite valuable, and help the proposers refine their plans to be more suitable for transitioning to DoD programs.