

FUTURE TACTICAL TRUCK SYSTEMS
ADVANCED CONCEPT TECHNOLOGY DEMONSTRATION
(FTTS ACTD)

Section C Scope of Work
6 July 2004

C.1. INTRODUCTION

The Contractor, as an independent Contractor and not as an agent of the Government, and within the schedules and constraints set forth herein, shall provide the concepts, analysis, models, simulations, design, subsystems selection, fabrication and test activities in support of the Future Tactical Truck Systems (FTTS) Advanced Concept Technology Demonstration (ACTD) program as required by this Scope of Work and the attached FTTS Maneuver Sustainment Vehicle (MSV) with Companion Trailer and Utility Vehicle (UV) with Companion Trailer Performance Specifications (Attachments 1 and 2). This Scope of Work (SOW) is broken down into two work efforts. Initial awards will be for a Modeling and Simulation effort, lasting approximately eight months with a Preliminary Design Review (PDR) 90 days after award and a Critical Design Review (CDR) 8 months after award. At the conclusion of the CDR, the Contractors will be required to submit a proposal for the hardware demonstration work effort. The Government will then down select to one or more awards: for two (2) MSV Distribution variants with options for up to three (3) MSV Distribution variants and up to five (5) Companion Trailers; and for seven (7) UV Support variants with an option for up to two (2) Companion Trailers. Section C.9.0 provides a detailed breakdown of SOW requirements for the initial Modeling and Simulation effort and the subsequent Hardware Demonstration effort.

C.1.1. Program Objective. The objective of the FTTS ACTD is to assess key technologies and emerging Future Army (FA) Sustainment Concepts in developing the requirements of an optimized Maneuver Sustainment Vehicle (MSV) and Utility Vehicle (UV) for the Unit of Action. This will be accomplished through extensive modeling and simulation (M&S) and the use of demonstrators. Contractors, after down select, shall demonstrate the performance of either the MSV Distribution variant or UV Support variant or both to include options for Companion Trailers for each vehicle. The platform is defined as the base chassis system. The variant is a mission specific capability, which could use a modular or dedicated mission equipment package integrated with the base chassis.

C.1.1.1. FTTS Modeling and Simulation. The Contractor shall perform M&S to design and analyze the proposed FTTS demonstration platforms and the FTTS Objective Performance. Concurrently, the Contractor shall establish a growth strategy for how the demonstration platforms will meet Objective Performance requirements. The demonstrator M&S results will be substantiated by the operational test data, where applicable, and will be used by the Government to supplement and extend the demonstration results available from the limited number of demonstrators and sustainment scenarios conducted during the Military Utility Assessment (MUA). The Government will also use the results of this M&S effort to refine the FTTS Capabilities Development Documents (CDD).

C.1.1.2. FTTS Demonstrators. The Contractor(s) shall design and fabricate two (2) FTTS MSV Distribution variants with options for up to three (3) MSV Distribution variants and up to five (5) MSV Companion trailers and/or seven (7) UV Support variants with an option for up to two (2) UV Companion Trailer demonstrators. These demonstrators shall meet the performance as defined in Attachments 1 and 2 (unless successfully traded off as outlined in C.1.2.1.1)". The demonstrator performance, acceptable for the Military Utility Assessment (MUA), is defined in Attachment 3 - ACTD Demonstrator Capabilities and Priorities.

C.1.1.3. Advanced Collaborative Environment (ACE).

The Government FTTS Advanced Collaborative Environment (ACE), as described in Attachment 13, shall be used to facilitate real-time collaborative program management and to integrate Contractor M&S and Program Management data. This enables the ability of the Contractor and the Government to work collaboratively. The Contractor must integrate and communicate with the Government within the FTTS Advanced Collaborative Environment.

The Contractor shall include an ACE Integration Plan within the Program Plan (refer to C.1.2.). The plan will address the following:

- 1) Inputting/Connecting Contractor data to the ACE environment.
 - 2) Data Conversion.
 - 3) Additional Collaborative tools available.
 - 4) The Conduct of Distributed Meetings.
- (DI-MISC-80711, Program Plan) (CDRL A001)

C.1.2. Program Plan. The Contractor shall develop and provide an FTTS ACTD Program Plan, available NLT 30 days after award. The plan shall describe the Contractor's proposed approach to design, fabricate, and test demonstrator(s) representing the Contractor's solution for meeting the MSV with Companion Trailer and/or UV with Companion Trailer Performance Specifications in Attachments 1 and 2 as well as MOE/MOP (Attachment 3). In addition, the plan shall include the detailed approach, using M&S, required to mature the demonstrator designs to be fully compliant with the FTTS Objective Performance. All items described in this SOW shall be addressed in the Program Plan. A Program Schedule is provided for reference, as Attachment 4. If required, the Contractor(s) selected for the Fabricate and Demonstration phase of the program will update the Program Plan to reflect agreed to changes that occurred in the first phase of the program. (DI-MISC-80711, Program Plan) (CDRL A001)

C.1.2.1. Design Approach. – The Contractor's technical approach shall be developed and described, in sufficient detail, to meet the requirements defined in this SOW and the attached FTTS MSV with Companion Trailer and/or UV with Companion Trailer Performance Specifications (Attachments 1 and 2). (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.1.1. Preliminary Detailed Design. - The objective of the Preliminary Detailed Design is to model both the demonstrator design and the 2010 Objective Performance design and simulate their performance in order to assess their compliance with the Performance Specifications. Descriptions of the design trades and rationale used for selecting major demonstrator subsystems and components, and the specific design approach shall be identified. ACTD Demonstrator Capabilities and Priorities (Attachment 3) is the critical set of requirements that shall be demonstrated by the Contractor. The Contractor shall make every effort to satisfy all the performance specifications in Attachments 1 and 2. The Contractor shall provide rationale for any trade-offs against Attachments 1 and 2. Rationale for the use of specific commercial, dual-use, substitute or non-developmental items in the demonstrators and applicability of those items to an Objective FTTS design shall also be included. Data shall be presented at the time of PDR. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.1.2. Detailed Design. – The objective of the Detailed Design is to take the preliminary design from the M&S work and define the vehicle to a point that the demonstrator can be fabricated. Based on data presented at IPRs up to and including Critical Design Reviews (CDR), a demonstrator fabrication decision will be made. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2. Modeling and Simulation. The Contractor's M&S program must not only predict the demonstrator's performance, but also assess the Objective Performance (OP) of the fielded system, contained in the FTTS MSV with Companion Trailer and/or UV with Companion Trailer Performance Specifications (Attachments 1 and 2). The latter effort will be referred to as the FTTS Objective Performance (OP). Details of the Contractor's M&S program, including details on all Verification and Validation (V&V) activities, shall be described in the Contractor's FTTS Simulation Support Plan (SSP) and delivered, as an appendix to the Program Plan (see C.1.2.), 30 days after award. The SSP format is described in Attachment 6, chapters 6 and 7, including an outline. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1. Initial Contractor M&S. The Contractor shall deliver all M&S data and models, as described in this paragraph as well as the subparagraphs C.1.2.2.1.1 to C.1.2.2.1.8 to the Government at the Preliminary Design Review (PDR), three (3) months after award. Models and data used by the Contractor for their own design and performance analyses may be submitted in place of new data, provided that the input data sheets or files used to generate the results are also supplied to the Government. All input data sheets or files that are delivered shall be complete to a level that permits the Government to validate the results of the analysis. If the Contractor's analysis tool, for a particular analysis, is different than the one that the Government uses, the Contractor shall also complete and deliver the data sheet for the analysis tool used by the Government, as described in the paragraphs below. All data and models provided by the Contractor may be used for Government analysis. Unless otherwise stated, the data and models provided shall support M&S of both demonstrator performance and the FTTS OP. The mission variants included in the models and data shall be the MSV Distribution variant, the UV Support variant, and their associated Companion Trailers (except for the Physical Architecture Assessment (C.1.2.2.1.3.) and Operational Effectiveness Analysis

(C.1.2.2.1.4.)). These two variants with trailers represent missions that are to be assessed during the Military Utility Assessment (MUA). All other MSV and UV variants with associated Companion Trailers, shall be evaluated in detail during the post-CDR Government analysis (see section C.1.2.2.2 and its sub-sections). Additionally, all characteristic data and projected performance shall include the rationale, assumptions, design methodology and supporting field test data (if any) in sufficient detail for technical review and validation of contractor performance predictions and claims.

C.1.2.2.1.1. Mobility Analysis. The Contractor shall provide the data and models necessary for evaluating the mobility performance of both the demonstrators and the FTTS OP against the requirements as stated in the MSV with Companion Trailer and UV with Companion Trailer Performance Specifications (Attachments 1 and 2). In addition, the Contractor shall submit fully completed Mobility, Dynamic, and Propulsion data sheets for both the demonstrator and FTTS OP variants (see Attachment 7 – Mobility/Dynamics Analysis Input Data and Attachment 8 – Cooling Performance Analysis Data). The data shall be used to evaluate all mobility, propulsion system and vehicle handling requirements to include, but not limited to, the Mobility Rating Speeds and maximum percent no-go from the NATO Reference Mobility Model (NRMM Version 2.5.7 or higher), gradeability and slope performance, speed, acceleration, ride quality and shock performance, highway lane change operations and fuel consumption. (DI-MCCR-80700, Initial M&S Data) (CDRL A002) (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1.2. Material Handling Equipment (MHE) Analysis. The Contractor shall provide the data and models necessary for evaluating the MHE performance of both the demonstrators and the FTTS OP(s) against the requirements called out in the MSV with Companion Trailer and/or UV with Companion Trailer Performance Specifications (Attachments 1 and 2). The Contractor is required to design, develop and demonstrate a load handling approach to satisfy these requirements. (DI-MCCR-80700, Initial M&S Data) (CDRL A002) (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1.3. Physical Architecture Assessment. The Contractor shall deliver 3-D solid model Computer Aided Design (CAD) geometry, in

accordance with Attachment 10 Computer Aided Design (CAD) Requirements, and associated data as described in C1.2.2.1.3.1 – C.1.2.2.1.3.3 for both the demonstrators and the FTTS OP. (DI-SESS-81001B, Initial CAD Data) (CDRL A007) (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1.3.1. Weight Analysis. The Contractor shall compute the theoretical curb weight, payload, Gross Vehicle Weight (GVW) and Gross Combined Vehicle Weight (GCVW), including the trailers, for the demonstrators and all FTTS OP variants in Attachments 1 and 2. The weight analysis shall include estimates for each component at the WBS Level 5 (See Attachment 11 Work Breakdown Structure (WBS)) as a minimum. (DI-MCCR-80700, Initial M&S Data) (CDRL A002)(DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1.3.2. Concepts Analysis. The Contractor shall develop concepts and analyses of the demonstrators and FTTS OP in the MSV Distribution variant with Companion Trailer and/or UV Support variant with Companion Trailer configurations. The Contractor shall also develop concepts of the other FTTS OP variants (MSV: fuel, water, wrecker, Tactical Unmanned Aerial Vehicle (TUAV) Carrier, Non Line of Sight – Launch System (NLOS - LS) and Companion Trailer; UV: Command and Control (C2), Ambulance, and Companion Trailer). Each concept, shall include a 3-D solid model representation and a 2-D three view drawing with dimensions; illustrate space claims, payloads, functional performance, interfaces of major subsystems (level 5 of the WBS) and select design details which illustrate the versatility, commonality and mission specific requirements of Attachments 1 and 2. In addition, the Contractor shall be provided Input data (keyframes from engineering analysis toolsets, VRML2.0 files, ProductView animation sequences or other suitable alternatives) such that key design features may be animated and reviewed in ProductView to provide greater visibility to key aspects of their designs. (DI-SESS-81001e, Initial CAD Data) (CDRL A007) (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1.3.3. Transportability Analysis. The Contractor shall submit information and calculations showing how the demonstrators and all FTTS OP will meet the air, highway, rail and marine transportability requirements of the MSV with Companion Trailer and/or UV with Companion Trailer

Performance Specifications (Attachments 1 and 2). The information shall include engineering descriptions of lifting and tiedown provisions including type, location and strength, and all Gross Vehicle Weight/Gross Combined Weight (GVW/GCW) vehicle dimensions, weight distribution, length, width, height, approach/departure angles, ramp crest angle, axle loads and locations, Center of Gravity (CG) at GVW, CG at GCW. The information shall also include an analysis and description of vehicle preparation procedures and average times to complete for transportability. The Contractor shall provide diagrams of the intended rigging of the vehicle for crane and external helicopter lift, indicating components, materials and construction. Diagrams shall locate by dimension the apex and spreader bar (if any), including stowage location, if required. (DI-PACK-80880C, Transportability Report)(CDRL A003) (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1.4. Operational Effectiveness Analysis. The Contractor shall submit fully completed Operational Effectiveness Analysis data sheets (Attachment 12) for all FTTS OP MSV variants with Companion Trailer and/or all UV variants with Companion Trailer. The Government will use this data to evaluate the Contractor's force effectiveness, survivability approach and logistic improvements against a baseline Heavy Expanded Mobility Tactical Truck (HEMTT), High Mobility Multi-purpose Wheeled Vehicle (HMMWV), Family of Medium Tactical Vehicles (FMTV), Paletized Loading System (PLS), and Compatible Trailers using Combined Arms and Support Task FORce Evaluation Model (CASTFOREM). (DI-MCCR-80700, Initial M&S Data) (CDRL A002)(DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1.5. Cost Analysis. The Contractor shall provide Unit Production Costs (UPC) for all FTTS OP variants and for all trailers associated with the FTTS systems. For estimating purposes, the UPC shall be based on a production quantity of 6,000. The total production quantity is equal to the sum of the products of the production quantity of each variant and the number of Unit of Actions (UAs) equipped plus the sum of the products of the production quantity of each FTTS OP trailer and the number of UAs equipped. See Attachment 15 for the quantities of each variant and each trailer. The costs for the FTTS OP variants shall be provided to WBS level 5 (see Attachment 11). (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1.6. Pit Stop Design. The Contractor shall integrate the Pit Stop Design philosophy, which emphasizes ease of maintenance, repair and reduction/elimination of tools, into their design process. Using a multi-discipline Integrated Product Team (IPT), 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 or UV chassis. Using scale models, built by the Contractor, of each component (down to level 5 of the WBS) represented in the design, the IPT shall reconstruct the model piece by piece following Standards of Excellence developed earlier in the session by the IPT, resulting in a design that meets the performance specifications and is easy to operate, maintain, and repair. In parallel to the construction of the scale model, a virtual model shall be constructed to capture the results of the effort. To create the virtual model, the Contractor shall translate their 3-D CAD model into ProductView format. The Government will facilitate the session at RDECOM-TARDEC and will participate as part of the IPT. The Pit Stop Design session shall be conducted on a mutually agreed upon date between the PDR and CDR. The date shall be determined as part of the PDR. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.1.2.2.1.7. Reserved.

C.1.2.2.1.8. Revised Contractor M&S. At the Critical Design Review (CDR), 8 months after award, the Contractor shall update all key data, data sheets and vehicle models resulting from any design change based upon any Government feedback on Initial Contractor M&S. (DI-MCCR-80700, Initial M&S Data) (CDRL A002)

C.1.2.2.2. Post-Critical Design Review (CDR) Government Analysis.

The Contractor(s) selected for the Fabrication and Demonstration phase of this program shall deliver the M&S data (c.1.2.2.2.3 – c.1.2.2.2.5.3) to the Government 3 months after down select. This data will support further Government analysis of the MSV Distribution and UV Support variant and additional Government analysis on the other FTTS OP variants (MSV: fuel, water, wrecker, Tactical Unmanned Aerial Vehicle (TUAV) Carrier, Non Line of Sight – Launch System (NLOS - LS), and Companion Trailer; UV: Command and Control (C2), Ambulance, and Companion Trailer). The final update shall be 30 days after the completion of the MUA. (DI-MCCR-80700, Post-CDR M&S Data) (CDRL A004)

C.1.2.2.2.1. Reserved.

C.1.2.2.2.2. Reserved.

C.1.2.2.2.3. Survivability Modeling. The Contractor shall provide all models and data, including input files that they used for signature analysis of their FTTS OP MSV-Distribution variant with Companion Trailer and/or UV-Support variant. In addition, the Contractor shall complete and deliver the input data sheets provided by the Government (see Attachment 14 – Survivability Analysis Input Data). The Government will use this data to evaluate the designs versus the performance specifications found in the classified annex to Attachments 1 and 2. (DI-MCCR-80700, Post-CDR M&S Data) (CDRL A004)(DI-MISC-80711, Final Technical Report) (CDRL A006)

C.1.2.2.2.4. Human Factors Analysis. The Contractor shall provide all models and data, including input files that were used for human factors analysis of their designs. The Contractor shall also deliver 3-D CAD files representing the cab portion of the FTTS OP (MSV Distribution variant and/or UV Support variant). The files shall be delivered in accordance with Attachment 10 and shall be of sufficient detail for an independent Government analysis of crew functionality and crew task loading. (DI-MCCR-80700, Post-CDR M&S Data)(CDRL A004)(DI-MISC-80711, Final Technical Report) (CDRL A006)

C.1.2.2.2.5. Vulnerability Analysis. The Government will perform a ballistic vulnerability analysis based on models and data provided by the Contractor. This analysis will assess the vulnerability of the Contractor's designs in the areas of ballistic shock, behind armor debris, and fragmentation and blast. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.1.2.2.2.5.1. Models and Data. The Contractor shall provide CAD solid models of the FTTS OP (MSV Distribution variant, UV Support variant, and Companion Trailers). The models shall include all subsystems down to level 5 of the WBS. Included with the models shall be information describing weights, materials, and general functionality of each subsystem. All data delivered shall be cross-referenced with the filename of the corresponding subsystem CAD model. The models shall be provided in

accordance with Attachment 10. (DI-SESS-81001e, Post-CDR CAD Data) (CDRL A008)(DI-MISC-80711, Final Technical Report) (CDRL A006)

C.1.2.2.2.5.2. Structure and Armor Description and Performance. The Contractor's models shall accurately depict structure and armor thickness. The Contractor shall include data describing the weight, thickness, and theoretical performance of the structure and armor. The theoretical performance data shall include the round type that the armor is able to defeat the velocity and distance at which the round was fired, and the obliquity at which the round impacted the armor. In addition to the data described above, actual armor test data shall be provided, if available, and shall include the residual penetration into the witness plate or the amount of the target (in inches or millimeters) that was remaining after defeating the round. (DI-MCCR-80700, Post-CDR M&S Data)(CDRL A004)(DI-MISC-80711, Final Technical Report) (CDRL A006)

C.1.2.2.2.5.3. Criticality Assessment. The Contractor shall identify the subsystems that, if damaged or destroyed, would cause one of the following defined vehicle kills: Material Handling Equipment kill (MHE-kill) - The vehicle experiences an MHE-Kill if the damage causes the vehicle to be incapable of performing any of the material handling requirements of its assigned mission, and the damage is not repairable by the crew on the battlefield within a short time (<10 minutes); Communications kill (C-kill) – The vehicle experiences a C-Kill if it is damaged to the extent that it can neither transmit nor receive information by its electronic communication equipment, and the damage is not repairable by the crew on the battlefield within a short time (<10 minutes); Mobility kill (M-kill) – The vehicle experiences an M-Kill if the damage causes the vehicle to be incapable of performing any of the mobility requirements of its assigned mission, and the damage is not repairable by the crew on the battlefield within a short time (<10 minutes); Firepower kill (F-kill) – The vehicle experiences an F-Kill if the damage causes the vehicle to be incapable of performing any of the firepower (self-defense) requirements of its assigned mission, and the damage is not repairable by the crew on the battlefield within a short time (<10 minutes); Catastrophic kill (K-kill) - The vehicle suffers a K-Kill if the damage is so extensive that the vehicle is not economically repairable. Items carried on-board the vehicles that could cause catastrophic damage would be items such as ammunition, fuel, oil, hydraulic fluids, etc. This task shall be performed on one or both the MSV Distribution variant with Companion Trailer and/or UV Support variant with Companion Trailer. (DI-

MCCR-80700, Post-CDR M&S Data)(CDRL A004)(DI-MISC-80711, Final Technical Report) (CDRL A006)

C.1.2.2.2.6 **Cost Analysis**

Unit Production Cost Estimate: The Contractor shall provide a unit recurring production cost estimate for the FTTS program based on the production quantities in Attachment 15. This includes the following:

Manufacturing-the costs of material, labor, and all applicable add-ons (e.g. general and administrative, cost of money, and fee) incurred in the fabrication and assembly of the final system. The cost of purchased parts/equipment is included along with any assumed Government furnished equipment. **Recurring engineering**-the costs of all engineering efforts performed in support of production. **Sustaining tooling**-the costs of maintenance, replacement, or modification of tools and test equipment after the start of production. **Quality control**-the costs of implementing controls necessary to ensure that the manufacturing process produces a system that meets prescribed standards. **Other recurring production**-any procurement funded, recurring production costs not included in the above sub-elements. Identify what costs are included in this category. The following guidelines must be adhered to in providing the unit production cost estimate:

- i) All cost data must include all appropriate documentation, to include but not limited to all: assumptions, ground rules, sources, methodologies, and an evaluation of the limitations of the estimate.
 - ii) Provide the unit production cost to a Work Breakdown Structure Level 5.
 - iii) Specify the annual production rate assumed and the sensitivity of the unit production cost to fluctuations in the annual production rate.
 - iv) Identify the cost of any assumed Government furnished equipment that is included in the unit production cost estimate.
- (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.1.2.3. Reserved.

C.1.2.4. Reserved.

C.1.2.5. Fabrication and Assembly. The Contractor shall fabricate seven (7) fully functional UV Support variants with an option for up to two (2)

Companion Trailers configuration demonstrators and/or two (2) fully functional MSV Distribution variants with options for up to three (3) MSV Distribution variants and up to five (5) Companion Trailers configuration demonstrators, all based upon the information and data developed in the Preliminary Detailed Design and Detailed Design phases (see section C.1.2.1.1 and C.1.2.1.2). The Contractor shall present the fully functional demonstrators for acceptance as per C.4.3 before delivery to the Government test site. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.1.2.6. Demonstrator Evaluation. The FTTS ACTD Military Utility Assessment Plan will be available at the time of award. Attachment 4 describes the schedule. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.1.3. Integrated Product Teams/Concurrent Engineering. The Contractor is also encouraged to employ a management system that utilizes the concept of Concurrent Engineering to ensure that all aspects of design, engineering, quality, manufacturing, ease of maintenance, reliability, and systems support are simultaneously addressed. This entails a team approach to assure continuous effective communication between all of the disciplines involved in the development effort. The objective is to provide a reduction in the demonstrator development timeframe while assuring the fabrication of the most effective quality demonstrator with minimum engineering or other changes. The Contractor's FTTS ACTD team and management should be described in the Program Plan. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.2. RESERVED

C.3. INTEGRATED LOGISTICS SUPPORT (ILS)

C.3.1. The Contractor shall execute an ILS program for the FTTS including all variants and their Companion Trailers. The Contractor's ILS program shall maximize supportability, reduce the logistics footprint and minimize Total Ownership Cost. A joint Government and Contractor Supportability Integrated Product Team (SIPT) shall be established. At least one SIPT Meeting, not to exceed 8 hours, shall be conducted at a date agreed upon by the Contractor and Government. The Contractor shall present the FTTS

Maintenance Allocation Charts (MAC) at this SIPT Meeting for review and approval by the Government. During this SIPT Meeting, the Government will require access to the FTTS drawings or preferably the actual FTTS (hardware) representing the configuration of the FTTS being delivered under this program. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.3.2. Supportability Analysis. The Contractor shall conduct supportability analyses within their systems engineering process using MIL-HDBK-502 – Acquisition Logistics, and references within it, as guidance. The Contractor shall deliver the Logistics Management Information (LMI) Data Products resulting from their analyses down to WBS Level 5 per MIL-PRF-49506. As a result of the analysis and the LORA analysis required by paragraph C.4.4.2.1, the Contractor shall generate and deliver operations and maintenance tasks lists for the FTTS MSV, the FTTS UV Support variant and for each of their Companion Trailers. Each task list shall include: Task Title, task performer (Operator or Field Maintenance), Task Frequency (Frequency task would occur per system per year), time required to perform task and number of individuals required to perform task. The Contractor shall deliver each task list in a Microsoft Excel compatible spreadsheet. Attachment 16 – LMI Requirements, (DI-ALSS-81529, Supportability Analysis) (CDRL A009)(DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.3.3. Maintenance Allocation Chart (MAC). The Contractor shall provide MACs for the FTTS MSV Distribution variant with Companion Trailer and/or the FTTS UV Support variant with Companion Trailer down to WBS Level 5 in top-down breakdown sequence per MIL-PRF-49506, Attachment 16 – LMI Requirements, and MIL-STD-40051B. (DI-ALSS-81530, MAC)(CDRL A010) (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.3.4. Training.

C.3.4.1. Operator Training Guide. The Contractor shall provide, in Contractor format, operational and maintenance training at a level that is sufficient to support the demonstrations during the initial evaluation at the Government proving grounds and during the Military Utility Assessment (MUA) at Ft. Lewis, Washington. The training material shall be provided 90

days prior to the Acceptance Testing (AT). Development of the training guide shall be a Government/Contractor IPT effort. (DI-ILSS-80872, S Operator Training Guide)(CDRL A011)(DI-MISC-80711, Final Technical Report) (CDRL A006)

C.3.4.2. Operator's and Maintainer's New Equipment Training (NET). The contractor shall conduct Operator's and Maintainer's New Equipment Training (NET) courses at each evaluation site for two classes with a maximum of 15 students each, 30 to 45 days prior to the start of assessment for the demonstrator. The Contractor shall provide student and instructor materials. (DI-ILSS-80872, Operator's and Maintainer's New Equipment Training) (CDRL A013) (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.3.5. Embedded Equipment Publications. The Contractor shall develop the embedded equipment publications for all FTTS demonstrators. The Contractor format is acceptable, but must be in compliance with the Army's two-level maintenance concepts. The embedded publication shall include all operations and field maintenance tasks (including required troubleshooting and embedded diagnostics routines). Where possible, diagnostics shall be interactive with the vehicles. (DI-MISC-80711, Final Technical Report) (A006)

C.3.6. Reserved.

C.3.7. Reliability, Availability and Maintainability (RAM). The Contractor shall establish and maintain a RAM program throughout the development of FTTS. The RAM program shall specifically address the requirements of Attachments 1 and 2. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.3.7.1. Failure Modes, Effects, and Critical Analysis (FMECA). The Contractor shall develop a program for Failure Mode, Effects, and Critical Analysis (FMECA) down to the WBS level 5. The FMECA program shall include a description of how the Contractor shall acquire and utilize design data, or Contractor test data, for the development of required maintenance actions to correct failures, total maintenance repair times, and sources of the data for repair times. The FMECA program shall be conducted

concurrently with the design effort so that the design will reflect predicted R/M. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.3.7.2. Test Incident Reports/Failure Analysis & Corrective Action Report (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.3.7.2.1. The Contractor shall be responsible for accessing the test site computer databases, i.e. Versatile Information Systems Integrated On-line Nationwide (VISION)/ Army Test Incident Reporting System (ATIRS), for all Test Incident Report (TIR) data during Government-required tests. Receipt of a TIR is defined as the day the TIR is posted to the database (TIR Release Date). Upon receipt of a TIR, the Contractor shall determine the root cause of the failure and furnish a Failure Analysis and Corrective Action Report (FACAR) with the proposed corrective actions set forth in this contract provision. The FACAR (i.e. Section VI of the TIR) shall be prepared by the Contractor in the ASCII format Corrective Action data stream identified at Attachment 10 of the contract and as described in the DI-RELI-81315 (T) (CDRL A017).

C.3.7.2.2. No Contractor entries are required in data blocks 102, 103, 104, and 105. The first Contractor entry for each FACAR shall record OPEN in data block 100. No subsequent changes should be made to data block 100. Responses to data blocks 120-123 shall also include the data identified in DI-RELI-81315 (T) (CDRL A017). With the exception of the supporting documents, all required text shall be submitted to VISION/ATIRS through the ASCII format Corrective Action data stream.

C.3.7.2.3. TIR Response Times. Critical TIRs require responses shall be responded to within the following time frames and submitted per C.3.7.2.1 and C.3.7.2.2 above:

Critical - Telephonically within twenty-four (24) hours:

- Interim response (electronic) within five (5) days of COR notification;
- Final response (electronic) within thirty (30) days of COR notification.

All other TIRs (Major, Minor, or Informational) shall be responded to per COR direction.

C.4. QUALITY ASSURANCE PROGRAM AND DEMONSTRATOR

PERFORMANCE EVALUATION (DI-MISC-80711, Final Technical Report)
(CDRL /A006)

C.4.1. Quality Management System. The Contractor shall provide evidence of a Quality Management System per ISO 9000-2000 requirements or an equivalent program. The Contractor shall provide copies of certificate(s) of registration or certification(s) of compliance to a recognized quality management standard and a copy of their documented procedures for review by the Government. The Contractor shall implement and maintain the Quality Management System throughout the life of the contract. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.4.2. Vehicle Inspection Record. The Contractor shall develop a Vehicle Inspection Record (VIR) and present it to the Government representative thirty (30) days prior to acceptance testing. The VIR shall record all tests and inspections of the performance and safety characteristics of the demonstrators. All in-process inspections and tests conducted during the manufacturing of the demonstrators shall be made available to the Government representative during acceptance testing of the MSV and UV with Companion Trailers.(DI-NDTI-80809B, Vehicle Inspection Record)(CDRL A012) (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.4.3. Acceptance Test (AT). Acceptance Testing (AT) of the demonstrator FTTS MSV and UV with Companion Trailers shall be conducted by the Contractor at the Contractor's facility and witnessed by the Government. The Acceptance Test shall consist of performance and safety characteristics identified in the FTTS MSV and/or UV with optional Companion Trailers specifications (Attachment 1 and 2), which shall be agreed upon and approved by the FTTS Demonstration IPT. Any failures occurring during AT shall be corrected by the Contractor at the Contractor's facility, and verified and approved by the IPT, prior to acceptance by the Government or any follow-on testing. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.4.4. Government Demonstrator Performance Evaluation. After AT and acceptance, the Government will conduct a Demonstrator Evaluation of the FTTS MSV Distribution variant, UV Support variant and optional Companion Trailer. The Contractor's compliance to performance

requirements as identified in the FTTS MSV Distribution variant, UV Support variant and Companion Trailer Specifications (Attachments 1 and 2), shall be verified at Government evaluation sites and delivered as required per C.4.4.2. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.4.4.1. Reserved.

C.4.4.2. Demonstrator Delivery. The Contractor shall deliver the two (2) MSV Distribution variants demonstrators with options for up to three (3) MSV Distribution variants and up to five (5) Companion Trailers; and/or seven (7) UV Support variants demonstrators with an option for up to two (2) Companion Trailers to the Government designated site, Aberdeen Proving Ground, for a Government safety assessment and performance evaluation, NLT February 2006. At the completion of the Government safety assessment and performance evaluation, the demonstrators shall be delivered to Ft. Lewis, Washington for the Military Utility Assessment (MUA) NLT April 2006. Specific safety assessment and performance evaluations shall be identified after PDR and receipt of the Contractor's safety assessment report. Sixty days after the first delivery of two (2) Utility Variants, two (2) of the remaining five (5) Utility Variants will be delivered to a designated site for the Marine Corps, two (2) will be delivered to a designated site for the Air Force, and one (1) will be delivered to a designated site for the Program Manager Aviation Ground Support Equipment (PMO-AGSE).

C.4.4.2.1. Logistics Demonstration (LOG DEMO) Task Analysis - The Contractor shall perform detailed task analysis of all tasks required to operate, maintain, and support the system. The task analysis shall identify all logistic support resources (i.e., manpower, force structure, facilities, support equipment, test program sets, training, initial parts allocations, etc.) required to perform each task. The Contractor shall conduct a Level of Repair Analysis (LORA) using a Government approved model, COMPASS, for predicting and analyzing support scenarios. The Contractor shall ensure standardization in support of design or design change. The Contractor shall participate and support a Government conducted Logistics Demonstration to validate the LORA and Maintainability requirements outlined in the attached FTTS Maneuver Sustainment Vehicle (MSV) Distribution variant with Companion Trailer and/or Utility Vehicle (UV) Support variant with

Companion Trailer Performance Specifications (Attachments 1 and 2). The Contractor shall provide Embedded Manuals (C.3.5) manuals in Contractor format, for both variants/configurations for Operator and Field levels of maintenance. The system shall provide intrusive diagnostic that interface and interact with the vehicle. Task information must dovetail between maintenance echelons and be supported by a Contractor Repair Parts & Special Tools List (RPSTL). The Contractor shall participate in and support the Logistics Demonstration including the Government's evaluation of the commercial technical manuals and incorporate all mutually agreed to changes into the final products. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.4.4.2.2. C4ISR System.

C.4.4.2.2.1. The Contractor shall integrate, deliver and demonstrate a C4ISR solution for each FTTS demonstration vehicle that includes the following:

C.4.4.2.2.1.1. Interfaces to SAE compliant J1708 and J1939 heavy truck data bus architectures for the purposes of diagnostics integration. These interfaces shall include the ability to connect to the vehicle's diagnostic engine, transmission, ABS systems.

C.4.4.2.2.1.2. Sufficient power generation and space claim to accommodate a Extended Position and Location Reporting System (EPLRS) UHF wideband radio, an FBCB2 computer, a SINCGARS radio, a DT3000 computer as detailed in C.4.4.2.2.1.4, MTS MT2011 Satellite Communications Transceiver and a standard military double radio rack. The specification data related to these interface requirements shall be provided GFI to the contractor on or before 45 days after award.

C.4.4.2.2.1.3. Fully functional integrated solution of a stock military version FBCB2 computer with the EPLRS UHF wideband radio as used in SBCT 2nd Brigade, which shall be referred to as the "FBCB2 solution". The FBCB2 solution shall be fully functional in a normal military operational setting and environment. One set of the FBCB2 computers and EPLRS UHF radios shall be provided GFE to the Contractor on or before February 2006.

C.4.4.2.2.1.4. Fully functional integrated, embedded dash-mounted DT-3000 computer, which will be compatible with and reportable through a MTS Control Station utilizing the MT2011 satellite communications transceiver. The MT2011 transceiver will have integrated GPS receiving capability. The resultant solution will have the ability to provide the following functionality and capability and that capability must be reportable through a MTS Control Station:

- World wide NIMA Map display with friendly and enemy vehicle icons, position location and vehicle bumper number.

- Near real-time email messaging capability with a capacity of 1000 character messages at a time.

- Interface to the J1708/J1939 diagnostic network with the capability to collect, interpret and store electronic controller data from the vehicle's engine, transmission, and ABS modules.

- Automated Inventory Tag (AIT) interrogation capability. This includes the ability to interrogate and save the data from SAVI series 400 and 600 tags. The solution must have the capability to interrogate a tag affixed to an ISO container or pallet of up to 11 tons, while the container is loaded into the back bed of the FTTS demo vehicle. The vehicle bed (AIT tag reader) portion of the solution shall be developed using the Contractor defined specifications, but, must have the capability to read data from SAVI 400 and 600 series tags.

- 1 Ghz central processor

- 40 GB of central data storage.

- Display thermal/infrared/all-weather vision capability

These solutions shall be fully functional in a normal operational setting and environment. The DT-3000 computers and the MT2011 transceivers shall be provided GFE to the Contractor on or before February 2006.

C.4.4.2.2.1.5. SINCGARS Radio.

The Contractor shall install a standard military SINCGARS radio in each FTTS demonstrator vehicle. The installation shall provide for full functionality of voice communications in a normal military operational setting and environment. The SINCGARS radios shall be provided GFE to the Contractor on or before February 2006.

C.4.4.3. List of Demonstration Support Items. The Contractor shall provide a List of Demonstration Support Items at the Demonstration Readiness

Review (DRR) (section C.5.4) for Government review and approval. The list shall identify the required Demonstration Support Items and their proposed sources (Government or Contractor). (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.4.4.4. Availability of Demonstration Support Items. The Contractor shall have available, at all sites, the required repair parts, tools, manuals, Test Measurement and Diagnostic Equipment (TMDE), and unique support equipment 30 days prior to test demonstration, except for whatever items the Government may choose to provide in response to the List of Demonstration Support Items submitted by the Contractor. The Contractor shall manage, control and monitor all Demonstration Support Items. All parts not on site must be available within 24 hours of official notification of requirement. At the end of test and demonstration, all unused parts shall be returned to the Contractor.

C.4.4.5. Contractor Technical Representation. The Contractor shall provide the necessary technical representation at all sites to service the demonstrator beyond all operator enabled field maintenance tasks during the demonstrations. The Contractor(s) support is required during delivery and acceptance of demonstration assets (demonstrator and support items) at the site(s). When delivered, the demonstration assets will be jointly (Government and Contractor) inspected, inventoried, and operated to assure no damage incurred during shipping or deficiencies undetected at the Contractor's facility. The Contractor(s) is required to perform any repairs or replacements required prior to acceptance of demonstration assets at evaluation sites. During demonstration, Contractor(s) technical support shall be made available as required and dependent upon failure/incident corrective action needs.

C.4.4.5.1. Deficiencies and Corrective Actions. The Contractor shall be responsible to provide corrective action for all deficiencies identified during the demonstration. The Contractor shall also supply all replacement parts and perform all sustainment level maintenance tasks as well as provide technical assistance for all field level maintenance tasks as required by the operator and maintainer.

C.4.4.6. Special Test and Inspection Equipment. The Contractor shall recommend any special test and inspection equipment, required for unique demonstrator subsystems. If any special equipment is recommended, the

contractor shall develop, maintain, and instruct testers on the operation of the special test equipment as required for the duration of Government testing. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.5. MEETINGS See Attachment 4, Program Schedule. The Contractor shall deliver an agenda and a draft briefing package for each meeting. Virtual design reviews shall be used in all meetings that review demonstrator or FTTS Objective Performance designs. All CAD data reviewed shall be imported to ProductView and presented interactively. After each meeting, the Contractor shall deliver the minutes of the meeting. (DI-ADMN-81249, Meeting Agendas)(CDRL A014)(DI-ADMN-81250A, Meeting Minutes)(CDRL A015)

C.5.1. Start of Work Meeting. The Start of Work meeting shall be held NLT fourteen (14) days after award. This meeting will be used to address any questions and/or concerns on the Scope of Work (SOW) and its attachments.

C.5.2. Preliminary Design Review (PDR). Prior to the commencement of detailed design, the Contractor shall plan and conduct a PDR, 90 days after award. The PDR shall present both the conceptual design and the modeling and simulation results for both the demonstrator design and the 2010 production design. A performance specification requirements matrix shall be provided describing the level of each performance requirement the FTTS design is predicted to achieve during the ACTD tests. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.5.3. Critical Design Review (CDR). Prior to the commencement of the Fabrication/Assembly, the Contractor shall plan and conduct a CDR, 8 months after M&S award. At the CDR, an updated performance specification requirements compliance matrix shall be provided for each requirement describing the level of performance predicted for the ACTD demonstrations. The Contractor shall present objective capabilities that could be provided in the 2010 timeframe. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.5.4. Demonstration Readiness Reviews (DRR). The demonstrator IPTs shall plan and conduct a DRR. The meeting shall review the status,

facilities, manpower, data collection, operator training and other Government test related issues. The DRR shall be conducted in conjunction with a quarterly IPR NTL 60 days before Government Safety Assessment and Performance Evaluation. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.5.5. In-Process Reviews (IPR) will be held 45 days after award and 45 days after PDR at the Contractor's facility to provide an update and/or to address any problems that have occurred. (DI-MISC-80711, Interim Technical Report/Final Technical Report) (CDRL A005/A006)

C.6. REPORTS

C.6.1. Interim Technical Report (ITR). The Contractor shall deliver to the Government an ITR which includes the content listed in Attachment 17. The ITR shall be delivered NLT 5 business days after CDR. (DI-MGMT-80711, Interim Technical Report)(CDRL A005)

C.6.2. Final Technical Report (FTR). After completion of the hardware demonstration, the Contractor shall deliver to the Government a FTR which includes the content listed in Attachment 18. The FTR shall be delivered NLT 60 days after the conclusion of the Military Utility Assessment (test) phase of the ACTD. (DI-MGMT-80711, Final Technical Report)(CDRL A006)

C.7. SAFETY PROGRAM As a result of the safety analyses, hazard evaluations, and independent Contractor testing, the Contractor shall perform and document a safety assessment in accordance with TASK 209 of MIL-STD-882B. The safety assessment shall identify all safety features of the hardware, software, demonstrator design and inherent hazards and shall establish special procedures and/or precautions to be observed by the Government test agencies and demonstrator users. (DI-SAFT-80102B, Safety Assessment Report)(CDRL A016)(DI-MISC-80711, Interim Technical Reports/Final Technical Report) (CDRL A005/A006)

C.8. ENVIRONMENTAL ASSESSMENT The Contractor shall not use cadmium, hexavalent chromium, asbestos or Class I or Class II Ozone-Depleting Substances, or other highly toxic or carcinogenic materials without Government approval. The Contractor shall not use materials that

are identified in the Registry of Toxic Effects of Chemical Substances, published by the National Institute for Occupational Safety and Health, as materials that will produce toxic effects via the respiratory tract, eye, skin or mouth. Moderately toxic materials may be used provided the design and control preclude personnel from being exposed to environments in excess of that specified in 29 CFR 1910, Occupational Safety and Health Standards.

The Contractor shall establish, implement and maintain a Hazardous Materials Management Program using National Aerospace Standard 411 "Hazardous Materials Management Program" as a guide. The purpose of this program is to eliminate or minimize (where elimination is not possible) hazardous and environmentally unacceptable materials throughout the life cycle of the system to ensure protection of human health and the environment. The contractor shall prepare a Hazardous Materials Management Plan which, at a minimum, shall identify and describe the organizational relationships and responsibilities for eliminating hazardous materials, define the process used to identify the hazardous materials utilized in the manufacturing process, and establish prioritization criteria for ranking the relative risks of these hazardous materials. This plan shall be made available for review upon request of the Government.

The Contractor shall prepare a Hazardous Material Management Report which, at a minimum, shall identify all hazardous materials (as defined in FED-STD- 313D, paragraph 3.2) required for system production, and sustainment, including the parts/process that requires them. This report should be prepared in accordance with National Aerospace Standard 411, and shall be briefed at all Program Review Meetings. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.8.1. Operations Security (OPSEC) Plan. The Contractor shall prepare and deliver to the Government and Operation Security (OPSEC) Plan as required by the contract security classification specification. (DI-MISC-80711, Final Technical Report) (CDRL A006)

C.9.0 Scope of Work (SOW) Breakdown

SOW Section	Section Heading	Modeling and Simulation	Hardware Demonstration	Both
C.1	Introduction			x
C.1.1	Program Objective			x
C.1.1.1	FTTS Modeling and Simulation			x
C.1.1.2	FTTS Demonstrators		x	
C.1.1.3	Advanced Collaborative Environments (ACE)			x
C.1.2	Program Plan			x
C.1.2.1	Design Approach	X		
C.1.2.1.1	Preliminary Detailed Design	X		
C.1.2.1.2	Detailed Design	X		
C.1.2.2	Modeling and Simulation			x
C.1.2.2.1	Initial Contractor M&S	X		
C.1.2.2.1.1	Mobility Analysis	X		
C.1.2.2.1.2	Material Handling Equipment Analysis	X		
C.1.2.2.1.3	Physical Architecture Assessment	X		
C.1.2.2.1.3.1	Weight Analysis	X		
C.1.2.2.1.3.2	Concepts Analysis	X		
C.1.2.2.1.3.3	Transportability Analysis	X		
C.1.2.2.1.4	Operational Effectiveness Analysis	X		
C.1.2.2.1.5	Cost Analysis	X		
C.1.2.2.1.6	Pit Stop Design	X		
C.1.2.2.1.7	Reserved			
C.1.2.2.1.8	Revised Contractor M&S	X		
C.1.2.2.2	POST-Critical Design Review (CDR) Government Analysis		x	
C.1.2.2.2.1	Reserved			
C.1.2.2.2.2	Reserved			
C.1.2.2.2.3	Survivability Modeling		x	
C.1.2.2.2.4	Human Factors Analysis		x	
C.1.2.2.2.5	Vulnerability Analysis		x	
C.1.2.2.2.5.1	Models and Data		x	
C.1.2.2.2.5.2	Structure and Armor Description and Performance		x	
C.1.2.2.2.5.3	Critically Assessment		x	
C.1.2.2.2.6	Cost Analysis		x	
C.1.2.3	Reserved			
C.1.2.4	Reserved			
C.1.2.5	Fabrication and Assembly		x	
C.1.2.6	Demonstration Evaluation		x	
C.1.3	Integrated Product Teams/Concurrent Engineering			x
C.2	Reserved			
C.3	Integrated Logistics Support (ILS)			x
C.3.1				x
C.3.2	Supportability Analysis			x

C.3.3.	Maintenance Allocation Chart (MAC)			x
C.3.4	Training		x	
C.3.4.1	Operator Training Guide		x	
C.3.4.2	Operator's and Maintainer's New Equipment Training (NET)		x	
C.3.5	Embedded Equipment Publications		x	
C.3.6	Reserved			
C.3.7	Reliability, Availability and Maintainability (RAM)			x
C.3.7.1	Failure Modes, Effects, and Critical Analysis (FMECA)		x	
C.3.7.2	Test Incident Reports/Failure Analysis & Corrective Action Report		x	
C.3.7.2.1			x	
C.3.7.2.3	TIR Response Times		x	
C.4	Quality Assurance Program and Demonstrator Performance Evaluation		x	
C.4.1	Quality Management System		x	
C.4.2	Vehicle Inspection Record		x	
C.4.3	Acceptance Test (AT)		x	
C.4.4	Government Demonstrator Performance Evaluation		x	
C.4.4.1	Reserved		x	
C.4.4.2	Demonstrator Delivery		x	
C.4.4.2.1	Logistics Demonstration (LOG DEMO) Task Analysis		x	
C.4.4.2.2	C4ISR System		x	
C.4.4.2.2.1			x	
C.4.4.2.2.1.1			x	
C.4.4.2.2.1.2			x	
C.4.4.2.2.1.3			x	
C.4.4.2.2.1.4			x	
C.4.4.2.2.1.5	SINCGARS radio		x	
C.4.4.3	List of Demonstration Support Items		x	
C.4.4.4	Availability of Demonstration Support Items		x	
C.4.4.5	Contractor Technical Representation		x	
C.4.4.5.1	Deficiencies and Corrective Actions		x	
C.4.4.6	Special Test and Inspection Equipment		x	
C.5	Meetings			x
C.5.1	Start of Work Meeting	X		
C.5.2	Preliminary Design Review (PDR)	X		
C.5.3	Critical Design Review (CDR)	X		
C.5.4	Demonstration Readiness Reviews (DRR)		x	
C.6	Reports			x
C.6.1	Interim Technical Report (ITR)			x
C.6.2	Final Technical Report (FTR)			x
C.7	Safety Program			x
C.8	Environmental Assessment		x	

C.8.1	Operation Security (OPSEC) Plan	x
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List of Attachments

Attachment 1 FTTS Maneuver Sustainment Vehicle (MSV) with Companion Trailer Performance Specification
Attachment 2 FTTS Utility Vehicle (UV) with Companion Trailer Performance Specification
Attachment 3 ACTD Demonstrator Capabilities and Priorities
Attachment 3a FTTS Trailers ACTD Trailer Capabilities and Priorities
Attachment 4 FTTS ACTD Schedule
Attachment 5 FTTS ACTD Program Objective Performance Priorities
Attachment 5a FTTS Trailer Program Objective Performance Priorities
Attachment 6 Simulation Support Plan Format
Attachment 7 FTTS Mobility Dynamics Data Sheet
Attachment 7 Major Subsystems Chart
Attachment 7 Wheeled Vehicles Characteristics Chart
Attachment 7 Wheeled Vehicle Performance Charts
Attachment 8 Cooling Performance Analysis Data
Attachment 9 FTTS Drive Cycle
Attachment 10 Computer Aided Design (CAD) Data
Attachment 11 Work Breakdown Structure (WBS)
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Attachment 15 Production Quantities
Attachment 16 Logistics Management Information (LMI) Data Products
Attachment 17 Interim Technical Report Content
Attachment 18 Final Technical Report Content