

# Questions and Answers to DARPA-BAA-08-58 Coal to Liquids

**Question 1: Please clarify BAA-08-58 requirement on p.7 for Coal to Liquids (CTL) economic viability: does capital cost < \$15,000 barrels per day (bpd) capacity refer to JP-8 or in general to liquid fuels?**

Answer 1: In order to simplify proposal process a single finished product was selected to standardize the metrics. One can develop a system that produces other co-products, and use the estimated sale of these co-products to achieve your final fuel cost objectives, but one must also demonstrate that there is a market for the co-products.

**Question 2: We ask for clarification and revision of the proposed metrics, the eligibility for participation, and an extension of the schedule in order to responsibly respond to the BAA.**

Answer 2: This is a DARPA solicitation and, as such, the metrics and goals are aggressive. Traditionally, DARPA looks for a significant (often an order of magnitude or more) improvement compared to conventional techniques and systems. The capital costs discussed in the BAA refer to the startup costs associated with building a 100,000 bbl/day reactor. This BAA is looking to provide the Department of Defense (DoD) with the capability to generate a secure fuel supply. In this regard, the DoD represents both investor and customer. The eligibility for participation is clearly spelled out in the BAA. Finally, the proposals are not due until November 12, 2008.

**Question 3: Is the target capital cost of \$15K/bpd, estimated at the 100,000 bpd size plant?**

Answer 3: Yes.

**Question 4: Target for the end user cost (\$3 per gallon) is set to 75% of the current cost you mentioned (\$4.50 per gallon); however, the target for the capital cost is set to 25% of the current cost (\$60K/ bpd). Is there particular reason for setting different goal for the cost reduction?**

Answer 4: One of the goals of the CTL BAA is to increase the economic viability of implementation by achieving a large reduction in the capital cost; the reduction to \$15,000/bpd capacity is comparable to the capital costs of conventional oil refineries. Currently, the large capital cost associated with CTL is one of the reasons preventing widespread implementation of the technologies.

**Question 5: Are laboratory experiments required to be performed under this effort, or can this effort consist only of analysis and design based on existing experimental data?**

Answer 5: The goal is to demonstrate through substantive analysis or experiments, that a proposed technology can achieve the metrics described in the BAA. While one can use analytical techniques, the goal is to add to the knowledge base. If you propose using an existing data set it is important to detail your new approach to analyzing the data. This effort is not interested in funding a compilation of existing work.

**Question 6: If your agency were to remove the zero CO<sub>2</sub> constraint and choose a CTL/algae research proposal, there likely would be synergies with other algae efforts.**

Answer 6: This is an independent effort focused on the limitation of CTL technologies, while it does not preclude efforts involving algae, the focus is a clean cost effective way to convert Coal to Liquid Hydro Carbons.

**Question 7: Are you allowing for some percentage aromatic organic component in your finished fuel goal, or are you looking for no aromatic component?**

Answer 7: There are no requirements relating to aromatic organic components.

**Question 8: Is the less than \$ 15,000 / bbl / day capital cost just to liquefy the coal to an liquid oil state, or must this capital cost include all post liquefaction cost to make a finished fuel product?**

Answer 8: This is a DARPA solicitation and, as such, the metrics and goals are aggressive. Traditionally, DARPA looks for a significant (often an order of magnitude or more) improvement compared to conventional techniques and systems. The capital costs discussed in the BAA, which includes all post liquefaction processes, refer to the startup costs associated with building a 100,000 bbl/day reactor.

**Question 9: When the Air Force tested at 50 / 50 % mixture of F/T fuel with jet-8 did it have some aromatic component?**

Answer 9: Recommend you contact the Air Force.

**Question 10: Are you looking for this process to provide other fuels besides JP-8?**

Answer 10: In order to simplify the proposal process a single finished products was selected to standardize the metrics. One can develop a system that produces other co-products, and use the estimated sale of these co-products to achieve your final fuel cost objectives, but one must also demonstrate that an appropriate size market exists.

**Question 11: Can we create a much larger than 100,000 bbl/day finished fuel plant, in order to achieve the goal of less than \$ 15,000 / bbl / day capital cost?**

Answer 11: The capital cost estimate is based on a 100,000 bbl/day plant, no bigger or smaller.

**Question 12: We have seen this offering in the past, was it ever awarded before?**

Answer 12: This is the first DARPA program that we are aware of that is focused specifically on technologies to overcome the existing economic and environmental challenges associated with converting coal to liquid fuel.

**Question 13: Can we use a co-process?**

Answer 13: You can propose any solution you would like as long as it meets the requirements laid out in the BAA. However, as stated in the BAA, DARPA is interested in innovative CTL processes.

## **Questions and Answers to DARPA-BAA-08-58 Coal to Liquids (beginning with question 14)**

Q14) Is there a due date for proposal abstracts for Round Two, under which full proposals are due June 2, 2009?

A14) No, we are not doing proposal abstracts for round two.

Q15) I do not know if our process would qualify for your research funding.

A15) The program is looking for a clean CTL process that meets the requirements laid out in the BAA. If you meet these requirements you qualify, otherwise you do not.

Q16) In briefly reviewing Solicitation Number: DARPA-BAA-08-58, I note that we may have missed the deadline for submitting a proposal. Could you please confirm whether we have the opportunity to present a proposal.

A16) Please review the BAA website the solicitation has been extended for a second round of proposals.

Q17) What is the deadline for submission of Abstracts and Proposals for DARPA-BAA-08-58? Could you please clarify for me what the deadlines are?

A17) To be considered for the second round of funding, Full Proposals (not abstracts or white papers) are due before 4:00 PM June 2, 2009. Proposals submitted after the due date for the second round but before 08 January 2010, will be review in accordance with the BAA.

## **Questions and Answers to DARPA-BAA-08-58 Coal to Liquids (beginning with question 18)**

Q18) Our proposal submitted in the previous round (November 12, 2008) under DARPA-BAA-08-58 was approved for funding. Is it acceptable to propose additional project activities within framework of that project and request additional funding under the second round (June 2, 2009) of submission?

A18) The technology detailed in each proposal needs to be able to achieve the BAA metrics independently.

Q19) If biomass combustion/gasification is part of the proposed technology, will it be considered CO2 neutral?

A19) The requirement as detailed in section 1.21 of the BAA is that the system should have zero carbon dioxide emissions.

Q20) On page 15 of the BAA 08-58, under Section II Summary of Proposal, Item B it request "all proprietary claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are not proprietary claims, this should be stated." What does this mean and could provide an example of a response if one does have proprietary claims?

A20) A summary of the deliverables associated with the proposed research and the plans and capability to accomplish technology transition and commercialization (if any) must be provided. Include in this section all claims to the results, prototypes, intellectual property, or systems supporting and/or necessary for the use of the research, results, and/or prototype. If there are no proprietary claims, this should be stated.