

Common Remotely Operated Weapons Station
(Updated)
(version 2.0)

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MSCoE - MANSCEN

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This System Training Plan (STRAP) is preliminary.
Front end analysis (mission, task, job) is ongoing. MSCoE - MANSCEN will
amend
and update this STRAP as details solidify.

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1.0 System Description

The first increment fielding of the CROWS system provided the Army and Joint forces with the capability to enhance survivability for vehicle Gunners by providing under armor protection for Gunners who were exposed to a wide range of hostile kinetic effects when employing Gunner Protection Kit (GPK) mounted weapons systems. There are three major capability gaps that the CROWS system has addressed since the first increment development. First was a shoot-on-the-move weapons stabilization capability. Second was the protection of the exposed gunner. Third was an enhanced engagement and target discrimination capability in all environmental and other reduced visibility conditions through the use of day and thermal imaging optics and fire controls. Several existing wheeled and light armored vehicles, such as variants of the up armored HMMWV and the M93 FOX vehicle do not provide these capabilities for the mounted crew served weapon station. These deficiencies render the vehicles crew members operating weapons particularly vulnerable to a variety of direct and indirect weapons effects. Several existing light armored vehicles that do provide protection for the gunner, such as the MRAP vehicle use heavy gunners shields and turrets that limit future growth and digital integration opportunities. The CROWS system provides capabilities to cover gaps for protection and provided responses to hostile weapons fires.

The specific capability gaps identified for CROWS increment I are: decreased situational awareness (SA). limited capability to protect terminal operations assets while operating in commercial or degraded and austere ports, rapidly and accurately locate, attack and deter targets with the required operational responsiveness matched to desired effects both lethal and non-lethal (NL) to the greatest efficiency while allowing the platform gunners to remain under armor, increased accuracy of weapons fire, a Vehicle commander display and firing override ability; future generation Forward Looking Infrared (FLIR); improved zoom, tracking, detection and targeting; and simultaneous 360-degree SA coverage. While CROWS Increment 1 is currently partially funded for FY12-17, this funding does not cover Life-Cycle management or sustainment cost.

The flexibility of the CROWS system to employ a variety of lethal and NL options as well as applications for fixed site and robotic and semi autonomous vehicle platforms applications significantly address gaps in capabilities of Force Application, Battlespace Awareness and Force Support across the Army, the Joint Services and possible solutions and applications for governmental civilian agency security issues. This increment of development will integrate enhanced capabilities for automated threat fires detection and targeting in order to rapidly target incoming threat fire, i.e. improved SA. Net-ready capabilities will also be implemented to rapidly send and receive threat

location, targeting and engagement information within element, adjacent and higher mission command nodes. Lethality will be greatly enhanced with the achievement of a first round hit capability improvement for the CROWS system. This enhanced lethality also improves protection and platform survivability. Additionally in this increment, the CROWS system will begin to integrate a wider variety of weapons, escalation of force (EoF), non and less than lethal/denial force packages. These capabilities will enable our forces to respond with other actions in OEs where lethal measures are not appropriate. The enhanced sensors and digitization capabilities of the CROWS system provides the gunner the ability to detect, interrogate, identify and engage targets more effectively with the ability to shoot-on-the-move.

An embedded training capability will be operated using the CROWS training mode and will interface with the operators and subsystems in the same manner as a fully functioning CROWS system in operational mode. Training will be scenario based to include tactical missions, range qualification and similar exercises. There is no requirement for an embedded maintenance trainer. A sub component of CROWS training strategy will include interactive multimedia instruction (IMI) software for sustainment and reach back training.

This STRAP is to support the CROWS Increment II CDD.

The CROWS Operational Requirements Documents (ORD) Cards # assigned Dec 2003, supporting STRAP approved Feb 2003

Updated CROWS STRAP to support a CROWS Capability Production Document (CPD) approved July 05, CROWS CPD approved July 08.

2.0 Target Audience

3.0 Assumptions

4.0 Training Constraints

5.0 System Training Concept

The CROWS system training concept is based on the US Army Training Concept 2012-2020 (ATC 12-20) and US Army Learning Concept 2015 (ALC 2015) (TP 525-8-2 Army Learning Concept and TP 525-8-3 Army Training Concept) combined vision for an integrated training and learning environment that builds leaders, Soldiers, civilians, and units that have the capability to achieve the Army force generation (ARFORGEN) objectives and to execute full-spectrum operations.

The PM will conduct Instructor and Key Personnel Training (IKPT) and support NET. The Materiel Developer will provide a NET team for fielding. Training products provided for NET will be used as the basis for institutional training development, unit sustainment training, and rapid train-up of replacement personnel in support of contingency operations. The training products will be prepared in accordance with the Training Requirements Analysis System (TRAS) process, the Army Analysis

, Design, Development, Implementation, and Evaluation (ADDIE) process and TRADOC Regulation 350-70. Task analysis and individual and collective task development will be performed using Training Development Capability database software, provided as Government Furnished Equipment (GFE).

5.1 New Equipment Training Concept (NET)

Training will be developed in IAW TP 525-8-2 Army Learning Concept and TP 525-8-3 Army Training Concept and AR 350-1, Army Training and Leader Development (ATLD) 04 Aug 2011. ATLD ensures an orderly transfer of knowledge on the operation and maintenance of equipment from the Materiel Developer (MATDEV) or provider to the tester, training developer, trainer, supporter, and user. It is described in detail in the New Equipment Training Plan (NETP) and funded by the materiel developer. ATLD includes Instructor and Key Personnel Training (I&KPT), New Equipment Training (NET), Doctrine and Tactics Training (DTT), and Sustainment Training (ST). ATLD requirements are the responsibility of the MATDEV and will be coordinated with the US Army Military Police School (USAMPS), Maneuver Support Center of Excellence (MSCoE) and US Army Combined Arms Support Command & the Sustainment Center of Excellence USACASOM, the Combat Developer/Training Developer, and other supported schools. Training development will include, exportable training support packages (TSP), Interactive Multimedia Instruction (IMI) and other forms of Distributed Learning (DL), Leader training, Unit training (collective and gunnery), and Combined Arms Training. An embedded training capability needs to be fielded with the CROWS as it is vital to the overall success of the program. Embedded training should consist of a full complement of training scenarios to support

a wide variety of operational environments for sustainment training.

NET provides the initial transfer of system technical information and knowledge from the contractor to operators and maintainers as the system is fielded. Actual fielding of production hardware and software includes training provided by the CROWS NETT. Those selected to attend NET must be serving in positions that require skills and knowledge of this system. The Program Manager will plan, organize, fund and field the NETT effort IAW AR 350-1.

Instructor and Key Personnel Training (I&KPT). I&KPT will be conducted prior to operational testing and NET. TRADOC instructors, NET team members, members of the test community, and other key personnel received system specific training from the contractor. Training will be administered in such a manner that the I&KPT trained personnel are capable of training replacement personnel, maintaining the stability of the training base, and developing training materials to support operational unit training.

There are three main categories of personnel that need to be trained: users, trainers, and maintainers. The PM shall develop products to ensure that all three of these categories are trained.

The method of NET delivery will be train-the-trainer, pending the gaining unit's schedule. NET will be primary mode of instruction during the fielding effort.

Operator training materials developed by the Program Manager will be reviewed by MSCoE training developer for completeness, content and applicability to military instruction and training in accordance with Service specific standards. All maintenance training materials developed by the PM will be reviewed by CASCOM for completeness, content and applicability to military instruction and training in accordance with Service specific standards.

User level training will consist of equipment operation, range fire, and Tactics, Techniques, and Procedures (TTP). Training will be accomplished utilizing personnel trained during IKPT. Maximum use will be made of Training Aids, Devices, Simulators, and Simulations (TADSS) to facilitate system training.

(1) The NET will deliver to the unit the materials to facilitate unit sustainment training.

Training Support Packages

5.2 Displaced Equipment Training (DET)

While modification of CROWS I hardware, based on the continued maturation of digital technologies and equipment, and application software updates are expected overtime, units will not require extensive training to effect the resulting changes. Software and application updates will include relevant and appropriate instructions for use at delivery to fielded units. In the event of dramatic changes to system form and/or function, final determination will be made by MSCoE, in coordination with the gaining command and PM CROWS, to determine if replacement of existing systems or software requires extensive formalized planning and training of the displaced system.

5.3 Doctrine and Tactics Training (DTT)

Doctrine and Tactics Training (DTT) provides the guidance to commanders, leaders, staff, and operators on how to employ and sustain the combat capabilities of new or improved equipment, systems, or organizations. The requirement for DTT is based on the changes to current doctrine and tactics. Each Proponent School will determine the training required for DTT upon the decision to field CROWS systems to respective organizations and will include the information in the NETP for funding. Resources for training include embedded training support packages (TSP), on CROWS equipment as well as training devices enhanced with a common set of operational and user interfaces that look, feel, and function like actual system equipment.

5.4 Training Test Support Package (TTSP)

The Training Test Support Package (TTSP) is developed to describe the training strategy for test player personnel participating in operational testing. The PM in conjunction with MSCoE will develop an initial TTSP and provide it to the test manager at least 12 months before Operational Testing (OT). The PM will deliver the final TTSP not later than (NLT) 90 days before testing begins. The initial TTSP will also support Instructor and Key Personnel Training (IKPT) as well as user training for OT. The TTSP will meet content requirements established in TR 350-70, Army Learning Policies and Systems, 6 Dec 2011. The matured TTSP becomes the production TSP which will be the foundation for Institutional, Unit, and Sustainment training.

The Maneuver Support Center of Excellence (MSCoE) will coordinate and integrate contractor developed materials into the Training Test Support Package (TTSP) which will meet or exceed the requirements outlined in TRADOC Regulation 350-70 prior to each phase of user testing (UT). The matured TTSP becomes the production TSP which will be the foundation for Institutional, Unit, and Sustainment training. The TTSP will contain the following materials

(items with an asterisk (*) are required to be included in the Production Training Support Package):

The TTSP is a full package. It is prepared following Instructor and Key Personnel Training (I&KPT) and receipt of the New Equipment Training Test Support Package. The contents of the Training TSP normally include:

Program of Instruction for each affected MOS/SSI/AOC (officer, warrant officer, and enlisted.

List of training devices and embedded training components

Ammunition, targets and ranges for training

Test Training Certification Plan

Trainer data requirements

Training Schedule(s)

Field Manuals (FM) or changes to FMs (when not provided with the Doctrine and organization test package

6.0 Institutional Training Domain

Institutional training of the CROWS for the Military Police School will only be added to institutional training if it is determined through analysis and design that it is critical to either initial military training (IET), professional military education (PME), or functional training.

The U.S. Army Ordnance School will conduct institutional Maintenance Training for MOS 91B, Wheeled Vehicle Mechanic Course.

6.1 Institutional Training Concept and Strategy

Training at the institution will follow the live, virtual, constructive, and gaming (LVC-G) methodology supported by a combination of embedded and stand-alone TADSS. The following institutions will be impacted by the CROWS.

The U.S. Army Ordnance School will conduct CROWS Maintenance Training for MOS 91B, Wheeled Vehicle Mechanic Course and 915A Unit Maintenance Technician (Light).

6.1.1 Product Lines

The Training Test Support Package (TTSP) will be developed by training developers from MSCoE and CASCOM in conjunction with PM. Initial Military Training and Professional Military Education courses will be supported by this TTSP and incorporated into the current curricula where applicable. The Training Developer will update appropriate training publications. The TSP will be CD-ROM based, and will include training guides and lesson plans.

The operator and maintenance TMs must follow the standard military design using a two-level maintenance system. ETMs are required.

6.1.1.1 Training Information Infrastructure

All NET will be developed in compliance with the Army Training Information Architecture (ATIA) Where applicable all institutional courseware will be developed in compliance with Army Training Information Architecture (ATIA). Web based courseware will be developed as Sharable Content Reusable Object Media (SCORM) compliant and playable in a Microsoft Internet Explorer browser, (referred to as IE browser which can be found on the Army Gold Master page), in the Distributed Learning System Digital Training Facility and will be distributed through ALMS.

6.1.1.1.1 Hardware, Software, and Communications Systems

Training packages, TMs and other forms of media are to be developed IAW TRADOC Reg 350-70 for access by authorized users. These products will be written IAW the ADDIE process and provided to proponent STID for input into the TDC database or current training development tool.

6.1.1.1.2 Storage, Retrieval, and Delivery

If applicable, digital information will be shared with the CAR, CALL repository, Unit Training Assistance Program (UTAP) or other military training repositories as necessary and with new repositories as they evolve through the Army Training Information Architecture (ATIA). Training material will support dL for AA/RC Soldiers.

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ultimedia disks developed in support of NET will be maintained at MSCoE/STID team. These and other training materials developed for NET will be left with

the unit for use in follow-on operational and sustainment training.

6.1.1.1.3 Management Capabilities

Information and training management capabilities include: the Army Training Network (ATN), the Central Army Registry (CAR), the Digital Training Management System (DTMS), the Army Learning Management System (ALMS), the Individual Training Resource Management (ITRM) System, and the Automated Instructional Management System-Personnel Computer (AIMS-PC).

6.1.1.1.4 Other Enabling Capabilities

Interoperability and data exchange as required by the Training Support System (TSS) will exist with the Army Training Integrated Architecture (ATIA), the Common Training Instrumentation Architecture (CTIA), and the Live-Virtual-Constructive- Gaming Integrated Architecture (LVCG-IA) to support the primary components of the TSS Training Information Infrastructure (TII). Additionally, the capabilities described above, other Army capabilities include: Army Knowledge-Online (AKO), Joint Training Information Management System (JTIMS), Command, Control, Communications, and Computers Intelligence, Surveillance, Reconnaissance (C4ISR), Global Information Grid (GIG), and Lifelong Learning.

6.1.1.2 Training Products

The PM will execute all system related training development activities in support of the proponent utilizing the TRADOC Army Learning Policy and Systems (ALPS) process (IAW TR 350-70) with all training and doctrinal analysis data documented using the Training Development Capabilities Program. All training products and courseware design development will be in accordance TP 525-8-2 w/C1 06Jun2011, and the Army Distributed Learning Program standards and standardized design tools. Additionally, the PM will be responsible for maintaining currency of the system TSP through the life cycle of the system.

6.1.1.2.1 Courseware

Training courses and materials developed to support the CROWS will be implemented as the Training Development Capability (TDC). Institutional training will be supported with a complete training support package (training materials, operator and maintainer training, support manuals, simulators,

computer-based training, distance learning (dL), Interactive Multimedia Instruction (IMI), facilities and vehicles). The training support package will be continually updated to capitalize on new technologies and operational requirements inherent in the CROWS. CROWS operation, capabilities and DTT will be provided to personnel with specific skill sets as identified by the operating Services

.

6.1.1.2.2 Courses

Training courses will be provided for all appropriate IMT, ALC and OES Courses for maintainers. The current suite of TRADOC Active Army (AA) and Reserve Component (RC) institutional courses will either incorporate, add-on, or be replaced by CROWS training. The only courses identified at this time for institutional training are listed in the below table.

6.1.1.2.3 Training Publications

6.1.1.2.4 Training Support Package (TSP)

The MATDEV will provide a complete TSP for individual and collective training, applying the Army Learning Model design principles from TRADOC Pamphlet 525-2-8 w/C1 06 Jun 2011, and utilizing data from operator and maintainer TMs provide a complete TSP for individual and collective training, utilizing data from operator and maintainer TMs. The TSP will include operator training guides from IET through unit sustainment. MSCoE personnel will attend the MATDEV's Logistics Demonstration, Validation/Verification of the TM, I&KPT and will validate training materials developed by the MATDEV.

The TSP will be produced in digital media, and will include training guides and lesson plans. The operator and maintenance TMs must follow the standard military design using a two-level maintenance system. ETMs are required. The TM and TSP will be used for initial and unit sustainment training. The composition of the TSP will mature as individual task analysis is completed.

6.1.1.3 TADSS

CROWS is a hardware and software system. The desired end state for TADSS support is a stand-alone, non-resident computer-based training capability that provides a self-tutor text program for individual training, and scenario driven and free-play local area networking (LAN) capabilities for collective unit training, to support institutional and unit learning center train-up and sustainment training.

The CROWS systems must maximize the use of embedded training (ET) and help systems and be integrated into existing Virtual and Gaming TADSS.

ET must include scenarios that are easily accessible within the integral help system that lets new users learn at their own pace. These tutorials must be sufficient to teach system basics without assistance from other training aids or trained personnel. The ET concept must address individual, crew, and unit collective tasks in support of CROWS. Multi-media training programs may be resident on the system or loaded onto the system for training.

CROWS will be integrated into the Combat Training Center Instrumentation System (CTC-IS) and Homestation Instrumentation Training System (HITS) support. The PM shall provide modeling information on the CROWS Inc II (content and functionality) to PEO STRI (PM-ACTT) and TCM Gaming so that the CROWS Inc II can be included in appropriate gaming applications.

TADSS proponents, in conjunction with the TADSS materiel developer, must consider the necessity of incorporating CROWS functionality into their training systems. These systems must be Distributed Interactive Simulation

(DIS) compatible and High Level Architecture (HLA) compliant to ensure interoperability among CROWS and the live, virtual, constructive, and gaming - integrated training environment (LVCG-ITE).

6.1.1.3.1 Training Aids

The MATDEV will produce training aids as appropriate for NET, Operational and Institutional training. The training aids must have Interoperability with all constructive training environments. All associated training aids and embedded training features will be Information Assurance (IA) compliant.

6.1.1.3.2 Training Devices

Training devices to be considered for use with the CROWS.

6.1.1.3.3 Simulators

Initial identification of Simulators relating to the CROWS Increment II. As the program progresses this paragraph will be updated to reflect additional requirements. An example of a simulator to add a training simulator to meet training for the slew to cue requirement in the CDD.

These include but are not limited to:

Reconfigurable Vehicle Tactical Trainer (RVTT),

Close Combat Tactical Trainer (CCTT)

Virtual Clearance Training Suite (VCTS) to your list of Simulators

6.1.1.3.4 Simulations

Simulations to be considered for CROWS:

6.1.1.3.5 Instrumentation

The CROWS must be inter operable with Homestation Instrumented Training System (HITS), and CTC instrumentation systems and

Digital Range Instrumentation

.

6.1.1.4 Training Facilities and Land

Ranges, Maneuver Training Areas, classrooms, Combat Training Centers, Logistics Support Areas, and Mission Command Training Complex (MCTC) (formerly the Mission Command Training Centers) required for individual and collective training within the institution and at unit level are programmed or in existence.

As described in paragraph 3.0, the PM will provide an assessment of any new requirements during the developmental and testing phases of this program

6.1.1.4.1 Ranges

Initial range requirements, as program develops range requirements will be updated:

6.1.1.4.2 Maneuver Training Areas (MTA)

There are no major impacts to maneuver training areas identified at this time

.

6.1.1.4.3 Classrooms

Training classrooms are required to support maintainer and technician training. These include traditional classrooms, classroom XXI, digital training facilities, and maintenance classrooms. They include but are not limited to:

6.1.1.4.4 CTCs

Institutions will not utilize Combat Training Centers.

6.1.1.4.5 Logistics Support Areas

Facilities are required for use by field service representatives (FSR) to provide technical support for the operation and maintenance of training systems. Storage and staging areas for training products and systems, both classified and unclassified, may be required

6.1.1.4.6 Mission Command Training Centers (MCTC)

The Mission Command Training Centers (MCTC's), Mission Simulation Centers (MSCs), Virtual Training Centers and New Equipment Training (NET) facilities may require an update to accommodate current and future CROWS upgrades such as increased sensor capabilities. MCTC facilities include but are not limited to:

6.1.1.5 Training Services

The institutional training domain requires the following management, acquisition, and general support services in order to implement the training concept and system training strategy.

6.1.1.5.1 Management Support Services

Information management services.

6.1.1.5.2 Acquisition Support Services

Development of training materials for CROWS training, such as IMI products and TSPs, and at least some instructors for such as for NET may require contractor support. All TADSS development and training support services will be managed through the MATDEV and existing contracting mechanism and business practices. Current analysis identifies the requirement for TADSS and training services associated with this system will be required.

6.1.1.5.3 General Support Services

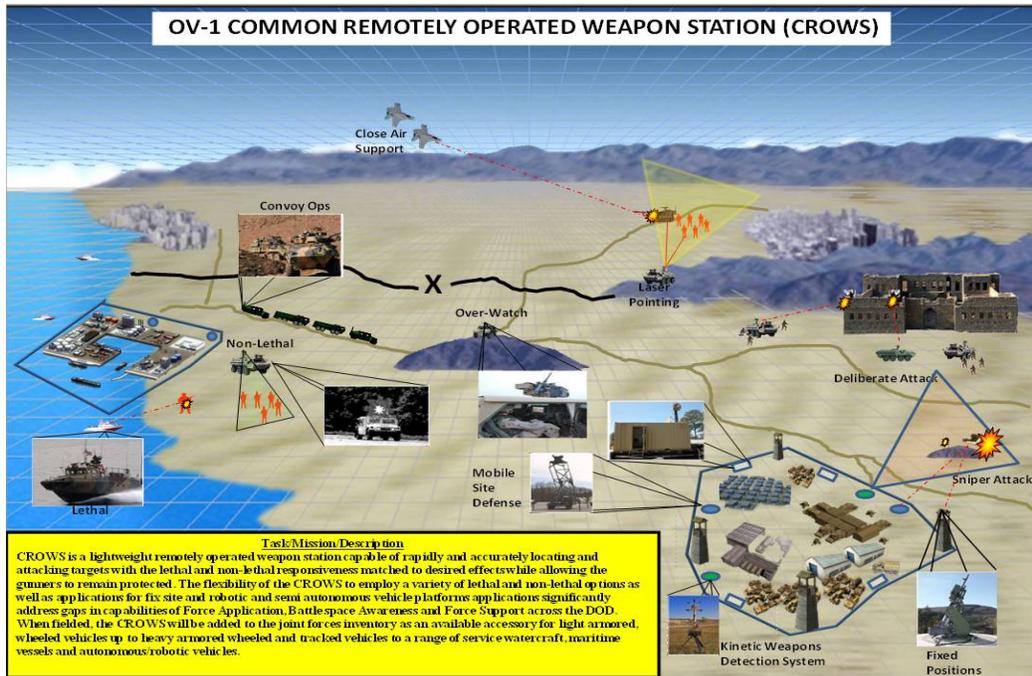
Services will be required for the reproduction of IMI media and TSPs, development and procurement CROWS TADSS and maintenance of the CROWS TADSS, and equipment

6.1.2 Architectures and Standards Component

The Institutional Architecture begins with the New Equipment Training Support Package (NETSP) developed by the Program Manager. The NETSP contains instruction on performing operator and maintainer tasks on the new item, as well as any TTP developed by the institution's Combat Developer/Training Developer, associated with the employment of the new item. The NETSP is handed

off to the institution(s), where the Directorate of Training, Doctrine, provides the package to their Training Development Division for refinement and development of the training support system used in the institution.

6.1.2.1 Operational View (OV)



6.1.2.2 Systems View (SV)

Within the LVC architecture, the CROWS will interact as a live entity, conducting maneuver and live fire digital gunnery, with virtual and constructive TADSS in a seamless, synthetic environment. The goal is to produce a multi-grade, multi-echelon training events that maximize leadership opportunities and increases the frequency of each student's experience in all types of training.

6.1.2.3 Technical View (TV)

All web based training products will be SCORM compliant. All simulations and simulators will be HLA compliant. Standard accurate data and models of the NW will be developed for use in current and future virtual and constructive simulators/simulations (e.g., the Warfighter's Simulation). TSS products will

be planned, prepared, and developed IAW the following operational and technical architectures as applicable: GIG, ATIA, and CTIA. All training materials developed by the MATDEV will be developed in the TDC database. The CROWS will support system-to-system compatibility with the following:

6.1.3 Management, Evaluation, and Resource (MER) Processes Component

MER process components, both internal and external drivers, that guide the development, maintenance and sustainment of the TSS are described below

.

6.1.3.1 Management

6.1.3.1.1 Strategic Planning

Where possible CROWS will use existing facilities and support infrastructure. The staff training estimate in support of CROWS will focus on the most efficient use of existing resources and precisely identify and quantify any expected shortfalls. Training development will focus on producing products that are capable of being used both in the institution and in the operational training domain and focused only on combat critical tasks. Training will incorporate the maximum use of simulations to mitigate cost and risk. Students and instructors will be routinely asked to evaluate training events and products to determine how best to improve the quality and efficiency of instruction and training events to provide the best quality training with the least expenditure of resources.

6.1.3.1.2 Concept Development and Experimentation (CD&E)

The development and fielding of the CROWS supports Army and Training Transformation and is consistent with the guidance found in the following documents:

6.1.3.1.3 Research and Studies

The research and studies of the system will be in compliance with all JCIDS requirements and will be determined at a later date.

6.1.3.1.4 Policy and Guidance

The following policies and guidance impact training:

6.1.3.1.5 Requirements Generation

The MSCoE Capabilities Development Integration Division will identify any additional training requirement during operational testing.

6.1.3.1.6 Synchronization

The fielding of CROWS will be synchronized with the following as applicable:

6.1.3.1.7 Joint Training Support

The fielding of CROWS will be synchronized with the following as applicable:

6.1.3.2 Evaluation

As part of the evaluation phase of the SAT process, Post Fielding Training Effectiveness Analysis (PFTEA) will be conducted. The purpose of this PFTEA will be to determine how effectively and efficiently the CROWS is meeting user training requirements. The findings will be used to provide lessons learned information on the training development effort associated with future weapon systems and/or product improvement.

6.1.3.2.1 Quality Assurance (QA)

QA plans will be used IAW each installation's QA plan. Each QA Office (QAO) will use proven techniques to determine the quality of training provided by the institution. External evaluations will focus on the use of tasks trained, the proper application of those tasks, and identification of tasks not trained but needed. Internal evaluations will focus on the presentation of the tasks at the institution, the course content, and the presentation of material by the instructor. QAO will be responsible for conducting any Post Fielding Training Effectiveness Analysis (PFTEA). Observations will be reported to respective DOT for corrective actions.

MSCoE and SCoE will develop a core QA plan. The operating proponents will adapt the core QA plan for their units, and then distribute to each installation's QA office for implementation.

6.1.3.2.2 Assessments

In addition to PFTEAs the following assessments will be utilized

6.1.3.2.3 Customer Feedback

Feedback from the user will consist of the following:

6.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

Routine post training AARs will aid in reducing inefficiencies and focusing training efforts.

The Military Police School will leverage the Center for Army Lessons Learned (CALL) and the Battle Command Knowledge System (BCKS) databases for new TTPs as well as conducting face to face interviews with units/individuals returning from theater to ensure training programs remain current/relevant to the employment of the CROWS system.

6.1.3.3 Resource

Institutional Training and Training Development

Item	Prior	FY13	FY14	FY15	FY16	FY17	FY18
Resourced		Yrs or \$K					
<u>Manpower -</u>							
TD							
Contractor		\$500K	\$500K	\$500K	\$500	\$500K	\$500K
Civilian		\$1M	\$1M	\$1M	\$1M	\$1M	\$1M
Enlisted		\$250K	\$250K	\$500K	\$500K	\$500K	\$500K
Warrant			\$500K	\$500K	\$500K	\$500K	\$500K
Officer		\$250K	\$250K	\$250	\$250	\$250	\$250
Contract/Spt							
Civ Pay		\$200K	\$200K	\$200K	\$200K	\$200K	
Trvl/Per Diem		\$50K	\$75K	\$75K	\$75K	\$75	\$75
Other							

Rationale: MSCoE/CASCOM requires instructors and training developers to implement and maintain the course documentation, programs of instruction, and other outputs of the SAT process. Personnel mix requires further analysis to determine the most effective division of work between Soldiers, Civilians, and Contractors. Travel/Per Diem represents cost to attend training and review; and for four instructor/key personnel to evaluate training prior to operational testing. TDY costs for required reviews and meetings are based on four 5-day meetings per year and four personnel spending 2 weeks at the contractor location for training development purposes.

NET Training Development

Item Resourced	Prior	FY13 Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K
<u>New Equipment Training</u>							
Civilian Pay		\$5M	\$2.5M				
Enlisted		\$250K	\$250K	\$250K	\$250K	\$250K	\$250
Contract/Spt							
Trvl/Per Diem		\$75K	\$75K				
Classrooms							
Equipment							
AC/DC Power							
Printing		\$65K	\$65K	\$65K	\$65K	\$25K	\$25K
Other							

Rationale: Initial NET training requirement included the IKPT, and verification and validation of contractor-provided training materials. Operator Training will only be provided through NET. Work efforts include training development and evaluation, input/development/updates of requirement documentation pertaining to training, attendance at IPTs, IPRs, TIMs, etc., and verification of technical manuals. Travel/Per Diem amounts represent costs to attend required reviews/meetings mentioned above. Personnel mix requires further analysis to determine the most effective division of worked between Soldiers, Civilians,

and Contractors.

Training Products

Item Resourced	Prior Yrs or \$K	FY13 Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K
<u>Training Products</u>							
Training Pubs		\$300K	\$75K	\$30K	\$30K	\$33K	
TSP		\$450K	\$250K	\$250			
IMI							
ETM							
STP		\$200K	\$200K	\$200K	\$200K		
IETM							
ARTEP/MTP							
Printing							
Distribution							
Other							

Rationale: costs to develop, revise, maintain, and distribute training products. This includes cost to develop TSP that will be used for NET, institutional, operational and self-development domains.

TADSS

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Item	Prior	FY13	FY14	FY15	FY16	FY17	FY18
Resourced		Yrs or \$K					
TADSS							
Training Aids							
Devices							
Simulators							
Simulations							
GTA		\$150K	\$150K				
Software		\$100K	\$100K	\$100K	\$100k		
Trng Equip*							
Equipment							
Printing							
Shipment							
Sustainment							
Other							

Rationale: Cost is only reflective of the production of Graphic training aids at this time to support Operators training. The CROWS will have an embedded trainer with all costs rolled up into the development of the actual CROWS System. Costs for the integration of a CROWS gunner station into existing CCTT, RVTT and VCTS simulators is TBD.

Evaluation and Quality Assurance

Item	Prior	FY13	FY14	FY15	FY16	FY17	FY18
------	-------	------	------	------	------	------	------

Resourced		Yrs or \$K					
Eval/QA							
Civilian		\$250K	\$250K	\$250K	\$250K	\$250K	
Enlisted		\$250K	\$250K	\$250K	\$250K	\$250K	
PFTEA			\$50K				
Other							

Rationale: Personnel will be required to conduct evaluation/quality assurance of training.

7.0 Operational Training Domain

The objective of operational training is to improve, sustain and maintain combat readiness. Units equipped with the CROWS will receive operators and maintainers initial training through NET. NET teams will conduct operational training through classrooms instruction, hands-on training and live fire exercises. All NET training materials will be provided to each unit so they can integrate into the unit sustainment-training program as needed.

Operational units are responsible for the sustainment of institutionally taught and/or NET trained skills. Unit training shall incorporate individual, leader, and collective tasks, to include the DTT for operators, commanders, and their staff using train-the-trainer method. Units train CHARCS system tasks during Sergeant's Time Training (STT), lane training, Field/Situational Training Exercises (FTX/STX), Combat Training Center (CTC) exercises or other training sessions deemed appropriate by Commanders.

7.1 Operational Training Concept and Strategy

The objective of operational training is to improve, sustain and maintain combat readiness. Units equipped with the CROWS will receive initial training through NET when the CROWS is fielded. There are no CROWS assets at institutions. All NET training materials will be provided to each unit so they can integrate into the unit sustainment-training program as needed.

Unit training events provide a progressive and sequential approach to enhance knowledge and skills. The spiral developed method capitalizes on multi-echelon training opportunities with designated training events that can be concurrently trained by various echelons of the unit. Many events further represent critical training gates to provide the prerequisite task training to prepare each element for the next progressive and perhaps more demanding collective training.

The Commander considers the Mission Essential Task List (METL) proficiency and Commander's training guidance. The Commander uses the combined arms training strategy (CATS) to select the events to achieve or sustain training proficiency on the mission essential task list (METL) tasks. The training for headquarters' elements before execution of major events, focus on a series of leader and staff exercises to improve proficiency for leaders, staff sections, staff groups, and the full staff on tasks for planning, directing and monitoring operations. The staff training includes Military Decision Making Process (MDMP) to train the staff to plan, direct, and monitor preparation for

and execution of missions.

Unit sustainment training will use embedded training and training materials (instructional materials, exercises, GTAs, technical manuals, etc.) provided in the NET stay-behind package, and those multi-media and distributed Learning products developed by contractors and approved by the proponent school. Unit training will be conducted on two levels, individual tasks and collective tasks, and will be progressive from initial individual training to unit level collective training.

7.1.1 Product Lines

The following are product lines suitable for operational training:

7.1.1.1 Training Information Infrastructure

The

contractor will develop a TM in the LOGSA Interactive Electronic Technical Manual (IETM) format and a hard copy will be provided with each CROWS.

7.1.1.1.1 Hardware, Software, and Communications Systems

Hardware, Software, and Communications Systems. The Army Knowledge Online (AKO) infrastructure includes approved Learning Management Systems (LMS) that register students and track their progress, and provides an integrated platform for content, delivery, and management of learning via Web Based Training (WBT). The user interface is through an internet connection or use of an intranet and other standard communications protocols.

7.1.1.1.2 Storage, Retrieval, and Delivery

The Army Training Network (ATN) serves many training functions including delivery of individual and collective tasks to the Army. The Digital Training Management System (DTMS) is the primary means to deliver individual tasks, while the Combined Arms Training Strategies deliver collective tasks to the Army. CAR includes training products and TM storage and retrieval.

The Materiel Developer shall deliver all training products at completion of project for input into the Training Development Capability (TDC).

7.1.1.1.3 Management Capabilities

The ALMS/LMS is an infrastructure platform through which learning content is delivered and managed and is accessible through the Army Training Network (ATN). It consists of a combination of hardware and software tools that perform a variety of functions related to online and offline training administration, as well as student and performance management. The ALMS/LMS will manage both the content and the users, and is flexible enough to expand with growth and maturity of the system and the organization it supports. The ALMS/LMS provides the capability to author and manage courseware and content delivery. It works with Learning Content Management Systems (LCMS), using learning objects for reuse and syndication. This management system may also interface with a development environment for rapid upgrades. The ALMS will track student progression through lessons, exercises, and evaluations.

7.1.1.1.4 Other Enabling Capabilities

I

7.1.1.2 Training Products

Training products will be developed IAW the most current version of TRADOC Regulation 350-70, TRADOC Pamphlet 525-8-2 w/C1 06Jun2011, and DODI 1322.26 to maximize reusability and standardization throughout the components and domains. Adherence to Army standards and development for reusability can facilitate rapid integration throughout the institutional, operational and self-development domains, and maximize the return on investment of training funds.

7.1.1.2.1 Courseware

The PM will provide CROWS multi-media training support package that can be used to support unit sustainment training. The PM will also be responsible for upgrading the TSP to reflect engineering changes to CROWS.

7.1.1.2.2 Courses

Course Name	Course Number
Initial Military Training	
Professional Military Education (PME)	

Functional And ASI	
Mobilization	

No courses are anticipated for unit training

7.1.1.2.3 Training Publications

Publications	Publication Date
Field Manuals	
FM3.22.27 Mk 40mm Grenade Machine Gun Mod 3	28 Nov 2003 w/ch 1 14 Sept 2006
FM 3-22.65 Browning Machine Gun, Caliber .50 HB, M2	3 March 2005 w/ Ch 1. 11 Apr 2007
FM 3-22.68 Crew-Served Machine Guns, 5-56mm and 7.62mm	21 July 2006
FM 7-15 The Army Universal Task List	27 February 2009 w/ Ch 9. 9 Dec 2011
FM 3-20.21 HBCT Gunnery	Ch 1, 31 May 2010
Technical Manuals	
TM 9-1005-313-10 (M240 Seriesr Machine Gun, 7.62-mm, M240	15 November 2002
TM 9-1005-213-10 Machine Guns, Caliber .50; M2 Heavy Barrel	February 2010
TM 9-1010-230-10 Machine Gun, 40mm, MK19, Mod 3	30 May 2001
TM 9-1005-201-10 Machine Gun, 7.62mm, M249	28 June 2012

7.1.1.2.4 TSP

The MATDEV will provide a complete TSP for individual and collective training, utilizing data from operator and maintainer TMs. The TSP will include operator training guides from initial operator training through unit sustainment. MSCoE and CASCOM personnel will attend the MATDEV's Logistics Demonstration, Validation/Verification of the TM, I&KPT and will validate training materials developed by the MATDEV.

The TSP will be produced in digital media, and will include training guides and lesson plans. The operator and maintenance TMs must follow the standard military design using a two-level maintenance system. ETMs are required. The TM and TSP will be used for unit initial and sustainment training. The composition of the TSP will mature as individual task analysis is completed.

7.1.1.3 TADSS

7.1.1.3.1 Training Aids

The MATDEV will produce training aids as appropriate for NET, Operational and Institutional training. The training aids must be compliant with the Live, Virtual, Constructive, Gaming and Interactive Training Environments (LVCG-ITE). All associated training aids and embedded training features will be Information Assurance (IA) compliant.

7.1.1.3.2 Training Devices

Training devices to be considered for use with the CROWS.

Instrumentable Multiple Integrated Laser Engagement System Independent

CROWS spider mount this allows for the actual CROWS to be installed on a mount and use for classroom/motorpool instruction. It allows a larger number of personnel to be instructed on the system prior to getting into a vehicle to work with the CROWS.

An embedded training capability will be operated using the CROWS training mode

7.1.1.3.3 Simulators

Initial identification of Simulators relating to the CROWS Increment II. As the program progresses this paragraph will be updated to reflect additional requirements. An example of a simulator to add; a training simulator to meet training for the slew to cue requirement in the CDD.

These include but are not limited to:

Reconfigurable Vehicle Tactical Trainer (RVTT),

Close Combat Tactical Trainer (CCTT)

Virtual Clearance Training Suite (VCTS) to your list of Simulators

7.1.1.3.4 Simulations

Simulations are a method for implementing a model(s) over time; any representation or imitation of reality, to include environment, facilities, equipment, mechanical and maneuver operations, motion, role playing, leadership, and so forth. They are the representation of salient features, operations, or environment of a system, subsystem, or scenario that usually supports the constructive environment. These include but are not limited to:

7.1.1.3.5 Instrumentation

The CROWS must be inter operable with Homestation Instrumented Training System (HITS),and CTC instrumentation systems and Digital Range Instrumentation

.

7.1.1.4 Training Facilities and Land

Ranges, Maneuver Training Areas, classrooms, Combat Training Centers, Logistics Support Areas, and Mission Command Training Centers (formerly the Battle Command Training Centers) required for individual and collective training within the institution and at unit level are programmed or in existence. As described in paragraph 3.0, the PM will provide an assessment of any new requirements during the developmental and testing phases of this program.

7.1.1.4.1 Ranges

7.1.1.4.2 Maneuver Training Areas (MTA)

Light Force Training Areas

Heavy Force Training Areas

7.1.1.4.3 Classrooms

No changes to classrooms will be required

7.1.1.4.4 CTCs

All four primary training centers will be used to train the CROWS

- Battle Command Training Program (BCTP)
- Combat Maneuver Training Center (CMTC)
- Joint Readiness Training Center (JRTC)
- National Training Center (NTC).

7.1.1.4.5 Logistics Support Areas

Facilities are required for use by field service representatives (FSR) to provide technical support for the operation and maintenance of training systems. Additional services can be provided by Training Support Centers

.

7.1.1.4.6 Mission Command Training Centers (MCTC)

CROWS will be compatible and inter operable with One TESS; Home Station, HITS, CTC-IS; and MCTC, Multiple Integrated Laser Engagement System (MILES) and Thru-Sight Video Systems (TSV). The CROWS must also be instrumented for use on the Digital Multipurpose Range Complex (DMPRC) for systems which support training through digital, audio and video, and hard copy data capture; exercise monitor and control; AAR and etc

.

7.1.1.5 Training Services

7.1.1.5.1 Management Support Services

Development of TADSSs must be done in conjunction with the system acquisition process. MSCoE and CASCOM where applicable will manage courseware and DL

products through in-house course managers. Before TADSS are turned over to the TADSS manager of the installation, device numbers must be assigned by Army Training Support Center and entered into the Materiel Army wide Tracking System for accountability and accurate tracking.

7.1.1.5.2 Acquisition Support Services

Requirement for acquisition support services for the operational training domain has not been fully determined.

7.1.1.5.3 General Support Services

7.1.2 Architectures and Standards Component

The Architecture begins with the New Equipment Training Support Package (NETSP) developed by the Program Manager. The NETSP contains instruction on performing operator and maintainer tasks on the new item, as well as any TTP developed by the institution's Combat Developer/Training Developer, associated with the employment of the new item. The NETSP is handed off to the institution(s), where the Directorate of Training,

Doctrine, provides the package to their Training Development Division for refinement and development of the training support system used in the institution.

7.1.2.1 Operational View (OV)

7.1.2.2 Systems View (SV)

7.1.2.3 Technical View (TV)

7.1.3 Management, Evaluation, and Resource (MER) Processes Component

The Quality Assurance Officer (QAO) will conduct periodic surveys to obtain feedback on the effectiveness of the CROWS NET leave behind package training material at the units and how it impacts the unit level training/missions. This information will be used to analyze and update training, critical tasks



and doctrine

7.1.3.1 Management

Where possible the CROWS will use existing facilities and support infrastructure. Training development will focus on producing products that are capable of being used both in the institution and in the operational training domain and focused only on combat critical tasks. Training will incorporate the maximum use of simulations to mitigate cost and risk. Students and instructors will be routinely asked to evaluate training events and products to determine how best to improve the quality and efficiency of instruction and training events to provide the best quality training with the least expenditure of resources

7.1.3.1.1 Strategic Planning

The development and fielding of CROWS supports Army and Training Transformation and is consistent with the guidance found in the following documents:

7.1.3.1.2 Concept Development and Experimentation (CD&E)

The development and experimentation of the system will be in compliance with all JCIDS requirements.

7.1.3.1.3 Research and Studies

The research and studies of the system will be in compliance with all JCIDS requirements and will be determined at a later date

.

7.1.3.1.4 Policy and Guidance

The documents listed below apply to the design, procurement, and use of the BFoV:

7.1.3.1.5 Requirements Generation

This STRAP supports the CDD

7.1.3.1.6 Synchronization

The fielding of the CROWS will be synchronized with the following as applicable:

7.1.3.1.7 Joint Training Support

Initiatives that support the alignment of the Army TSS with joint training support initiatives include:

7.1.3.2 Evaluation

A Post Fielding Training Effectiveness Analysis (PFTEA) ensures training capabilities trains Soldiers, leaders, and units to standard. A PFTEA will be conducted approximately 1-year following FUE and any follow-on PFTEAs directed.

7.1.3.2.1 Quality Assurance (QA)

The MSCoE Requirements Determination Division will provide quality assurance of training (IKPT, NET) and all training products

7.1.3.2.2 Assessments

A PFTEA will validate institutional and sustainment training to ensure that mission requirements is met. Evaluation assistance will be given from the USAMPS in the form of on-site surveys and follow-up reporting of feedback

from gaining units. The post fielding evaluation will provide findings and actions taken by the USAMPS to correct deficiencies for gaining Commanders. USAMPS will conduct a PFTEA approximately one year following the FUE. The timeline will depend on unit availability and operational tempo. The PFTEA will be funded through the MATDEV.

7.1.3.2.3 Customer Feedback

Feedback from the user will consist of the following:

7.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

Routine post training AARs will aid in reducing inefficiencies and focusing training efforts.

The Military Police School will leverage the Center for Army Lessons Learned (CALL) and the Battle Command Knowledge System (BCKS) databases for new TTPs as well as conducting face to face interviews with units/individuals returning from theater to ensure training programs remain current/relevant to the employment of the CROWS system.

7.1.3.3 Resource Processes

The below table has the current funding required upon further evaluation and cost data from the PM additional tables for funding will be added.

Institutional Training and Training Development

Item Resourced	Prior	FY13 Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K
<u>Manpower - TD</u>							
Contractor		\$500K	\$500K	\$500K	\$500	\$500K	\$500K
Civilian		\$1M	\$1M	\$1M	\$1M	\$1M	\$1M
Enlisted		\$250K	\$250K	\$500K	\$500K	\$500K	\$500K
Warrant			\$500K	\$500K	\$500K	\$500K	\$500K
Officer		\$250K	\$250K	\$250	\$250	\$250	\$250
Contract/Spt							
Civ Pay		\$200K	\$200K	\$200K	\$200K	\$200K	
Trvl/Per Diem		\$50K	\$75K	\$75K	\$75K	\$75	\$75
Other							

Rationale: MSCoE/CASCOM requires instructors and training developers to implement and maintain the course documentation, programs of instruction, and other outputs of the SAT process. Personnel mix requires further analysis to determine the most effective division of work between Soldiers, Civilians, and Contractors. Travel/Per Diem represents cost to attend training and review; and for four instructor/key personnel to

evaluate training prior to operational testing. TDY costs for required reviews and meetings are based on four 5-day meetings per year and four personnel spending 2 weeks at the contractor location for training development purposes.

NET Training Development

Item	Prior	FY13	FY14	FY15	FY16	FY17	FY18
Resourced		Yrs or \$K					
<u>New</u> <u>Equipment</u> <u>Training</u>							
Civilian Pay		\$5M	\$2.5M				
Enlisted		\$250K	\$250K	\$250K	\$250K	\$250K	\$250
Contract/Spt							
Trvl/Per Diem		\$75K	\$75K				
Classrooms							
Equipment							
AC/DC Power							
Printing		\$65K	\$65K	\$65K	\$65K	\$25K	\$25K
Other							

Rationale: Initial NET training requirement included the IKPT, and verification and validation of contractor-provided training materials. Operator Training will only be provided through NET. Work efforts include training development and evaluation, input/development/updates of requirement documentation pertaining to training, attendance at IPTs, IPRs, TIMs, etc., and verification of technical manuals.

Travel/Per Diem amounts represent costs to attend required reviews/meetings mentioned above. Personnel mix requires further analysis to determine the most effective division of worked between Soldiers, Civilians, and Contractors.

Training Products

Item Resourced	Prior Yrs or \$K	FY13 Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K
<u>Training Products</u>							
Training Pubs		\$300K	\$75K	\$30K	\$30K	\$33K	
TSP		\$450K	\$250K	\$250			
IMI							
ETM							
STP		\$200K	\$200K	\$200K	\$200K		
IETM							
ARTEP/MTP							
Printing							
Distribution							
Other							

Rationale: costs to develop, revise, maintain, and distribute training products. This includes cost to develop TSP that will be used for NET, institutional, operational and self-development domains.

TADSS

Item	Prior	FY13	FY14	FY15	FY16	FY17	FY18
Resourced		Yrs or \$K					
TADSS							
Training Aids							
Devices							
Simulators							
Simulations							
GTA		\$150K	\$150K				
Software		\$100K	\$100K	\$100K	\$100k		
Trng Equip*							
Equipment							
Printing							
Shipment							
Sustainment							
Other							

Rationale: Cost is only reflective of the production of Graphic training aids at this time to support Operators training. The CROWS will have an embedded trainer with all costs rolled up into the development of the actual CROWS System. Costs for the integration of a CROWS gunner station into existing CCTT, RVTT and VCTS simulators is TBD.

Evaluation and Quality Assurance

Item Resourced	Prior	FY13 Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K	FY16 Yrs or \$K	FY17 Yrs or \$K	FY18 Yrs or \$K
<u>Eval/QA</u>							
Civilian		\$250K	\$250K	\$250K	\$250K	\$250K	
Enlisted		\$250K	\$250K	\$250K	\$250K	\$250K	
PFTEA			\$50K				
Other							

Rationale: Personnel will be required to conduct evaluation/quality assurance of training.

8.0 Self-Development Training Domain

8.1 Self-Development Training Concept and Strategy

8.1.1 Product Lines

8.1.1.1 Training Information Infrastructure

8.1.1.1.1 Hardware, Software, and Communications Systems

8.1.1.1.2 Storage, Retrieval, and Delivery

8.1.1.1.3 Management Capabilities

8.1.1.1.4 Other Enabling Capabilities

8.1.1.2 Training Products

8.1.1.2.1 Courseware

8.1.1.2.2 Courses

Course Name	Course Number
Initial Military Training	
Professional Military Education (PME)	

Functional And ASI	
Mobilization	

8.1.1.2.3 Training Publications

Publications	Publication Date
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8.1.1.2.4 Training Support Package (TSP)

8.1.1.3 Training Aids, Devices, Simulators and Simulations (TADSS)

8.1.1.3.1 Training Aids

8.1.1.3.2 Training Devices

8.1.1.3.3 Simulators

8.1.1.3.4 Simulations

8.1.1.3.5 Instrumentation

8.1.1.4 Training Facilities and Land

8.1.1.4.1 Ranges

8.1.1.4.2 Maneuver Training Areas (MTA)

8.1.1.4.3 Classrooms

8.1.1.4.4 CTCs

8.1.1.4.5 Logistics Support Areas

8.1.1.4.6 Mission Command Training Centers (MCTC)

8.1.1.5 Training Services

8.1.1.5.1 Management Support Services

8.1.1.5.2 Acquisition Support Services

8.1.1.5.3 General Support Services

8.1.2 Architectures and Standards Component

8.1.2.1 Operational View (OV)

8.1.2.2 Systems View (SV)

8.1.2.3 Technical View (TV)

8.1.3 Management, Evaluation, and Resource (MER) Processes Component

8.1.3.1 Management

8.1.3.1.1 Strategic Planning

8.1.3.1.2 Concept Development and Experimentation (CD&E)

8.1.3.1.3 Research and Studies

8.1.3.1.4 Policy and Guidance

8.1.3.1.5 Requirements Generation

8.1.3.1.6 Synchronization

8.1.3.1.7 Joint Training Support

8.1.3.2 Evaluation

8.1.3.2.1 Quality Assurance (QA)

8.1.3.2.2 Assessments

8.1.3.2.3 Customer Feedback

8.1.3.2.4 Lessons Learned/After-Action Reviews (AARs)

8.1.3.3 Resource Processes

Item	Prior	FY10	FY11	FY12	FY13	FY14	FY15
Resourced		Yrs or \$K					
<u>Manpower -</u>							
TD							
Contractor							
Civilian							
Enlisted							
Warrant							
Officer							
Contract/Spt							
Civ Pay							
Trvl/Per Diem							
Other							

Rationale:

Item	Prior	FY10	FY11	FY12	FY13	FY14	FY15
Resourced		Yrs or \$K					
<u>New</u>							

<u>Equipment</u>							
<u>Training</u>							
Contractor							
Contract/Spt							
Trvl/Per Diem							
Classrooms							
Equipment							
AC/DC Power							
Printing							
Other							

Rationale:

Item	FY10	FY11	FY12	FY13	FY14	FY15	FY10
Resourced	Yrs or \$K						
<u>Training</u>							
<u>Products</u>							
Training Pubs							
TSP							
IMI							
ETM							

STP							
IETM							
ARTEP/MTP							
Printing							
Distribution							
Other							

Rationale:

Item Resourced	Prior	FY10 Yrs or \$K	FY11 Yrs or \$K	FY12 Yrs or \$K	FY13 Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K
<u>TADSS</u>							
Training Aids							
Devices							
Simulators							
Simulations							
GTA							
Software							
Trng Equip*							
Equipment							
Printing							

Shipment							
Sustainment							
Other							

Rationale:

Item Resourced	Prior	FY10 Yrs or \$K	FY11 Yrs or \$K	FY12 Yrs or \$K	FY13 Yrs or \$K	FY14 Yrs or \$K	FY15 Yrs or \$K
- <u>Facilities/L</u> and							
Facilities							
Land							
Site Surveys							
Concrete Pad							
AC/DC Power							
Equipment							
Maintenance							
Other							

Rationale:

Item	Prior	FY10	FY11	FY12	FY13	FY14	FY15
Resourced		Yrs or \$K					
<u>Training</u>							
Services/TII							
LMS							
Services							
Servers							
Licenses							
IT Support							
Other							

Rationale:

Item	Prior	FY10	FY11	FY12	FY13	FY14	FY15
Resourced		Yrs or \$K					
<u>Eval/QA</u>							
Contractor							
Civilian							
Enlisted							
Warrant							
Officer							

Contract/Spt							
Civ Pay							
Trvl/Per Diem							
Facilities							
Equipment							
Printing							
TEA							
PFTEA							
Other							

Rationale:

A Milestone Annex

TRAINING DEVELOPMENT MILESTONE SCHEDULE - SHEET A		PAGE 1 OF 1 PAGES		REQUIREMENTS CONTROL SYMBOL
SYSTEM		ACAT I	OFFICE SYMBOL ATZT-CD	AS OF DATE 1 Feb 13
POINTS OF CONTACT		NAME	OFFICE SYMBOL	TELEPHONE
MATERIEL COMMAND		COL Thomas Ryan	SFA-SDR-CSW	973-724-3476
TRADOC PROPONENT		USAMPS/CSCOM		
TCM				
CD:		SFC Ross, Teddy	ATZT-CD	573-563-6245
TD:		Eileen Flynn	ATZT-CD	573-563-7845
ATSC:		Tina Hilliman	ATIC-DS	757-878-0721
SUPPORTING PROPONENTS:		Clifford Triplet CASCOM	ATCL-TS	804-765-1222
ITEM	DATE	RESPONSIBLE AGENCY/POC		TELEPHONE
MNS:		MSCOE	Ken Garrett	573-563-7889
SMMP:		PM-Crew Served Weapons	Archie Johnson	973-724-7794
MRD:				
ILSMP:		PM Crew Served Weapons	Archie Johnson	973-724-7794
TTSP:		PM Crew Served Weapons	Archie Johnson	973-724-7794

QQPRI:				
BOIP:		MSCoE	Daniel Waddle	573-563-8003
NETP:				
COMMENTS:				

TRAINING DEVELOPMENT MILESTONE SCHEDULE - SHEET B		PAGE 1 OF 1 PAGES			REQUIREMENTS CONTROL SYMBOL ATZT-CD					
SYSTEM CROWS		TRADOC SYMBOL atzt-cd				AS OF DATE 1 Feb 13				
TRAINING PACKAGE ELEMENT/PRODUCT										
LEGEND :	MILESTONES BY QUARTER									
	Miles tone C					x				
TTSP		x								
TSP			x							

NOTE: The following table is optional; however, it is useful for populating SHEET B above and provides greater detail for each milestone. If not used, delete from this section before submitting for staffing.

	Individual Training Plan (Per each ITP)	
	Milestone:	Date
	1. Initial Individual Training Plan (ITP) submitted.	
	2. Annotated task list submitted.	
	3. Course Administrative Data (CAD) submitted.	
	4. Training Program Worksheet (TPW) submitted.	
	5. ITP submitted.	
	6. POI submitted.	

	7. Digitized copy archived.	
	8. Resident course start date (NLT 12 months after FUE).	
	Army Correspondence Course Program	
	(Only as a DL portion of a TATS course)	
	Milestone:	Date
	1. Requirement identified and submitted for approval.	
	2. Requirement approved by HQ TRADOC.	
	3. Development initiated.	
	4. Advance breakdown sheet submitted.	
	5. Digitized camera-ready copy (CRC) submitted.	
	6. Subcourse material ready	

	for replication/distribution.	
	Field Manuals (FMs)	
	Milestone:	Date
	1. Requirements identified.	
	2. Draft FM changes validated.	
	3. FM outlines approved.	
	4. FM coordinating draft completed.	
	5. Print/digitization request initiated.	
	6. Approved digitized CRC submitted.	
	7. Replication/distribution completed.	
	Army Training Literature	

	Note: Includes the Soldiers' Manual (SM), Trainers' Guide (TG), and Army Training and Evaluation Program (ARTEP) products.	
	Milestone:	Date
	1. Analysis completed.	
	2. Draft SM, ARTEP MTP, and TG.	
	3. ATSC staffing.	
	4. Digitized/CRC submitted.	
	5. Replication/distribution completed.	
	Interactive Multimedia Instruction (IMI)/Distance Learning	
	Milestone:	Date
	1. Requirements identified and submitted for approval.	

	2. Requirements approved by ATSC and TRADOC.	
	3. Resources identified.	
	4. Courseware developed and validated.	
	5. Master materials to ATSC for replication and distribution.	
	6. Replication/distribution completed.	
	Training Effectiveness Analysis (TEA)	
	(Conducted in-house, by contract, Training Development and Analysis Activity [TDAA], TRADOC Analysis Center [TRAC], or Program Manager [PM])	
	Milestone:	Date
	1. TEA during capabilities development.	

	2. TEA updated for Milestone Decision Review A.	
	3. TEA updated for Milestone Decision Review B.	
	4. TEA updated for Milestone Decision Review C.	
	5. Post-Fielding TEA (PFTEA) planned.	
	Army Visual Information Production and Distribution Program (DAVIPDP)	
	Milestone:	Date
	1. High risk tasks and jobs identified.	
	2. Storyboards validated.	
	3. DAVIPDP requirements submitted to ATSC.	

	4. Requirements approved by DA.	
	5. Production initiated.	
	6. Replication/distribution completed.	
	Training Aids, Devices, Simulators, and Simulations	
	(TADSS)	
	Milestone:	Date
	1. High risk, hard-to-train tasks identified.	
	2. Need for TADSS identified.	
	3. TADSS concept validated.	
	4. TADSS incorporated into the STRAP (part of the CATS).	

	5. Analytical justification using the TEA provided.	
	6. TSS CDD/ CPD developed, if required.	
	7. TADSS effectiveness validated.	
	8. TADSS incorporated into the ICD, CDD, CPD, STRAP	
	9. MOS-specific milestones/requirements for TADSS developed and incorporated in the integrated training strategy (ITS).	
	Training Facilities and Land	
	Milestone:	Date
	1. Range and facility requirements identified.	
	2. Identification of construction requirements completed.	

	3. Construction requirements submitted to MACOM.	
	4. Requirements validated and updated.	
	5. Supporting requirements identified and availability coordinated.	
	6. Installation and other construction requirements submitted to MACOM.	
	7. Refined construction requirements and range criteria forwarded to MACOM, IMA, Chief of Engineers	
	8. Construction initiated.	
	Training Ammunition	

	Milestone:	
	1. Ammunition identified.	
	2. Initial ammunition requirements validated.	
	3. Requirements included in the ORD.	
	4. Ammunition item developed.	
	5. Validation and test completed.	
	6. Ammunition requirements identified in the ITP.	
	7. Requirements provided to installation/MACOM manager.	
	8. Requirements included in DA Pam 350-38.	
	9. Production entered.	

	Training Equipment	
	Milestone	
	1.	
	2.	
	Training Services	
	Milestone	
	1. Contractor Logistic Support	
	2. Contractor NET Support	
	3. Contractor DET Support	

B References

C Coordination Annex

Organization/POC (Date)	Summary of Comments Submitted (A/S/C)			Comments Accepted/ Rejected						Rationale for Non-Acceptance - S, C
				Accepted			Rejected			
	A	S	C	A	S	C	A	S	C	
v1.2.2 patrick w williams 2013/04/10 - 2013/04/20	Document Accepted As Written			0	0	0	0	0	0	-
v1.2.1 Approvals - Garry N Hamlet 2013/03/29 - 2013/04/08	Document Accepted As Written			0	0	0	0	0	0	-
v1.2 Army - SIGCoE - Signal School 2013/03/26 - 2013/03/28	No Comments Submitted			0	0	0	0	0	0	-
v1.2 Army - MSCoE - MANSCEN 2013/03/26 - 2013/03/28	Document Accepted As Written			0	0	0	0	0	0	-
v1.2 Army - FCoE - Field Artillery 2013/03/26 - 2013/03/28	Document Accepted As Written			0	0	0	0	0	0	-
v1.1 Peer - USAACE - Aviation School 2013/01/02 - 2013/02/01	Document Accepted As Written			0	0	0	0	0	0	-
v1.1 Peer - Transportation School 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer -	No Comments			0	0	0	0	0	0	-

TRADOC_ARCIC 2013/01/02 - 2013/02/01	Submitted									
v1.1 Peer - TCM- Virtual (CS/CSS) 2013/01/02 - 2013/02/01	10	4	0	9	4	0	1	0	0	
v1.1 Peer - TCM- SBCT 2013/01/02 - 2013/02/01	3	0	0	2	0	0	1	0	0	
v1.1 Peer - TCM- Live 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - TCM- HBCT 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - Soldier Support Institute (SSI) 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - SIGCoE - Signal School 2013/01/02 - 2013/02/01	Document Accepted As Written			0	0	0	0	0	0	-
v1.1 Peer - SCoE 2013/01/02 - 2013/02/01	4	1	3	4	1	3	0	0	0	
v1.1 Peer - PEO- STRI Customer Support Group 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - MSCoE - MANSCEN	32	14	3	29	9	2	3	5	1	

2013/01/02 - 2013/02/01										
v1.1 Peer - MCoE - Infantry&Armor School 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - ICoE - Mil Intelligence School 2013/01/02 - 2013/02/01	1	5	0	1	5	0	0	0	0	
v1.1 Peer - HQDA G2 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - FORSCOM/TRADOC LNO 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - FORSCOM 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - FCoE- ADA School 2013/01/02 - 2013/02/01	13	0	0	13	0	0	0	0	0	
v1.1 Peer - FCoE - Field Artillery 2013/01/02 - 2013/02/01	1	1	0	1	1	0	0	0	0	
v1.1 Peer - Combined Arms Center 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - CAC-T; Training Management Dir 2013/01/02 -	0	34	0	0	33	0	0	1	0	

2013/02/01										
v1.1 Peer - Brigade Modernization Cmd (BMC) 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - BCT CoE - Fort Jackson, SC 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - ATSC 2013/01/02 - 2013/02/01	4	7	1	4	6	1	0	1	0	
v1.1 Peer - ATEC 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - Army National Guard 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - Army Material Command (AMC), G3 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-
v1.1 Peer - AMEDD Center&School 2013/01/02 - 2013/02/01	No Comments Submitted			0	0	0	0	0	0	-

Key
Completed Review with Comments
Completed Review, No Comments
Active Review Occurring



DEPARTMENT OF THE ARMY
U.S. ARMY MILITARY POLICE SCHOOL
14030 MSCOE LOOP SUITE 1061
FORT LEONARD WOOD, MISSOURI 65473-8928

REPLY TO
ATTENTION OF

ATSJ-Z

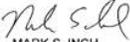
MEMORANDUM FOR RECORD

SUBJECT: Approval of the System Training Plan (STRAP) for the Common Remotely Operated Weapons Station (CROWS)

1. References:

- a. Capability Development Document (CDD) for CROWS, 6 December 2012.
 - b. US Army Training and Doctrine Command Regulation 350-70, *Army Learning Policy and Systems*, 6 December 2011, paragraph 8-3-c-2(d), System training development interface.
2. The enclosed STRAP is approved. A copy of the Capability Development Document is provided for your reference.
3. The point of contact for this action is SFC Teddy P. Ross, commercial (573) 563-6245; DSN 676-6245; or e-mail teddy.p.ross.mil@mail.mil.

Encl
CROWS STRAP
CROWS CDD


MARK S. INCH
Brigadier General, USA
Commandant