SECTION SF 30 BLOCK 14 CONTINUATION PAGE

SUMMARY OF CHANGES

SECTION SF 1449 - CONTINUATION SHEET

SOLICITATION/CONTRACT FORM

The total cost of this contract was decreased by $0.00 from $63,339,571.50 to $63,339,571.50.
The 'issued by' organization has changed from
NRCC GENERAL SUPPORT DIVISION
2798 HARRISON LOOP
FORT EUSTIS VA 23604
to
NRCC MISSION DIVISION
2798 HARRISON LOOP
FORT EUSTIS VA 23604

The 'administered by' organization has changed from
NRCC GENERAL SUPPORT DIVISION
2798 HARRISON LOOP
FORT EUSTIS VA 23604
to
NRCC MISSION DIVISION
2798 HARRISON LOOP
FORT EUSTIS VA 23604

The following have been deleted:
WORK STATEMENT

(End of Summary of Changes)

The following items are applicable to this modification:

SECTION SF 1449 - CONTINUATION SHEET
CONTINUATION OF BLOCK 14
D. Addendum to Work Statement

1. Replace bullets in paragraphs 4.2, 4.3, 4.5, 4.6, 4.7, 4.12.2 with sequential numbering.

2. Replace paragraph 4.6.2 with the following: "The contractor shall develop and deliver a lesson specification worksheet concurrent with delivery of each lesson. **Delete:** T*he contractor shall develop and deliver a sample/prototype lesson(s) concurrent with the IMDP. This prototype lesson shall not normally exceed one instructional hour and must demonstrate all the design strategies identified in the IMDP (i.e., conventions, performance standards, lesson content to include SCORM content packing, interface design and controls, to include the LMS SCORM communications and the courseware runtime environment, instructional strategies, testing strategies, computer managed instruction training control features, etc.).*

3. Replace paragraph 8.3.5 with the following: The contractor shall design, develop, and produce a lesson

specification worksheet for each lesson. The worksheets shall be delivered incrementally with the submission of the appropriate lesson. **Delete:** *"The contractor shall design, develop, and produce one web-based version of a prototype lesson IAW CDRL A005 (http://www.atsc.army.mil/itsd/imi/DID.asp) for government approval. After approval of the prototype lesson, the contractor shall proceed with development of IMI lessons. Upon completion, the contractor shall make the lesson(s) available via an Internet site (and CD-ROM if required by the proponent) for government proponent and ATSC review and comment. The contractor shall submit to ATSC any completed lessons immediately upon completion in order to facilitate rapid review. The contractor shall make any required changes and/or corrections, and post all revised product for government acceptance."*

4. Revise paragraph 8.4.3. Delete: "(including prototype lesson)".

5. Replace paragraph 10.9. with the following: Interactivity for IMI describes the interaction between a learner and the computer which leads directly to meaningful learning. Sensory stimuli requirements or interactions between the learner and the instructor and/or peers do NOT influence the level of interactivity. Explanation. It is undesirable, and probably not possible in most cases to produce any level of interactivity without use of some sensory stimuli/media such as audio, video, animation, or graphic. The use of sensory stimuli by themselves does not justify higher levels of interactivity; however, the complexity of the sensory stimuli is normally increased as interactivity level is increased. Therefore, the more media used does not necessarily mean the higher the level of interactivity; it is how it is used in the context of presenting instruction that makes the difference. Using collaboration that has interactions between the learner and the instructor and/or peers also does not influence the level of interactivity. While collaboration is interactive, it is not interactivity between the computer and the learner but between two or more individuals. **Delete:** *"Levels of IMI interactivity. See http://www.atsc.army.mil/itsd/imi/levels/levelsi.asp for more guidance for interactivity levels and associated levels of learning."*

6. Replace paragraph 10.9.1. with the following: Level 1 Interactivity – Passive - The learner acts solely as a receiver of information. Capable of computer generated multimedia presentations of intellectual skills (facts, rules, procedures). This level is capable of showing a procedure with computer-generated multi-media explanations of equipment operation. Level 1 is used primarily to introduce knowledge, including ideas, concepts, and processes. Information is generally provided in a linear format (one idea after another). Minimal interactivity is incorporated in the form of text, navigational icons, static graphics (e.g., photos, charts, tables) and illustrations, learner-initiated animations, and pop-ups and hyperlinks. **Delete:** *Level 1 - This is the lowest (baseline) category/level of ICW development. It is normally a knowledge or familiarization lesson, provided in a linear format (one idea after another). Category/level 1 is primarily used for introducing an idea or concept. The user has little or no control over the sequence and timed events of the lesson material. Minimal interactivity is provided by selective screen icons and inserted into the lesson through typical input/output peripherals and programming protocols. This may include simple developed graphics clip art, video and audio segments (clips). Make use of typical input/output peripherals throughout the lesson."*

7. Replace paragraph 10.9.2. with the following: Level 2 Interactivity – Limited Participation - In Level 2, the learner recalls information and responds to instructional cues. This level is used to introduce simple operational and maintenance guidelines and procedures. Moderate interactivity is incorporated in the form of learner-initiated animations, interactive graphics, activities, scenarios, and assessments (practices, knowledge checks, and tests). Interactions force learners to make decision related to the material. This level has the capability of providing drill and practice, providing feedback on learner responses, emulating simple psychomotor performance, and emulating simple equipment operation in response to learner action. This level can be used for computer evaluation of learner intellectual skills using computer-based predictive and performance test items. Immediate or delayed fixed feedback guides the learner to see the consequences and components of his performance. **Delete:** *Level 2 - This involves the recall of more information than a category/level 1 and allows the student more control over the lesson's scenario through screen icons and other peripherals, such as light pens or touch screens. Typically category/level 2 is used for non-complex operations and maintenance lessons. Simple emulations or simulations are presented to the user. As an example, the user is requested to rotate switches, turn dials, make adjustments, or identify and replace a faulted component as part of a procedure. This also may include simple to standard developed graphics, and/or clip art, and customer provided video and audio clips.*

8. Replace paragraph 10.9.3. with the following: Level 3 Interactivity – Complex Participation - In Level 3, the learner applies information to scenarios and interacts with simulations. This level is used to present more complex operational and maintenance procedures. Information is often non-linear. Moderate to high interactivity is incorporated in the form of complex interactive graphics including simulations and decision-based branched scenarios. Highly realistic scenario and equipment simulations fully involve the learner in near, part and whole task performance. After action feedback guiding the learner to fully understand the consequences and components of his adequate and inadequate performance. Feedback is based on tracking of several responses. This level is capable of providing complex branching paths based on learner selections and responses. This level can be used for computer evaluation of learner intellectual skills and performance using computer-based performance and predictive test items. Computer evaluation of learner procedural performance includes the capability to generate time and error scores for performance test items. **Delete:** *Level 3 - This involves the recall of more complex information (compared to categories/levels 1 and 2) and allows the user an increased level of control over the lesson scenario through peripherals such as light pen, touch screen, track ball, or mouse. Video, graphics, or a combination of both is presented simulating the operation of a system, subsystem, or equipment to the user. The lesson scenario training material typically is complex and involves more frequent use of peripherals to affect a transfer of learning. Operation and maintenance procedures are normally practiced with category/level 3 scenarios and students may be required to alternate between multiple screens to keep pace with the lesson material. Multiple software branches (two to three levels) and rapid response are provided to support remediation. Emulations and simulations are an integral part of this presentation. This may also include complex developed graphics, and/or clip art, and customer provided video and audio clips.*

9. Replace paragraph 10.9.4. with the following: Level 4 Interactivity - Real-Time Participation - In Level 4, the learner engages in a life-like set of complex cues and responses. This level is used to simulate highly complex operational and maintenance procedures that often support certification. Maximum flexibility and multi-level branching allow a high degree of interactivity in the form of simulator and gaming environments. This level is capable of real-time simulation of performance in the operational setting and after action and natural consequences are given based on performance. This level incorporates artificial intelligence components and employs state-of-the art technology for simulation and communication. This level can be used for computer evaluation of learner performance and intellectual skills using computer-based predictive and performance test items and the capability to generate time and error scores for performance test items. This level is often found in games with multiple players, computer-generated team players, and/or simulating decision-making incorporating multiple tasks. **Delete:** *Level 4 - This ICW category/level involves more in-depth recall of a larger amount of information (compared to lower categories/levels) and allows the user an increased level of control over the lesson. Every possible subtask is analyzed and presented with full, on-screen interaction, similar to the approach used in aircraft simulator technology. The lesson material is extremely complex and involves more frequent use of peripherals to affect the transfer of learning. This category/level normally supports certification, recertification or qualification requirements. Complicated operation and maintenance procedures are normally practiced with category/level 4 and involve all of the elements of categories/levels 1, 2, and 3 plus the following:*
High degree of interactivity.
Extensive branching (four or more levels)
Levels of sophistication - short of artificial intelligence.

10. Revise CDRLS: A005, A008, A0032 and A0033

a. **CDRL A005** Instructional Media Design Package, Block 10, **Delete:** "Include prototype lesson." **Add:** "DI_ILSS_81520B: Delete paragraph 2.4.7."

b. **CDRL A008** Instructional Media Package, Block 10, **Delete:** "DI-ILSS-81526B: Delete paragraphs 10.2.2.1, 10.2.4 and 10.2.5." **Add:** "DI-ILSS-81526B: Delete paragraphs 3.3.2.1, 3.3.5. and 3.3.7."

c. **CDRL A032** Training Evaluation Planning Data, Block 10, **Delete:** "DI-ILSS-81524B: Delete paragraphs 10.2.4 and 10.2.5." **Add:** "DI-ILSS-81524B: Delete paragraphs 2.4 and 2.5."

d. **CDRL A033** Training Evaluation Results Data, **Delete:** "DI-ILSS 81524B: Delete paragraphs 10.32.3 and 10.2.5." **Add:** "DI-ILSS-81524B: Delete paragraphs 2.3 and 2.5."

REVISED SOW

DESCRIPTIONS/SPECIFICATIONS/WORK STATEMENT

1. General. The contractor shall furnish all necessary personnel, material, equipment, facilities, and services, except as specified to be furnished by the Government, necessary to fulfill the requirements herein specified. The government shall require contractor delivery of specific products by issuance of delivery orders.

2. Background - Army Training. The Army training system integrates many on-going initiatives and future development efforts to produce a coherent, integrated education and training system and strategy to ensure soldiers and units are trained to meet Army needs. More information on Army education and training is available on the HQ TRADOC, Deputy Chief of Staff for operations and Training Internet homepage. This contract may be used by the Army to support Army education and training programs in support of the Total Army Distributed Learning Plan (TADLP).

3. Scope.

3.1 The contractor shall deliver education-training products for Headquarters, Training and Doctrine Command (TRADOC), TRADOC Centers and Schools, and other Army Agencies as required in each delivery order. The contractor shall comply with the applicable requirements listed within this work statement to the approach, design, installation, and delivery or training products required by individual task orders. The contractor shall also comply with applicable requirements included within individual delivery orders. If delivery order requirements conflict with requirements within this work statement, requirements within individual delivery orders shall take precedence unless otherwise directed by the contracting officer. However, the contractor shall identify any such conflicts to the contracting officer prior to initiating work under delivery orders that contain any such conflicts, and the contractor shall not commence performance under a delivery order containing such conflicts until they have been resolved by the contracting officer.

3.2 The contractor shall perform such tasks as: configuring authoring systems; customizing authoring systems; developing software applications and Interactive Multimedia Instruction courseware; conducting independent validation of training materials; analyzing training effectiveness, training management, and training distribution; evaluating education and training; planning, directing, and conducting the design of collective and individual education/training products; producing a variety of individual, and collective training materials; collecting training related data; developing unit, individual, and self-development training strategies, including Combined Arms Training Strategies (CATS).

3.2.1 The Instructional System Design/Systems Approach to Training (ISD/SAT) shall be used in evaluation, analysis, design, development, and implementation of training products under this SOW. The SAT process is explained in detail in TRADOC Regulation 350-70 dated 9 Mar 99 or current version at time of award of DO.

3.2.2 The Systems Approach to Training (SAT) process is a spiral approach in making collective, individual, and self-development training decisions for the total Army. It determines whether or not training is needed; what is trained; who gets the training; how well and where the training is presented. The contractor to determine and evaluate how well training takes place; the extent to which graduates and units adequately perform assigned mission, and whether training products support training objectives shall use the SAT process.

3.2.3 The contractor shall perform training requirements analysis to identify the training tasks, both individual and collective, inherent within training required by delivery orders, to identify both; and, to establish performance-based,

measurable training objectives.

3.2.4 The contractor shall analyze training requirements identified within delivery orders and develop training designs that reflect when, where, and how effective training should take place. The contractor shall also identify training resource requirements. The contractor's training requirements designs shall include recommended long and short range training strategies, recommended training media, recommended courseware, and recommended performance measurement documents.

3.2.5 The contractor shall provide train-the-trainer courses to the government and its support contractors that enable the government to assume instructional responsibility for conducting standardized training at resident and unit training sites using the products that the contractor delivers under this contract.

3.2.6 The contractor shall also perform such tasks as: redesigning existing courseware to interactive multimedia instruction (IMI); converting courseware to comply with TATS standards; configuring authoring systems; customizing authoring systems; conducting independent verification and validation of training materials and reporting results of independent verification and validation.

4. Program Management Support. This section gives examples of analysis, research, and design of products to support HQ TRADOC, TRADOC Centers and Schools and other Army Agencies based on The Army Distributed Learning Program (TADLP).

4.1 The Army Distributed Learning Program (TADLP). The contractor shall provide training analysis, design, and development products in support of TADLP and other distributed learning initiatives. The contractor shall produce Distributed Learning (DL) education and training products IAW TRADOC Regulation 350-70, dated 9 Mar 99 or current version at time of award applicable supporting TRADOC Pamphlets, and standards and specifications contained in individual delivery orders.

4.2 The contractor shall use commercially available design principles and technologies to design, develop, and deliver structured progressive and sequential DL training using a variety of media as specified in individual delivery orders. Some examples of media that shall be used include but are not limited to:

4.2.1. Interactive Multimedia Instruction (IMI) Web-based training (WBT)
4.2.2. IMI CD-ROM based training
4.2.3. Video Teletraining
4.2.4. Networked Simulations (e.g., virtual and constructive simulations)
4.2.5. Digitized print for delivery via CD-ROM or WWW

4.3 The contractor shall design DL products and courseware to address the needs and different learning styles of adult learners and shall effectively utilize and integrate asynchronous instruction, synchronous, or a mix of the two to create a blended learning environment. Methods of instruction will vary depending on the analysis conducted to determine how to best achieve the needs of the learner, capabilities and requirements of subject matter proponent, and the capability of end state delivery systems. The contractor shall produce instruction that is learner-centric, realistic, and allows learners to choose their own path through content and activities. The contractor's DL products shall apply the principle that individuals learn most effectively on their own when they follow a structured, guided training program that includes branching (to account for differences in student learning abilities and the absence of an instructor in many instances). DL products shall include, but are not limited to the following:

4.3.1. Computer-based courseware and assessment tools using an adaptive or immersive, scenario-based training approach.

4.3.2. E-mentoring, collaborative learning, bulletin board system/threaded discussions, or text-based group communication (live chat) to engage and support the learner, depending on the needs and capabilities of the proponent agency, the learner and end state delivery systems.

4.3.3. Training delivered via paper-based media, job aids, documents and slides, videotape, video teletraining, web-

based, CD-ROM; web seminars as part of the training; Electronic Performance Support Systems (EPSS), simulation, or expert/artificial intelligence programs; gaming with intelligent tutoring systems.

4.4 The contractor shall develop all web-based IMI to comply with the Advanced Distributed Learning (ADL) Shareable Content Object Reference Model (SCORM), as specified within individual delivery orders (DOs). Also the contractor shall verify that the courseware loads and functions on the Reimer Digital Library (RDL) and the Army's Learning Management System as specified in the individual delivery order (DO) prior to delivery to the government. All web based IMI shall play on the Army's Digital Training Facility (DTF) computers and home computers meeting the minimal requirements as identified in the DO.

4.5 Additionally, the contractor shall ensure that all courseware delivered as a result of Army orders placed against this contract conforms to the Army Learning Object (ALO), as specified in the DO to support loading to the Reimer Digital Library. The ALO is a structured mechanism for tagging courseware content and metadata to facilitate interfacing with existing and proposed data repositories and which will facilitate sharing courseware objects among courseware developers and systems. ALO tagging is required only for the Internet version of courseware. The specification requires creation of XML documents that conform to the ARMY LEARNING OBJECT MASTER – DTD. The following items may be found at (http://www.atimp.army.mil/atxxi/tss.asp):

4.5.1. ALO Specification
4.5.2. ALO DTD
4.5.3. ALO XML (ALO Style Sheet Template)
4.5.4. ALO XSL (Use the most recent version of the documents listed).

4.6 Unique DL design requirements, use of specific design tools, and design documentation requirements will be specified in individual delivery orders.

4.6.1. Unless otherwise indicated in a delivery order, design documentation shall be developed as specified in DI-SESS-81520 B Instructional Media Design Package (IMDP) (31August 2001or version in effect at time of delivery order award) at http://www.dtswg.org/Documents.htm with the additional requirement from TRADOC Regulation 350-70 dated 9 Mar 99, or latest version at time of award, including lesson strategy and learning steps/activities. The contractor shall deliver IMDPs based on delivery schedules included in individual delivery orders.

4.6.2. The contractor shall develop and deliver a lesson specification worksheet concurrent with delivery of each lesson.

4.6.3. The contractor shall develop storyboard documentation IAW DI-SESS-81526B Instructional Media Package (31 August 2001 or version in effect at time of delivery order award) at http://www.dtswg.org/Documents.htm.

4.7 The contractor shall develop multimedia instructional packages that include for each lesson, each module, or, when indicated, each course, a comprehensive mastery pretest (alternate form of posttest) and two end of the lesson, module, or phase tests IAW TRADOC Reg 350-70, dated 9 March 99, and the student Academic Measurement/Testing Policy Guidance (Test Policy Memo dated 6 October 01 or current version at time of delivery order award) For DL IMI web-based courseware, the contractor shall design and deliver products IAW SCORM specifications and requirements contained in individual delivery orders.

4.7.1. In lieu of structured, formalized tests, the government may require development of randomized tests or a test item data bank capable of delivering tests with a randomized sequence of questions and answer choices. At a minimum, the data bank/test must deliver an assessment (questions) sufficient to assess ELO proficiency.

4.7.2. For training products that are scenario-based, adaptive, and/or collaborative in nature that use a constructivist instructional approach, the contractor shall integrate assessments into the instruction. In constructivist-modeled instruction, learners are placed in a situation in which they make choices in various points of the lesson which then open and/or close branching paths for continuation. The learner will be involved in authentic tasks in this type of product. The contractor shall use assessments that are seamlessly integrated into meaningful learning experiences in the training product. The contractor shall ensure that evaluation of the training assesses whether or not the learner

successfully completed the task and assess the learner's ability to use the tools and information in the domain to solve the problems presented.

4.8 The contractor shall conduct and permit the government to conduct content validations and technical testing (e.g., playability, SCORM compliance, and similar design and performance requirements) incrementally as courseware content becomes available throughout the development process. The government will identify specific requirements for incremental delivery and testing in each delivery order. The contractor shall conduct its validations IAW TRADOC Regulation 350-70 dated 9 Mar 99 or current version at time of DO award) and guidance governing validation for DL that are in effect at the time of delivery order award and the milestone schedule in the DO. Contractors will verify that courseware is SCORM compliant (as required by the individual DO) using the Army SCORM Test Suite and certify courseware plays on the platforms designated in the individual DO prior to delivery of the courseware to the government.

4.9 Army Modernization Training (AMT). The contractor shall provide products required for training development, and training support related to AMT. The contractor shall also provide training product in support of Army training initiatives to the materiel acquisition process. AMT training product requirements include, but are not limited to, the following:

4.9.1 Conduct and report on SAT Analysis. The contractor shall review, research, coordinate, and submit data associated with the acquisition and fielding of new/improved materiel and training systems. The contractor shall develop and provide for review and approval of the government data that includes, but is not limited to: mission need statements, operational requirements documents, system training plans (STRAPS), new equipment training (NET) strategies, new equipment training plans, best technical approaches, concept formulation packages, cost and operational effectiveness analyses, training effectiveness analyses, trade-off analyses, trade-off determinations, basis-of-issue plans, qualitative and quantitative personnel requirements information inputs, system manpower and personnel integration management plans, combined arms training strategies, training support packages, Synthetic Theater of War (STOW) analyses, Synthetic Environment Program (SEP) analyses, and other documentation. The contractor shall deliver data in the form of print and electronic media.

4.9.2 Research, identify, develop, and document concepts and strategies to accomplish AMT (to include new equipment training, displaced equipment training, doctrine and tactics training, and sustainment training) for new or displaced materiel systems. Within the concepts and strategies, the contractor shall include media analyses that examine and recommend the most effective and efficient distributed learning and emerging media. The contractor shall produce products using commercially available media/technology currently in use such as web-based training, CD-ROM, print and emerging technologies. Education/training products will be produced IAW AR 350-1, Army Training and Education, dated 9 April 2003 and TRADOC Regulation 350-70 dated 9 Mar 99 or current versions at time of award of DO.

4.9.3 Provide distributed learning training support in the planning and execution of AMT concepts and strategies to field new or displaced materiel systems. The contractor shall provide media that provides the benefits of distributed learning to include delivery or effective training without the time, money, personnel, and facilities required by legacy training technology.

4.9.4 Provide training product support to VTT sites and Training Aids, Devices, Simulators, and Simulations (TADSS).

4.9.5 Explore training concepts and provide analyses of possible training technology concepts for AMT. This effort will include analyses, measures of effectiveness, and evaluations of requirements to determine feasibility and cost of training effective approaches to satisfy needs.

4.9.6 Research, analyze, design, develop and deliver database applications. The contractor shall base these products on research and analysis of training transfer studies, advanced technology demonstrations, and distributed interactive simulation initiatives. These database applications shall provide potential solutions to AMT; new equipment training (NET)/Doctrine and Tactics Training (DTT) via distributed learning; and the storage, retrieval, and manipulation of large quantities of data.

4.9.7 Analyze, develop, document, deliver and maintain the operational concept for the development and implementation of TSS.

4.10 Embedded Training. The contractor shall provide training analysis, and analytical reports in support of embedded training in accordance with TRADOC Pamphlet 350-37, 9 June 2003 or current version at time of DO award, at http://www.tradoc.army.mil/tpubs/pams/p350-37/p350-37.htm. The contractor shall:

4.10.1 Develop and deliver embedded training documentation that shall guide the development and implementation of embedded training.

4.10.2 Research, develop, document, deliver and maintain embedded training development operational concepts. Ensure that delivered concepts comply with TRADOC Pamphlet 350-37, 9 June 2003.

4.10.3 Develop, analyze and deliver documentation to provide guidance regarding the development of categories of embedded training, use of embedded training, development of implementation categories, and use of embedded training implications on doctrine, training, leader development, organizations, materiel, and soldiers.

4.10.4 Develop, analyze and deliver alternative and feasible embedded training solutions. Identify and provide appropriate measures of effectiveness to evaluate such alternatives. Estimate training effectiveness costs and technical risks of each alternative.

4.10.5 Perform analysis and develop a scenario based training system to include: embedded individual and collective training capability that support live, virtual and constructive training environments. The scenario driven systems of tactical engagement simulation shall provide leaders with a readily available system for training and assessing combat critical skills of soldiers; and provide the capability to train and assess crew/sections, dismounted soldiers, and multi-echelon combined arms skill in operational environments, in accordance with specifications and standards as set forth in this work statement.

4.10.6 Review and assist with the development of acquisition documents on embedded training functionality for FCS and other systems. This includes but is not limited to review and assistance with the development of: Organization and Operations Plans, Operational Requirements Documents, Testing and Evaluations Master Plans, System Training Plans, Architectural Descriptions, Specifications, Simulation Support Plans, System Requirements Review, Preliminary Design Review, and Critical Design Review.

4.10.7 Present briefings and conduct discussions that effectively explain embedded training requirements, plans, design and functionality, and provide representatives who have embedded training experience or technical knowledge top attend and participate in meetings.

4.11 Conduct Product Searches.

4.11.1 The contractor shall search and provide a bibliography report of the Defense Instructional Technology Information System (DITIS) and Defense Audio Visual Information Service (DAVIS) plus other federal, state, academic, commercial, and industrial course materials related to the tasks selected for training.

4.11.2 The contractor shall research and prepare a bibliography and technical report of existing course materials for selected training tasks. Bibliographies shall contain federal, state, academic, commercial/industrial, and existing DOD course materials. The contractor shall obtain all materials and analyze them for technical accuracy, quality, visual appeal of student and instructor materials, and for instructional effectiveness. The contractor shall provide copies of the materials obtained to the government. As the end product of this task, the contractor shall prepare a technical report that covers each item in the bibliography and which recommends adoption as is, adoption with minor modifications, adoption with major modifications, or rejection. For any copyrighted materials, the contractor shall be responsible for obtaining all releases and providing a copy of such releases to the government.

4.12 Instructor and Developer Training.

4.12.1 The contractor shall design, develop, and teach courses to other trainers (train-the-trainer courses) for all phases of the Systems Approach to Training (SAT) process. The contractor shall also design, develop and teach such courses for other training areas including but not limited to conduct, facilitate, administer, and manage multimedia and emerging media instruction, as well as, conduct Army Modernization Training for NET and DTF. The contractor shall develop Staff and Faculty training in coordination with the HQ TRADOC proponent.

4.12.2 Instructor and developer (train-the-trainer) courses that the contractor may be required to provide by individual task orders include but are not limited to:

4.12.2.1. ADL Shareable Content Object Reference Model (SCORM)
4.12.2.2. Courseware Validation
4.12.2.3. Distributed Learning Training Developers Course
4.12.2.4. Experimental Learning Facilitation Skills
4.12.2.5. IMI Courseware Development
4.12.2.6. Instructional Systems Design/Systems Approach to Training
4.12.2.7. Instructor Training-Classroom Presentation Skills
4.12.2.8. Interactive Multimedia Instruction (IMI) Course Design
4.12.2.9. Media Selection
4.12.2.10. Multimedia Classroom Instruction
4.12.2.11. Multimedia Courseware Implementation
4.12.2.12. Multimedia Courseware Evaluation and Validation
4.12.2.13. Multimedia Presentation Systems
4.12.2.14. Observer/Controller Training
4.12.2.15. Use of Specialized Software; examples include:
(1) Animation
(2) Authoring System Software
(3) Collaboration
(4) Criterion Referenced Test Development Course
(5) Database
(6) Digital Imaging
(7) Interactive Media Development Software (e.g., Macromedia Flash)
(8) Model /Simulation
(9) Training Design
(10) Training Strategy Design Support Tools
(11) Video Editing
(12) Web Design
4.12.2.16. Web-based Learning Facilitator

4.13 The contractor shall develop and deliver multimedia instructional packages that include for each lesson, each module, or, when indicated, each course, a comprehensive diagnostic pretest (alternate form of posttest) and two end of lesson, module, or phase tests IAW TRADOC Reg 350-70 dated 9 March 1999 and the Student Academic Measurement/Testing Policy Guidance (Test Policy Memo dated 6 October 2001).

4.13.1 The contractor shall conduct content validations and technical testing, that includes but is not limited to playability, SCORM compliance, and other functionality, incrementally, by lesson or module as they become available for validations throughout the process, IAW the milestone schedule in the DO.

4.14 Video Teletraining (VTT) Packages. The contractor shall design and develop or configure instruction material for use by VTT. The material includes new visuals, student materials, instructor materials, and tests. VTT packages will be developed IAW TRADOC Reg 350-70, dated 9 March 99, Chapter VII, Section 3-3n, "Design and Development."

4.15 The contractor shall prepare and provide a cost analysis for the economic life of all courseware developed under each delivery order for a 36-month period. In the analysis the contractor shall project courseware operational and maintenance costs over a 36-month period.

5. New Technologies. It is likely that new courseware product standards will be available or set during the period of this contract. It is also likely that additional commercial off-the-shelf training product solutions will become available in the future. The contractor, upon submission of a delivery order proposal, may propose technical solutions that include changes to work statement design or performance requirements that cause no degradation in product method/performance. Proposal solutions that include changes that would result in any degradation of any part of the training product (even if the contractor demonstrates that the overall benefit outweighs the degradation or that will require an equitable adjustment to the contract pricing) will not be permitted until the government agrees to such a change by contract modification. Additional CLINs may be added to the contract if the government agrees to permit delivery of training products that are based on or include new or emerging technology. If the government initiates requests for proposals for training products that include or are based upon emerging technology, the contractor shall provide such proposals at no cost to the government. If such proposals are accepted, additional CLINs may be added to the contract. The contractor shall not provide any alternative or substitute training product solutions to replace a training product or standard already required by the contract or a delivery order unless a contract or delivery order modification has been issued.

6. General Requirements

6.1 Safety and environmental requirements. The contractor shall comply with TRADOC and other Agency safety and environmental regulations and directions, as applicable, during all phases of the SAT process. TRADOC Regulation 350-70, 9 Mar 99 or current version at time of award: Training Development Management, Processes, and Products, Chapter I-2, provide guidance for including safety, risk assessment, and environmental protection into training and training development for TRADOC; is hereby incorporated by reference into this work statement.

6.2 Individual delivery orders will state software, hardware, and delivery media requirements.

6.2.1 The contractor shall deliver courseware content to the government as required by individual delivery orders during the contractor's development process for content review and technical testing. Based on this review, the contractor shall make, at no additional cost to the government, changes to the courseware that the government identifies as necessary to ensure proper courseware accuracy, functionality or operability. The contractor shall apply such required changes to all courseware content, as applicable.

6.2.2 The contractor shall develop and deliver design documentation as required in individual delivery orders and IAW TRADOC Regulation 350-70. If use of a specific design tool is required, it will be identified in the delivery order. The contractor shall develop storyboard documentation as specified in individual delivery orders. Data item descriptions posted on http://www.atsc.mil/mil/itsd/imi/DID.asp will be used as guidelines for producing design documentation and storyboards. If word processing or other software templates are used for design and storyboards, the contractor shall deliver templates and completed documents supporting the specific course to the government. The contractor shall deliver complete project files and audit trail documentation to the government as contract deliverables.

6.3 Any government furnished tools required for use by the contractor will be identified in individual delivery orders. The government will provide contractor training on use of government furnished tools.

6.4 The contractor shall produce and deliver design documentation as required by individual delivery orders.

6.5 The contractor shall develop and deliver TRADOC course materials for installation on the Reimer Digital Library (RDL) and for installation on the Army Learning Management System.

6.6 Test Packages.

6.6.1 The contractor shall develop test packages that consist of a minimum of one pretest (diagnostic) and two posttests. The contractor shall develop performance/performance-based, criterion referenced tests in accordance with Chapter VI of TRADOC Regulation 350-70, Chapter 5, TRADOC Pamphlet 350-70-2, dated 26 June 03, and TRADOC Student Academic/Testing Policy Guidance (Test Policy Memo dated 6 October 2001 or current version at time of award) and IMI Implementing Instructions.

6.6.2 Student Performance Measurement Testing.

6.6.3 Testing Student Mastery of Learning Objectives. The contractor shall create tests that evaluate student accomplishment of each TLO in accordance with the TRADOC Student Academic Measurement/Testing Policy Guidance (Test Policy Memo). http://www.wood.army.mil/mptass/TOOLBOX/TEST%20CONTROL/Test%20Policy%20Memo%20from%20TRADOC%20Oct%202001.doc . The contractor shall identify the "mastery" (passing) score for each TLO based on the standards in each TLO. The courseware proponent shall have the authority to approve or change any "mastery" standard for any objective.

6.6.4 Test Integrity. The contractor shall ensure tests are developed and delivered with safeguards that prevent compromise.

6.6.5 Test Delivery. Tests will be designed and delivered as an IMI Shareable Content Object (SCO) separate from the courseware instruction and material. The test SCO coding shall capture student ID demographics, test/exam score(s), and interface with applicable LMS to determine student pass/fail and if the mastery level was obtained.

6.6.6 Pretest. For pretest, the contractor shall develop a mastery pretest, at a minimum, in accordance with the TRADOC Student Academic Measurement/Testing Policy Guidance (Test Policy Memo) at: http://www.wood.army.mil/mptass/TOOLBOX/TEST%20CONTROL/Test%20Policy%20Memo%20from%20TRADOC%20Oct%202001.doc

6.7 Where word processing or other software templates are used for design and storyboards, the contractor shall deliver the templates and completed documents supporting the specific course to the government. The contractor shall deliver completed project files and the printed audit trail documentation to the government as contract deliverables.

6.8 Required documents. In the event of a conflict between required documents referred to herein and other applicable document not specific in the delivery order, documents required by this section will take precedence.

6.8.1 In the event of a conflict between the documents referred to in this section and applicable documents specified in the DO, documents referenced in the DO will take precedence.

6.8.2 DOD Military Performance Specifications and Handbooks are listed at: http://www.dtswg.org/documents.htm. These are guidelines for producing courseware as request on the DOs.

6.8.3 Army documents. AR 350-1, Army Training and Education, 9 April 2003.

6.8.3.1 TRADOC Regulation 350-70, Training Development Management, Processes, and Products, 9 March 99 at: http://www-tradoc.army.mil/tpubs/regs/r350-70/.

6.8.3.2 TRADOC Pamphlet 350-70-1, Guide for Producing Collective Training Products, 15 Mar 96 at: http://www.tradoc.army.mil/tpubs/pamndx.htm

6.8.3.3 TRADOC Pamphlet 350-70-2, Multimedia Courseware Development Guide, and 26 Jun 03, with Interim Change 1 at: http://www.tradoc.ar.mil/tpubs/pamndx.htm.

6.8.3.4 The Army Training System (TATS) Checklist.

6.8.3.5 TATS Courseware Digitization Data file Naming Conventions and Packaging Guidelines.

6.8.3.6 Digitization Standards for use on CD/ROM and Internet.

6.8.3.7 Naming Conventions for digital library inputs.

6.8.4 Required Delivery Order Documents. In addition to and in place of the documents referenced above, specific documents may be listed in each DO issued under this contract.

6.8.5 Availability of Documents.

6.8.5.1 Order TRADOC publications from:

National Technical Information Service (NTIS)
5285 Port Royal Road
Springfield, VA 22161
1-800-553-6847
Homepage: http://www.ntis.gov/

Note: NTIS routinely removes availability of publications when they are undergoing revision. TRADOC publications not available from NTIS must be retrieved from the TRADOC homepage.

6.8.5.2 Publications are available on various World Wide Web (WWW) sites:

6.8.5.2.1 DOD Training Specifications. Defense Training Specifications Working Group (DTSWG) homepage: http://www.dtswg.org/documents.htm/.

6.8.5.2.2 TRADOC training and specification publications are available on or linked to the TRADOC DCSOPS&T homepage: http://www-dcsops&t.monroe.amry.mil/, (ftp site). Reimer Digital Library (RDL) standards are on or linked to the ATSC homepage.

6.8.5.2.3 Advanced Distributed Learning (ADL) Initiative's Sharable Content Object Reference Model (SCORM), (download from the Advanced Distributed Learning Network Home Page http://www.adlnet.org/)

6.9 Government Furnished Materials (GFM) and Government Furnished Information (GFI). Unless specified otherwise in the delivery order work statement, all required GFM and GFI will be supplied by the respective school to the contractor NLT 15 working days from award of the Delivery Order. However, the contractor is required to provide its own access to the Internet for downloading of specific items available from the government by that delivery method, specifically the RDL. GFM and GFI will be returned to the government within 15 working days after completion of the work.

6.10 Sensitive Information. The contractor shall comply with Department of Defense guidance for handling and storage of Sensitive or Classified Information. Specifically Army Regulation 380-5, TRADOC and other Agency security and handling caveat regulations and directions, as applicable, during all phases of the contract. Army Regulation 380-5 is the Department of the Army information Security Program. It contains policies and procedures for safeguarding Department of Defense Information.

6.10.1 DD Form 254, Contract Security Classification Specification is applicable and attached hereto. The majority of the work performed under this contract will be unclassified. Security requirements will be set forth within individual deliver orders. Secret will need to be reviewed and utilized. The resulting products may become classified.

6.10.2 Development of certain products shall require access to Sensitive or Classified materials. The government shall identify the sensitivity or classification of GFM/GFI when GFM/GFI is provided to the contractor.

6.10.3 The contractor shall provide properly authorized personnel and facilities for the use, handling and storage of those materials and will return said materials to the government when no longer required for product development. This does not apply when the work is performed at a government location.

6.10.4 The contractor shall request sponsorship for access to Army Knowledge Online accounts in support and

during the term of the contract through the Contracting Officer Representative (COR).

6.10.5 The contractor shall comply with the respective school requirements for access to Government Furnished Equipment (GFE), installation and buildings, as stated in the delivery order(s). This includes local policies for access to government computer networks, telephones, badges, identification and installation registration, such as vehicles, and other standing requirements of military installation.

6.11 Contractor SMEs. The contractor shall provide at least one technically and doctrinally knowledgeable SME for each of the subject areas specified on each delivery order. The SME will review the contractor's deliverables for technical and doctrinal accuracy. A resume for each SME shall be submitted to the COR, COTR or POC as identified in the DO, within 10 days after the order is issued.

6.12 Contractor Program Manager and Project Managers. The contractor shall provide a Program Manager who will negotiate for the contractor, commit resources, and resolve issues. Also, the contractor shall provide Project Managers for: Interactive Multimedia Courseware, Distributed Learning, and Data Files and Documents. Program management functions will be ordered and funded only via inclusion of program management requirements within individual delivery orders.

6.13 Quality Assurance. Unless otherwise specifically provided in this contract, the quality of all products rendered shall conform to standards of commercial practice in the industry and will be subject to random assessment/analysis by the proponent's QA POC or his/her designee.

6.14 The contractor will be co-located at the school when indicated in the delivery order. The Government will furnish material as identified in the delivery order.

6.15 Meetings. The contractor shall conduct DO Post-Award and In-Process Review (IPR) Meetings as specified within individual DOs. The contractor shall provide an agenda in accordance with CDRL A002. The contractor shall write minutes of all meetings with input from all concerned and coordinate the minutes with the attendees before departing from the meeting (CDRL A003). IPRs may be held at the contractor's facility or the applicable school or agency or another location as stated in the delivery order. Use of video teleconference centers (VTC) and Video teletraining (VTT) will be considered for all meetings.

6.15.1 Delivery Order Post-Award Meeting. A DO Post-Award Meeting shall be conducted within 15 working days after the effective date of each DO. The purpose of the meeting is to discuss GFI and GFM.

6.15.2 In Process/Progress Review (IPR) Meetings. The contractor shall conduct In-process/progress review meetings to review and discuss technical issues or products and/or to discuss issues that affect delivery of a product (contract deliverables, government review comments, contractor correction requirements, scheduling problems, milestone schedule, and similar issues.). IPRs shall normally involve only technical personnel only. The COR and/or the Contracting Officer (KO) and the proponent's QA will attend when necessary or, when possible, as requested by the contractor. The contractor shall not provide notice of or attempt to resolve contractual issues during IPRs unless the COR or Contracting Officer is present. The contractor shall promptly notify the contracting officer or COR of contractual issues that arise as the result of IPRs. Technical issues that affect inspection/acceptance require the presence of contracting personnel.

6.16 Monthly Status Report. IAW CDRL A004, the contractor shall submit, by the 15th of each month, a comprehensive monthly status or progress report for each DO issued. The reports shall include the DO current status, the projected completion date for each stage of development, and projected contractor travel. The report shall also describe any difficulties or problems encountered, anticipated, or which previously existed which could alter the progression of work. The report shall include recommendations for resolution of problem areas.

6.17 Milestone Schedule. The contractor shall submit a suggested milestone schedule with each DO price proposal. The milestone schedule shall allow time for and depict all events of contractor performance, government review, contractor correction of errors found, resubmission, and acceptance of deliverables. The milestone schedule may be revised by mutual agreement of the COR and contractor, provided a copy of the initialed revised schedule is

furnished to the contracting officer, and providing the schedule does not change the period of performance or final delivery date, and that fixed price of the delivery order is unchanged. The government review time will be specified in each DO.

7 Specific Requirements.
7.1. The contractor shall deliver all electronic and paper based project files to the government upon completion of the product.

7.1.1 The contractor shall obtain releases for all copyrighted materials used, referenced or included in any product developed under this contract. The contractor shall indemnify the government for any liability arising as a result of the unauthorized use of patented items.

7.1.2 The contractor shall provide legal certification or license from the owner that permits government use if copyrighted material is delivered.

7.1.3 Contractor shall develop and present briefings and attend meetings as consultants to the government. The contractor shall provide representatives to such meetings who have the requisite training expertise or technical knowledge required for effective performance during the meetings.

7.2 Government Furnished Information Report, CDRL A001. The contractor shall submit a GFI report IAW CDRL A001 within 30 calendar days after DO is issued.

7.3 List of task selected for training. This list shall include all soldier tasks, skills, knowledges, numbers, titles, demonstration and training objectives to be covered.

7.4 GFI Evaluation. This report shall address all materials identified and provided by the government necessary to design and develop the courseware. This report shall cover each task selected for training and state if the GFI is available, unavailable, not required, not current, or inadequate. The contractor also shall explain why the GFI is inadequate, if applicable.

8. Data Products: The contractor shall develop and deliver the following training data products in accordance with the contract data requirements list and supplemental contract data requirements lists included within each delivery order. The data products shall be developed in accordance with current or emerging technology as required by this contract or within individual delivery orders. The following Data Item Descriptions listed for each of the following data products should be used for producing required data products.

8.1 Training Situation Document:

8.1.1 Training situation analysis data: Data Item Description DI-SESS-81517B, CDRL A016.

8.1.2 Training technology assessment data: Data Item Description DI-SESS-81517B, CDRL A017.

8.2 Data Item Description Instructional Performance Requirements Document. DI-SESS-81518B, CDRL A018:

8.2.1 Mission and collective and individual task data. Data Item Description DI-SESS-81518B, CDRL A018. Data will be produced and provided IAW TR 350-70

8.2.2 Training Task Data: Data Item Description DI-SESS-81518B, CDRL A019.

8.2.3 Learning Objectives Data: Data Item Description DI-SESS-81518B, CDRL A020.

8.2.4 Knowledge and skills analysis data: Data Item Description DI-SESS-81518B, CDRL A021.

8.2.5 Mission performance standards data: Data Item Description DI-SESS-81518B, CDRL A022.

8.2.6 Individual training standards data: Data Item Description DI-SESS-81518B, A023.

8.3 Instructional Media Requirements Document.

8.3.1 Media selection model specifications data: Data Item Description DI-SESS-81519B, CDRL A024.

8.3.2 Media selection analysis data: Data Item Description DI-SESS-81519B, CDRL A025.

8.3.3 Instructional delivery system functional characteristics data: Data Item Description DI-SESS-81519B, CDRL A026.

8.3.4 Training system modification data: Data Item Description DI-SESS-81519B, CDRL A027.

8.3.5. The contractor shall design, develop, and produce a lesson specification worksheet for each lesson. The worksheets shall be delivered incrementally with the submission of the appropriate lesson.

8.4 Instructional media design package, CDRL A005.

8.4.1 Summary description of training program data: Data Item Description DI-SESS-81520B.

8.4.2 Courseware design strategy data: Data Item Description DI-SESS-81520B.

8.4.3 Lesson strategy data: Data Item Description DI-SESS-81520B.

8.4.4 Courseware logic flow diagrams data: Data Item Description DI-SESS-81520B.

8.5 Training Program Structure Document, CDRL A006.

8.5.1 Training Planning data: Data Item Description DI-SESS-81521B.

8.5.2 Training course data: Data Item Description DI-SESS-81521B.

8.6 Course Conduct Information Package.

8.6.1 Trainee orientation guidance data: Data Item Description DI-SESS-81522B, CDRL A028.

8.6.2 Training course standards data: Data Item Description DI-SESS-81522B, CDRL A029.

8.6.3 Training materials data: Data Item Description DI-SESS-81522B, CDRL A030.

8.6.4 Trainee and training course completion data: Data Item Description DI-SESS-81522B, CDRL A031.

8.7 Training Conduct Support Document.

8.7.1 Front matter: Data Item Description DI-SESS-81523B.

8.7.2 Lesson Plan data requirements: Data Item Description DI-SESS-81523BCDRL A011.

8.7.3 Trainee guide data requirements: Data Item Description DI-SESS-81523B, CDRL A012.

8.7.4 On-the-job training handbook data: Data Item Description DI-SESS-81523B, CDRL A013.

8.7.5 Instructional visual aids: Data Item Description DI-SESS-81523B, CDRL A014.

8.7.6 Training material change data: Data Item Description DI-SESS-81523B, CDRL A015.

8.8 Training Evaluation Document.

8.8.1 Training evaluation planning data: Data Item Description DI-SESS-81524B, CDRL A032.

8.8.2 Training evaluation results data: Data Item Description DI-SESS-81524B. CDRL A033.

8.8.3 Instructional delivery system test and evaluation data: Data Item Description DI-SESS-81524B, CDRL A034.

8.9 Test Package, CDRL A007.

8.9.1 Test items data: Data Item Description DI-SESS-81525B.

8.9.2 Tests data: Data Item Description DI-SESS-81525B

8.9.3 Test administration materials data: Data Item Description DI-SESS-81525B.

8.9.4 Test item cross-reference chart: Data Item Description DI-SESS-81525B.

8.10 Instructional media package, CDRL A008.

8.10.1 Scripts: Data Item Description DI-SESS-81526B, CDRL A008.

8.10.2 Storyboards: Data Item Description DI-SESS-81526B, CDRL A008.

8.10.3 Adjunctive materials: Data Item Description DI-SESS-81526B, CDRL A008.

8.10.4 Program media: Data Item Description DI-SESS-81526B, CDRL A008.

8.10.5 Instructional media data files: Data Item Description DI-SESS-81526B, CDRL A008.

8.11 Video Data, CDRL A009.

8.11.1 Video shot list: Data Item Description DI-SESS-81526B, CDRL A009.

8.11.2 Video production plan: Data Item Description DI-SESS-81526B, CDRL A009.

8.11.3 Edit decision list: Data Item Description DI-SESS-81526B, CDRL A009.

8.12 Training system support document, CDRL A035.

8.12.1 Training software application data: Data Item Description DI-SESS-81527B.

8.12.2 Training system operating data: Data Item Description DI-SESS-81527B.

8.13 Video production will be ordered as required.

8.14 Compact Disk-Read only Memory (CD-ROM). The contractor shall develop one version of courseware to play in a standalone mode via CD-ROM as identified in the DO. The CD-ROM version shall be equivalent in course structure and testing to the version for delivery over the Internet. All CD-ROM disks shall be delivered in a suitable protective casing, with labels and inserts prepared IAW TRADOC -PAM 350-70-2, 26 Jun 03.

8.15 Digital Video Disk (DVD). DVD is a widely used technology. The contractor shall develop DVD as ordered. The DVD shall be in accordance with TRADOC policy.

9. ACRONYMS.

AC/RC	Active Component and Reserve Component
ADD	Army Data Dictionary
ADL	Advanced Distributed Learning

ADPE	Automatic Data Processing Equipment
ALO	Army Learning Object
API	Application Program Interface
ATEM	Army Training Enterprise Model
ATM	Asynchronous Transfer Mode
AV	Audio-visual
CAGE	Commercial and Government Entity
CAM	Content Aggregation Model
CALLCOMS	Center for Army Lessons Learned Collection Observation Management System
CATA	Combined Arms Training Activity
CFM/CFI	Contractor Furnished Materials and Information
CRXXI	Classroom XXI
CLIN	Contract Line Item Number
CTCIS	Combat Training Center Instrumentation System
CTC OPFOR Sys	Combat Training Center Opposing Forces System
DCSOPS&T	Deputy Chief of Staff for Operations and Training
DTF	Digital Training Facility
DL	Distributed Learning
DODSSP	Department of Defense Single Stock Point
DSS	Decision Support System
DTAC	Digital Training Access Center
DTP	Deployable Training Package
DVD	Digital Video Disc
EPSS	Electronic Performance Support Systems
ETP	Electronic Training Platform
FCS	Future Combat Systems
FoS	Family of Systems
G&A	General and Administrative
HQ TRADOC	Headquarters, U.S. Army Training and Doctrine Command
HS-IS	Home Station-Instrumentation System
HTML	Hypertext Mark-up Language
IDEP	Institutional Digital Education Program
IMDP	Instructional Media Design Package
IMP	Instructional Media package
IRB	Information Resource Board
ISD	Instructional Systems Design
ISDN	Integrated Services Digital Network
ITAM	Integrated Training Area Management
IT	Information Technology
ITSD	Individual Training Support Directorate
JCBIS	Joint Computer Based Instructional System
LOM	Learning Object Metadata
LSAP	Live Simulation Action Plan
M1A1	Model Number of an Abrahms Tank
MIL-HDBK	Military Handbook
MPEG	Moving Pictures Experts Group
NSP	Not Separately Priced
NTIS	National Technical Information Service
ODCSOPS&T	Office of the Deputy Chief of Staff for Operations and Training
OPFOR	Opposing Forces
ORSA	Operations Research System Analyst
RAM	Reliability, Availability, and Maintainability
RTLP	Range and Training Land Program
RTE	Run Time Environment

S&F Tng	Staff and Faculty Training
SCO	Shareable Content Object
SCORM	Shareable Content Object Reference Model
SE Core ICT	Synthetic Environment Core Integrated Concept Team
SEP	Synthetic Environment Program
SOL	Soldier on Line
System MRD	System Material Requirements Documentation
SGML	Standard Government Mark-up Language
T&EOS	Training and Evaluation Outline
TATSC	The Army Training System Courseware
TATS-DL	Total Army Training System-Distributed Learning
TEA	Training Effectiveness Analysis
TNET	Teletraining Network
Tng GOSC	Training General Officer Steering Committee
TSS	Training Support System
UCOFT	Unit Conduct of Fire Trainer
VR	Virtual Reality
VT	Video Tape
VTT-ITC	Video Teletraining Instructor Training Course
WWW	World Wide Web

10. Definitions. The following are definitions as they apply to this contract. The precedence for definitions is: the contract SOW, C.10, TRADOC Regulation 350-70 dated 9 Mar 99, and other definitions in MIL-PRF-29612B.

10.1 Asynchronous Transfer Mode (ATM). A high-speed, high-volume packet switching and transfer method where information does not occur with reference to fixed time periods. Also known as Acell relay. By providing whatever bandwidth capacity is needed at any time (i.e., bandwidth on demand), ATM has the flexibility to provide users rapid access to a variety of services with different transport needs. These include voice, data, video, and message transmissions. An ATM network incorporates both public services and private networks and can support multiple simultaneous connections over a single interface.

10.2 CLASSROOM XXI. Classroom XXI is one of the major efforts that will lead TRADOC to the 21st century. Classroom XXI focuses on the use of technology to leverage information in a variety of ways to increase the Army's warfighting capability.

10.2.1 Multiple instructors will be able to simultaneously dial-up data that is digitized and deliver it to all students in a matter of minutes.

10.3 Defense Instructional Technology Information System (DITIS) / Defense Automated Visual Information System (DAVIS). An on-line, unrestricted, full-text searchable, standard DoD-wide database containing content-descriptive production acquisition, inventory, distribution, currency status, archival control, and other data on visual information (VI) and IMI products in the DoD inventory.

10.4 Desktop video. Another two-way video process. All locations in a two-way video network are equipped with cameras, personal computers platforms, monitors, and microphones. Point-to-point and multipoint connections enable instructors and learners to see and hear each other.

10.5 Digital Video Disc (DVD). DVD includes products and software that will be built in conformance with a specification being developed by a consortium of the largest computer, consumer electronics, and entertainment companies. The intention is to create a range of compatible products based on a new generation of the Compact Disc format that provides increased storage capacity and performance. This is especially important for video and multimedia applications.

10.6. Interoperability. The capability to run courseware and associated programs without modification on a delivery system other than the one for which it was originally designed.

10.7 Instruction. The process of systematically providing or improving the capability of an individual to perform a task to include application of supporting skills and knowledge. For purposes of this document, instruction includes both education and training.

10.8. Instructor Contact Hour (ICH). The manpower workload factor that represents one instructor work hour devoted to conducting training. The instructor contact hour for each lesson is related to optimum class size and computed by multiplying the number of academic hours times the number of student groups times the number of instructors required per group.

10.9. Interactivity for IMI describes the interaction between a learner and the computer which leads directly to meaningful learning. Sensory stimuli requirements or interactions between the learner and the instructor and/or peers do NOT influence the level of interactivity. Explanation. It is undesirable, and probably not possible in most cases to produce any level of interactivity without use of some sensory stimuli/media such as audio, video, animation, or graphic. The use of sensory stimuli by themselves does not justify higher levels of interactivity; however, the complexity of the sensory stimuli is normally increased as interactivity level is increased. Therefore, the more media used does not necessarily mean the higher the level of interactivity; it is how it is used in the context of presenting instruction that makes the difference. Using collaboration that has interactions between the learner and the instructor and/or peers also does not influence the level of interactivity. While collaboration is interactive, it is not interactivity between the computer and the learner but between two or more individuals.

10.9.1. Level 1 Interactivity – Passive - The learner acts solely as a receiver of information. Capable of computer generated multimedia presentations of intellectual skills (facts, rules, procedures). This level is capable of showing a procedure with computer-generated multi-media explanations of equipment operation. Level 1 is used primarily to introduce knowledge, including ideas, concepts, and processes. Information is generally provided in a linear format (one idea after another). Minimal interactivity is incorporated in the form of text, navigational icons, static graphics (e.g., photos, charts, tables) and illustrations, learner-initiated animations, and pop-ups and hyperlinks.

10.9.2. Level 2 Interactivity – Limited Participation - In Level 2, the learner recalls information and responds to instructional cues. This level is used to introduce simple operational and maintenance guidelines and procedures. Moderate interactivity is incorporated in the form of learner-initiated animations, interactive graphics, activities, scenarios, and assessments (practices, knowledge checks, and tests). Interactions force learners to make decision related to the material. This level has the capability of providing drill and practice, providing feedback on learner responses, emulating simple psychomotor performance, and emulating simple equipment operation in response to learner action. This level can be used for computer evaluation of learner intellectual skills using computer-based predictive and performance test items. Immediate or delayed fixed feedback guides the learner to see the consequences and components of his performance.

10.9.3. Level 3 Interactivity – Complex Participation - In Level 3, the learner applies information to scenarios and interacts with simulations. This level is used to present more complex operational and maintenance procedures. Information is often non-linear. Moderate to high interactivity is incorporated in the form of complex interactive graphics including simulations and decision-based branched scenarios. Highly realistic scenario and equipment simulations fully involve the learner in near, part and whole task performance. After action feedback guiding the learner to fully understand the consequences and components of his adequate and inadequate performance. Feedback is based on tracking of several responses. This level is capable of providing complex branching paths based on learner selections and responses. This level can be used for computer evaluation of learner intellectual skills and performance using computer-based performance and predictive test items. Computer evaluation of learner procedural performance includes the capability to generate time and error scores for performance test items.

10.9.4. Level 4 Interactivity - Real-Time Participation - In Level 4, the learner engages in a life-like set of complex cues and responses. This level is used to simulate highly complex operational and maintenance procedures that often support certification. Maximum flexibility and multi-level branching allow a high degree of interactivity in the form of simulator and gaming environments. This level is capable of real-time simulation of performance in the operational setting and after action and natural consequences are given based on performance. This level incorporates artificial intelligence components and employs state-of-the art technology for simulation and

communication. This level can be used for computer evaluation of learner performance and intellectual skills using computer-based predictive and performance test items and the capability to generate time and error scores for performance test items. This level is often found in games with multiple players, computer-generated team players, and/or simulating decision-making incorporating multiple tasks.

10.10 Master Materials. The materials necessary to reproduce or modify all components of the IMI product, including all video and audio source materials as originally supplied to the mastering facility. Reproduction master materials also include the appropriate associated development documentation necessary to reproduce or modify the IMI product (e.g., flow charts, scripts, and storyboards cross-referenced to the video shot list, edit decision list, programming/ source code, runtime program, CMI functionality, etc.).

10.11 Moving Motions Pictures Experts Group (MPEG). Encoding standards that convert analog video and audio input signals into compressed digital files. It permits a number of encoding applications ranging from video and multimedia compact discs on a desktop computer, interactive television, to digital satellite networks.

10.12 Multiple Integrated Laser Engagement System (MILES). The MILES is an integrated family of laser-based transmitters and receivers that simulate direct fire weapons (e.g., small arms, tank main guns, and guided missiles) and permit realistic tactical engagements with these weapons. The devices are eye-safe and portable. The MILES devices can interoperate with other TADSS and external instrumentation systems to collect training performance data.

10.12.1 MILES 2000 is a program designed to replace the current MILES inventory, which is reaching the end of its projected life cycle. Based on the current maintenance effort and other factors, an annual replacement of 5 percent of the current inventory is considered sufficient to maintain an acceptable inventory level.

10.12.2 MILES is the objective discriminator on the force-on-force battlefield. MILES does not exhibit all the characteristics desired by the training community. MILES 2000 provides such capabilities as player ID for each player on the battlefield, software programmable probability of kill, aspect angle calculation for vehicle systems, reduction in components size and weight, event recording (500 events per player), data collection and after action review capability, MILES keys no longer required. Life cycle costs will be reduced due to longer life batteries and improved manufacturing techniques. These additional capabilities will provide greater fidelity on the force-on-force battlefield.

10.13 Part-task training device. A device that permits selected aspects of a task to be practiced independently of other elements of the task. Its purpose is to provide economical training on certain
elements requiring special practice but that are not dependent upon the total equipment. A system or equipment emulator that appears like the real equipment and may include parts of real equipment for the teaching of skills that could damage the real equipment in a training environment.

10.14 UNIX. A multi-user computer operating system

10.14.1 Teletraining Network (TNET) provides near full motion two-way video and audio, graphics, and computer-based teletraining and data transfer for courses, exercises, after-action reports, new equipment training, and simulations. TNET has round-the-clock communications capability primarily over satellite links. Each TNET site can send and receive training from over 110 other TNET locations and over 300 sites in other military and state networks, including all SEN sites. TNET also has OCONUS connectivity to Europe, Hawaii, and the Sinai.

10.14.2 SEN is a studio-based, one-way video network with return audio to the instructor over phone lines. SEN broadcasts a high-quality full motion digital signal over three channels and has
retained its ability to deliver analog broadcasts. SEN's primary mission is to support logistics and acquisition courses taught by the Army Logistics Management College at the Defense Acquisition University (DAU). SEN broadcasts to 61 of its own downlinks, 40 additional downlinks in the DAU network, and all the TNET sites as well. SEN can also broadcast to all Government Education Training Network and Governmental Alliance for Training and Education sites.

10.15 Army Modernization Training (AMT) effort of Army Training XXI, a TRADOC initiative to re-energize and

update AMT to keep pace with recent and emerging changes in the Army acquisition process. As the training piece of the Army's "Equipping the Force" axis, AMT supports both Warfighter XXI and Warrior XXI, and encompasses the process of documentation and standardization of training requirements, training products, and training outputs associated with the acquisition of material/weapon systems and training aids, devices, simulators, and simulations (TADSS). The five components of AMT are: Needs Analysis, Requirements Documentation, Training Products, Test and Evaluation. A main point to remember is what AMT is and is not: AMT is "not" just new equipment training (NET) or NET Teams (NETT), but a comprehensive program to improve and modernize AMT within the Army to keep pace with changes in force requirements. AMT must be re-focused and re-energized to become more training-effective and resource-efficient.

10.16. Wired and Wireless Networking. The basic infrastructure needed to move, manage, store, retrieve, and maintain information in, from, or to remote locations from either a central location or other remote locations. Traditional wired networks may include but not limited to dial-up modem connectivity, ISDN, Ethernet, T1, T3, ATM, Fiber Channel or optical cable based information delivery systems. Wireless networking would allow Very Short Range (VSR) delivery via technologies like infrared (IR) Microcellular, and Radio Frequency (RF) as well as long range technologies like analog, Cellular, Satellite, Cellular Digital Packet Data (CDPD) or Wireless ATM. This area would also likely address the additional technologies like encryption and security protocols required to keep the data being moved secure from all manner of intrusion.

10.17 World Wide Web. Often referred to as WWW or the Web, this usually refers to information available on the Internet/intranet/extranet that can be easily accessed with access software usually called a browser. Organizations publish their information on the Web in a format known as HTML (Hypertext Markup Language); this information is usually referred to as their home page.

10.18 Sharable Content Reference Model (SCORM). Defines a Web-based learning "Content Aggregation Model" and "Run-time Environment" for learning objects. At its simplest, it is a model that references a set of interrelated technical specifications and guidelines designed to meet DOD's high-level requirements for Web-based learning content.

10.19 Content Aggregation Model (CAM) - Represents a pedagogically neutral means for designers and implementers of instruction to aggregate learning resources for the purpose of delivering a desired learning experience. A learning resource is any representation of information that is used in a learning experience. Learning experiences consist of activities that are supported by electronic or non-electronic learning resources.

10.20 Asset – Learning content in its most basic form is composed of Assets that are electronic representations of media, text, images, sound, web pages, assessment objects or other pieces of data that can be delivered to a Web client. An Asset can be described with Asset Meta-data to allow for search and discovery within online repositories, thereby enhancing opportunities for reuse. The mechanism for binding Assets to Asset Meta data is the Content Package.

10.21 – Content Aggregation – is a map (content structure) that can be used to aggregate learning resources into a cohesive unit of instruction (e.g. course, chapter, module, etc), apply structure and associate learning taxonomies. The content structure defines the taxonomic representation of the learning resources. A content aggregation Meta-data can reference Content Aggregation Meta-data (see Content Aggregation Meta-data definition below) to allow for search and discovery within online repositories, thereby enhancing opportunities for reuse. The mechanism for binding content aggregations to Content Aggregation Meta-data is the Content Package.

10.22 Content Package – be used to move digital learning resources or collections of learning resources between Learning Management Systems (LMS), development tool and content repositories. The content Packaging specification provides a common "input/output" format that any system can support. SCORM Content Packaging is a set of specific use examples, or application profiles, of the IMS Content Packaging Specification. SCORM packaging adheres strictly to the IMS Content Packaging Specification but provides additional explicit implementation guidance for packaging digital learning resources (Assets, Sharable Content Objects and Content Aggregations).

10.23 Sharable Content Object (SCO) – represents a collection of the one or more Assets that include a specific launchable asset that utilizes the SCORM Run-Time Environment to communicate with Learning Management

Systems (LMS). A SCO represents the lowest level of granularity of learning resources that can be tracked by an LMS using the SCORM Run-Time Environment.

10.24 Run-Time Environment (RTE) – a goal of the SCORM is that learning resources be reusable and interoperable across multiple Learning Management System (LMS). For this to be possible, there must be a common way to start learning resources, a common mechanism for learning resources to communicate with an LMS and a predefined language or vocabulary forming the basis of the communication. These three aspects of the Run-Time Environment are Launch, Application Program Interface (API) and Data Model.

10.24.1 Launch defines a common way for LMS to start Web based learning resources. This mechanism defines the procedures and responsibilities for the establishment of communication between the delivered learning resource and the LMS. The communication protocols are standardized through the use of a common API.

10.24.2 Application Program Interface (API) – the communication mechanism for informing the LMS of the state of the learning resource (e.g., initialized, finished or in an error condition), and is used for getting and setting data (e.g., score, time limits, etc) between the LMS and the Sharable Content Object (SCO).

10.24.3 Data Model – a standard set of data elements used to define the information being communicated, such as, the status of the learning resource. In its simplest form, the data model defines elements that both the LMS and SCO are expected to "know" about. The LMS must maintain the state of required data elements across sessions, and the learning content must utilize only these predefined data elements if reuse across multiple systems is to occur.

11. Technical Data Items. All Technical Data Items shall be in accordance with Data Item Descriptions (DD Form 1664) referenced in Block 4 of the applicable Contract Data Requirements List (DD Form 1423) Attachment 1.

12. DD Form 254 Contract Security Classification Specification is inclued as Attachment 2.

13. Period of Performance. The Period of Performance for this contract is as follows:

Base Year:	08 December 05 – 07 December 06
Option Year I:	08 December 06 – 07 December 07
Option Year II:	08 December 07 – 07 December 08
Option Year III:	08 December 08 – 07 December 09
Option Year IV:	08 December 09 – 07 December 10

14. Reporting of Contractor Services and Manpower.

REPORTING OF CONTRACTOR SERVICES AND MANPOWER

Accounting for Contractor Services:

The Office of the Assistant Secretary of the Army (Manpower & Reserve Affairs) operates and maintains a secure Army data collection site where the contractor will report ALL contractor manpower (including subcontractor manpower) required for performance of this contract. The contractor is required to completely fill in all the information in the format using the following web address: https://contractormanpower.army.pentagon.mil. The information to be reported is as follows:

(1) Contracting Office, Contracting Officer, Contracting Officer's Technical Representative;
(2) Contract number, including task and delivery order number;
(3) Beginning and ending dates covered by reporting period;
(4) Contractor name, address, phone number, e-mail address, identity of contractor employee entering data;
(5) Estimated direct labor hours (including sub-contractors);
(6) Estimated direct labor dollars paid this reporting period (including sub-contractors);
(7) Total payments (including sub-contractors);

(8) Predominant Federal Service Code (FSC) reflecting services provided by contractor (and separate predominant FSC for each sub-contractor if different);
(9) Estimated data collection cost;
(10) Organizational title associated with the Unit Identification Code (UIC) for the Army Requiring Activity (the Army Requiring Activity is responsible for providing the contractor with its UIC for the purposes of reporting this information);
(11) Locations where contractor and sub-contractors perform the work (specified by zip code in the United States and nearest city, country, when in an overseas location, using standardization nomenclature provided on website);
(12) Presence of deployment or contingency contract language; and
(13) Number of contractor and sub-contractor employees deployed in theater this reporting period (by country).

As part of its submission, the contractor will also provide the estimated total cost (if any) incurred to comply with this reporting requirement. Reporting period will be the period of performance not to exceed 12 months ending 30 September of each government fiscal year and must be reported by 31 October of each calendar year. If contract performance is completed before 30 September, the data can be entered upon contract completion rather than waiting for the end of the fiscal year. Contractors may use a direct XML data transfer to the database server or fill in the fields on the website. The XML direct transfer is a format for transferring files from a contractor's systems to the secure web site without the need for separate data entries for each required data element at the web site. The specific formats for the XML direct transfer may be downloaded from the web site.*

**For in-theater contracts, requiring activities have the option of requiring more frequent reporting.*

Uses and Safeguarding of Information. Information from the secure web site is considered to be proprietary in nature when the contract number and contractor identity are associated with the direct labor hours and direct labor dollars. At no time will any data be released to the public with the contractor name and contract number associated with the data.

Subcontract Data. The contractor shall ensure that all reportable subcontract data is timely reported to this data collection web site (citing this contract/order number). At the discretion of the prime contractor, this reporting may be done directly by subcontractors to the data collection site; or by the prime contractor after consolidating and rationalizing all significant data from the subcontractors.

Reporting Flexibility. Contractors are encouraged to communicate with the Help Desk identified at the data collection web site to resolve reporting difficulties. Changes to facilitate reporting may be authorized by the contracting officer or the Help Desk (under HQDA policy direction and oversight).

Compensation costs are defined in the reporting instructions at the Army web site designated above.

End of Work Statement