
FTTS ACTD Completed Answers

<i>ID</i>	<i>Document</i>	<i>Paragraph/Section</i>	<i>Question/Comment</i>	<i>Answer/Update</i>
6	SOW/Attachment 3	n/a	15. Reference: Section C Draft SOW, Page: N/A, Paragraph: N/A., Title: N/A Reference: Attachment 3, Page: N/A, Paragraph: N/A., Title: N/A Statement: Attachment 3: Measures of Effectiveness/Measures of Performance is not one of the available Attachments. There are multiple references to this document in the SOW. This document (Attachment 3) is critical to the development of an approach to concept development and basic technical concepts. Not having this document until the final solicitation is released greatly restricts the ability of the bidders to develop quality proposals. Question: Will the Government provide this document prior to final solicitation release?	The Government will provide the MOE/MOP document with the release of the final solicitation.

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10	SOW	C.1.1	The Government received a number of questions and comments about the possibility of submitting a proposal for either the MSV or the UV instead of for both. The answer to these questions and comments can be summarized as follows:	Proposals can be submitted for either the MSV or UV, or both.

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22	SOW	C.1.2.1	34. Section 3, Draft Scope of Work: C.1.2.1 Design Approach. The design approach identified does not appear to take into account the CSA's focus on identifying those technologies that can be quickly inserted into existing platforms/systems sooner rather than waiting to field a complete solution later. This design approach focuses on making trade-offs necessary to meeting a contractor determined optimized complete solution instead of focusing on individual technologies which could be inserted into existing platforms.	The spec is based upon meeting the UA requirements. There is nothing in the spec that precludes the use of an existing platform

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24	SOW	C.1.2.1	36. Section 3, Draft Scope of Work: C.1.2.1 Design Approach. The design approach also fails to take into account previous government efforts in technologies associated with either of the two platform sizes. An example is the recently completed Hybrid-Electric HMMWV project. This project has already taken a HE powertrain further than even the ACTD presently plans. The ACTD strategy should consider the results of this project and provide some direction as to how this technology is to be incorporated into the ACTD rather than have contractors guessing as to the government's position on how previous projects are to be considered.	Each contractor is responsible for defining their individual program plan to execute the Scope of Work. The performance specifications specify the requirements which the offerors must satisfy with consideration of previous projects as they see fit.

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26	SOW	C.1.2.2.1.1	38. Section 3, Draft Scope of Work: C.1.2.2.1.1 Mobility Analysis. Will the government run the NRMM based on the contractor's input data, and share the results with the contractor?	The NRMM code is provided at no cost to the contractors to use for their own analysis purposes. The government can also run the NRMM analysis based on the contractor's input data for the government's internal purposes. However, the government will review and discuss the results with the contractors providing input data.

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27	SOW	C.1.2.2.1.6/3.6	39. Section 3, Draft Scope of Work: C.1.2.2.1.6 Pit Stop Design. Is there any further definition of Pit Stop design? How will a contractor know whether or not his design meets the Pit Stop Philosophy? If the contractor meets the requirements of para 3.6 does that automatically mean that he has achieved this requirement?	The specific Pit Stop measures of excellence, metrics and goals are defined when the activities in C.1.2.2.1.6 are being conducted. The Pit Stop efforts will assist the contractor in meeting the requirements in the Performance Specifications including Section 3.6. See answers to ID 60, 151, 213, 214.

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31	SOW	C.1.2.3/C.1.2.2.1	43. Section 3, Draft Scope of Work: C.1.2.3 Preliminary Detailed Design. Is the Preliminary Detailed Design the result of the M&S activities identified in C.1.2.2.1? If not what is difference?	Yes.

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32	SOW	C.1.2.4	44. C.1.2.4 Detailed Design. Is this the result of the activities identified in C.1.2.2.8? If not what is difference?	C.1.2.4 Is based on the result of all activities including CDR. (C.1.2.2.1-C.1.2.2.8) This is correct assuming the reference is (C.1.2.2.1.8) in the SOW.

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60	SOW	C.1.2.2.1.6	72. FTTS-ACTD SOW, C.1.2.2.1.6 Pit Stop Design Recommendations: Increase use of and reliance on digital modeling. Limit scale models to rapid prototypes. Reasons: Increased leverage of digital modeling will reduce development costs and increase the number of iterations possible prior to IPT final review. Benefits: This will result in an improved design and lower development costs within the timing constraint.	Our recent experience with pit stop engineering has shown us that the combination of M&S and scale models works very well together. See answers to ID 27, 151, 213, 214.

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149 SOW	C.1.2.2.1/C.1.2.1.8	161. Section C, Item Number: C.1.2.2.1 Topic: Initial Contractor M&S Requirement: Perform M&S as described in C.1.2.2.1.1 to C.1.2.1.8 Comment: Several areas of M&S are left to the contractor's discretion. Use of a common M&S environment couple to a common Validation and Verification (V&V) environment would create efficiency, foster collaboration and reduce cost. Will the government consider distributing a common environment to execute functional simulation (it appears ACE does not include such functionality), which is coupled to a common V&V environment?	No. Requiring all contractors to have the same platform/tools places a burden in terms of time and cost to transition from what they have been using to do M&S to a specific requirement. It also has the potential to reduce innovation by requiring tools that are not well suited (or are not the latest) to be used in their design process where they may have another design method that is better.

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150 SOW	C.1.2.2.1.3.2	162. Section C, Item Number: C.1.2.2.1.3.2 Topic: Concepts Analysis Requirement: Supply 3-D solids model of each MSV, UV and trailer variant Comment: The effort may be challenging under the potential budgets. This is a reflection of the design challenges, the number of variants, the performance specifications, and the optimization required for maximum commonality. Will the government consider reducing the number of variants required for this effort?	The Government recognizes the lack of available detailed requirements for the FTTS specific variants and that is why C.1.2.2.1.3.2. specifies that the concept designs are to be detailed only to the Work Breakdown Structure Level 5 (major subsystem level) for this task. Because of the relatively high level of detail concept analyses and the number of subsystems required to be included in this task, we feel this task can be executed within a small fraction of the total budget. Therefore, the government will not consider reducing the number of variants required.

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151 SOW	C.1.2.2.1.6	163. Section C, Item Number: C.1.2.2.1.6 Topic: Pit Stop Design Requirement: Scale models + virtual mock-up Comment: Scale models will require the Concept Analysis to be completed. The virtual mock-up can be completed quicker, and may negate need for the scale model.	Pit stop is a design tool. The government will use both scale and virtual models to evaluate the contractor's proposed solutions to meet the requirements specified in the Scope of Work. See answers to ID 27, 60, 213, 214.

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213 SOW	C.1.2.2.1.6	225. Reference: Draft SOW (Section C), Page: 6, Paragraph: C.1.2.2.1.6., Title: Pit Stop Design. Statement: This paragraph states "The Contractor shall integrate the Pit Stop Design philosophy." We have not been able to find in the military lists of Applicable documents any mention or guidelines related to this philosophy. Nor were we able to find any relevant relationship between this statement and the requirements in the PDs. Question: Can the government please provide detail information or direction/access to the literature (e.g. SAE, MIL-std, Text Book, technical papers?) on "Pit Stop Design philosophy"?	Pit Stop Design Philosophy was developed by the racing industry. It includes reducing or eliminating all Preventive Maintenance Checks and Services (PMCS), eliminating or minimizing component and system single point failures, assuring all parts that might need replacement are easy to replace in minutes not hours, eliminating as many tools as possible, onboard diagnostics perform trouble shooting, reducing or eliminating soldier trouble shooting times, and reducing or eliminating the need for specialized maintainer training. See answers to ID 27, 60, 151, 214.

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214 SOW	C.1.2.2.1.6	226. Reference: Draft SOW (Section C), Page: 6, Paragraph: C.1.2.2.1.6., Title: Pit Stop Design. Statement: This paragraph states, "the Contractor shall optimize their design using both a one-sixth scale model and a virtual mock-up of their latest 3-D solid model designs of the FTTS OP MSV and UV chassis." To properly develop and utilize a one-sixth scale model to support accurate design optimization would require extremely high fidelity in the systems, sub-systems and component models. The integration details of these models are what usually drive the design. This aspect is not always achievable on the lower fidelity scale modeling techniques commonly used. It can be done, but cost will become extremely high. This could easily drive the cost of this model greater than that of a full size vehicle prototype. Virtual mock-ups allow for the analysis of various design considerations in much greater detail, without going to the hardware stage. Question: Can the government please provide greater detailed information regarding what is to be accomplished by this request and provide greater detail of the fidelity of the models expected since this has a direct relationship on development costs?	The one-sixth scale model will not have the fidelity that can be put into a virtual model. The scale model will be developed down to level 5 of the WBS (attachment 8). The scale model will allow the Government and contractor team to review the vehicle architecture (component packaging), determine potential maintenance concepts and problems, analyze the placement of components, understand mechanical, electrical linkages, and fluid flows, etc. See answers to ID 27, 60, 151, 213.

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217 SOW	C.1.2.2.2.3	229. Reference: Draft SOW (Section C), Page: 8, Paragraph: C.1.2.2.2.3., Title: Survivability Modeling. Statement: The ACTD Draft Scope of Work, paragraph C.1.2.2.2.3 describes a "signature analysis task", but provides no "signature" specification requirement for any of the MSV or UV trucks and trailers. Without the basic truck or trailer signature requirement, it is not possible to assess the specification and provide any meaningful comment on its design or program impact. Since this is a critical task within the overall S.O.W., the government is encouraged to release this specification requirement for comment prior to the releasing the formal RFP. Question: Will the MSV and UV signature requirements referred to in paragraph C.1.2.2.2.3 be made available to industry for review prior to the release of the formal RFP? When might industry expect access to this specification requirement?	The specifications have been revised to include the unclassified content. The classified content will not be released until after award.

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218 SOW	C.1.2.2.2.5	230. Reference: Draft SOW (Section C), Page: 8, Paragraph: C.1.2.2.2.5., Title: Vulnerability Analysis. Statement: The ACTD Draft Scope of Work, paragraph C.1.2.2.2.5 describes a "ballistic vulnerability analysis task", but provides no "ballistic" specification requirement for any of the MSV or UV trucks and trailers. Without the basic truck or trailer ballistic requirement, it is not possible to assess the specification and provide any meaningful comment on the design or program impact. Since this is a critical task within the overall S.O.W., the government is encouraged to release this specification requirement for comment prior to the releasing the formal RFP. Question: Will the MSV and UV ballistic requirements referred to in paragraph C.1.2.2.2.5 be made available to industry for review prior to the release of the formal RFP? When might industry expect access to this specification requirement?	The specifications have been revised to include the unclassified content. The classified content will not be released until after award.

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219	SOW	C.1.1.2	231. Reference: Draft SOW (Section C), Page: 2, Paragraph: C.1.1.2., Title: FTTS Modeling and Simulation. Statement: C.1.1.2. FTTS Modeling and Simulation. Question: Will copies of the FTTS Capabilities Development Documents (CDD) be provided (for both the MSV and the UV) and, if so, when will they be made available?	CDD is not available for public release. All CDD references shall be removed from the performance specification documents.

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229	SOW	C.1.2.2.2.5.1	241. Reference: Draft SOW (Section C), Page: 9, Paragraph: C.1.2.2.2.5.1., Title: Models and Data. Statement: The ACTD Draft Scope of Work, paragraph C.1.2.2.2.5.1 describes a requirement to provide CAD solid models of four FTTS variants including all subsystems down to Level 5 of the WBS furnished in accordance with Attachment 10. Attachment 10 lists the preferred CAD software and acceptable CAD software alternatives. Both the preferred software and listed alternatives vary by "task". Question: a) Please confirm that there will be no proposal evaluation decrement if a contractor proposes to use any of the listed CAD software alternatives for a given task. B) Can additional CAD software alternatives, such as CATIA V4 be considered?	a) The proposer may use any software that is listed in attachment 10 and will not be penalized for using a particular software that is listed. b) The proposer must verify the compatibility of the CAD software they are using with the CAD software specified in attachment 10.

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230	SOW/Attachment 11 WBS	C.1.2.2.2.5.1	<p>242. Reference: Draft SOW (Section C), Page: 9, Paragraph: C.1.2.2.2.5.1., Title: Models and Data.</p> <p>Statement: The ACTD Draft Scope of Work, paragraph C.1.2.2.2.5.1 describes a requirement to provide CAD solid models of four FTTS variants including all subsystems down to Level 5 of the Work Breakdown Structure (WBS). The concern with the wording of this requirement is that there could be various interpretations of the exact content and fidelity of a "Level 5" breakdown. Question: Please clarify and/or provide examples of what component detail is anticipated with at the "5th Level" of the WBS. Is it the intent that the 5th level stops at the subsystem (e.g., cooling system) level or goes to the component assembly (e.g., radiator assembly) level? If it is intended that the "Level 5" CAD solid models to go down to the component assembly level, please confirm that fasteners, wire harnesses, hose assemblies, plumbing fittings, and other miscellaneous small parts are not required for a "Level 5" breakdown.</p>	Attachment 8 defines the level 5 WBS for the UV and MSV Demonstrator and Objective Performance.

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327	SOW	C.3.7.3	<p>22. Reference: Section C Draft SOW, Page: 14, Paragraph: C.3.7.3., Title: Maintenance Demonstration</p> <p>Statement: There is no narrative after the paragraph title line.</p> <p>Question: Will the government be furnishing a draft of this particular paragraph requirement to industry for comment prior to releasing the formal RFP? If so, when will this additional information be available for review?</p>	The orphan heading will be removed.