

**TARDEC BAA W56HZV-05-R-BAA1, Topics #22, 23, and 24: Efficient Powertrain Technologies
Summary Q & A, Revised 17 September 2009**

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| Topic Par. | General Question / Comment | Answer |
|-------------------|---|---|
| General | Are all of the requirements detailed within the topic itself? | The individual topics detail the technical requirements. However, the topics should be read in conjunction with the broader solicitation which contains many of the non-technical proposal submission requirements (available at: http://contracting.tacom.army.mil/baa/05RBAA1/05RBAA1.htm). It is strongly recommended that all prospective Offerors read the BAA solicitation and BAA Topics in their entirety, in order to gain a full understanding of the requirements for proposal. |
| General | Over the fuel range, is power variation related to heating value and viscosity? Is variation by \pm a few percent allowable? | Power is related mostly to heat content of fuel. "Unchanged" is defined as $\pm 2\%$ engine power variation. |
| General | What is the powertrain application? | The application is a ground military application. |
| General | What are the mission requirements for the powertrain? | A mission has not been determined for the powertrain. |
| General | Is a target vehicle identified? | No. There is no target vehicle identified for this requirement. |
| General | Are there any limitations on engine complexity? | There are no limits on engine complexity. |
| General | Are there any other targets or limitations such as weight, shock, water/dust insulation etc? | All targets and/or limitations have been included within the requirements of the BAA Topics. |
| General | Are there power density (weight and size) targets for the generator or powertrain system? | Size and weight of the generator and powertrain have not been restricted. |
| General | Does TARDEC have a package envelope in mind? Are there airflow limits for cooling? | No envelope has been defined. No airflow limits have been defined for cooling. |
| General | Is a cooling package required along with the powertrain? | No, a cooling package is not specified in the requirements. However, the contractor shall provide a powertrain capable of completing a 50-hour NATO test. |
| Objective | The objective is "basic and applied research and that part of the development not related to the development of a specific system or hardware procurement." However, two complete powertrain systems for dyno test are to be developed and delivered. This appears to be a contradiction. | The focus of these BAA Topics is the research and development of powertrain technologies which meet the specified requirements. Two prototype powertrains with incorporated technologies shall be delivered as a means of testing and demonstrating the applied technologies. |
| Table 1 | A Thermal Efficiency metric of 44% or greater has been provided within the solicitation. Can it be assumed that this metric is at the best point? | Yes. |

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| Table 1 | A Ratio Spread metric of greater than 10.0 has been provided within the solicitation. Does the ratio spread metric include the torque converter amplification or transfer case properties? | The ratio spread applies to the centerline of the transmission. It does not include any multiplication from a launch device or transfer case. |
| Table 1 | Is the heat rejection requirement coolant only? Or also after cooler? | The heat rejection requirement includes the Engine coolant and aftercooler. |
| Table 1 / ¶ 4 | Can TACOM describe the electrical load on the generator? | The generator will have a continuous output as stated in the chart of the appropriate topic. It will also be capable of generating the specified amount of energy (see Topic ¶ 4) at tactical idle. |
| Description ¶ 2 | What are the expectations for covering five fuels and any mixtures thereof in the program? Would you expect each test to be repeated for each fuel and fuel combination? | A demonstration showing the output performance and adaptation of the powertrain will be conducted on a variety of fuels and combinations. The combinations will include worst case mixtures for engine performance. |
| Description ¶ 2 | Can TACOM describe with more detail constant performance when switching between different fuels? | Power output of the engine shall be maintained when running any combination or mixture of fuels. |
| Description ¶ 6 for Topics 22 and 23. | Is there a specific noise target? | Overall noise targets for the powertrain have been removed from the requirements. No individual component noise targets exist. A requirement of the BAA Topics is a trade study of noise abatement technologies and their impact on powertrain efficiency. |
| Description ¶ 8 for Topics 22 and 23 / Description ¶ 7 for Topic 24 | What fuel type should be used in the 50 hour NATO validation test? | JP-8 fuel is the standard fuel for NATO testing. |
| Description ¶ 8 for Topics 22 and 23 / Description ¶ 7 for Topic 24 | How will the 50-hour NATO test be run? | A 50 hour NATO test will be run on the engine, without the rest of the powertrain. The test will be conducted and assessed as specified in NATO Standard Engine Laboratory Test AEP-5 (Edition 3), available at: http://assist.daps.dla.mil/online/start/ Document ID: STANAG-4195 ED.1(1) --> Revision 1. |
| Project Duration ¶ 2 (Funding) | Will the government provide a timeline of work to fit within the funding available? | NO. It is the Offeror's responsibility to make their proposal affordable according to the funding available for each fiscal year (as described in ¶2 Funding, and ¶3 Cost ceiling/cost share). Further, the Offeror should present a timeline showing when the funding requested will be needed [Solicitation §VII.b.(2)(d)] The proposal must be affordable for each fiscal year of the total 4 year project, according to the estimated funding available as detailed within the topic. |
| § VII of the BAA solicitation | Is there a specific format for proposal submissions? | Requirements for proposal submission and format are located in section VII of the BAA solicitation located at http://contracting.tacom.army.mil/baa/05RBAA1/05RBAA1.htm |
| §§ VIII - IX of the BAA solicitation | Can you share the merit review criteria you plan to apply to the evaluation of proposals? | The criteria for evaluating the proposals are included within Parts VIII and IX of the BAA solicitation which is available at http://contracting.tacom.army.mil/baa/05RBAA1/05RBAA1.htm These evaluation criteria are consistent with the proposal submission requirements stated in Part VII.b of the BAA Solicitation. |