DEPARTMENTS OF THE ARMY AND THE AIR FORCE
NATIONAL GUARD BUREAU
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NGB-ART (350)

27 July 2000

MEMORANDUM FOR DEPUTY CHIEF OF STAFF FOR TRAINING, U.S. ARMY TRAINING AND DOCTRINE COMMAND, ATTN: ATTG-CF (COL OLSON), FORT MONROE, VA 23651-5000

SUBJECT: Operational Requirements Document (ORD) for a Distributive Training Technology (DTT) System

1. Reference 1st endorsement, ATTG-CF, 12 Apr 00, subject: National Guard Distributive Training Technology Project (DTTP) Operational Requirements Document (ORD).

2. The National Guard Bureau received and incorporated your comments with changes into the DTTP ORD.

3. Enclosed are the updated ORD and a summary of changes as incorporated in response to the content changes recommended.

4. Point of contact is Colonel David K. Germain, Chief, Training Division, DSN 327-7310 or 703-607-7310.

FOR THE CHIEF, NATIONAL GUARD BUREAU:

ROGER C. SCHULTZ
Major General, GS
Director, Army National Guard

2 Encls
as

DTT Operational Requirements Document

Incorporation of Comments:

1. Incorporated as stated

2. Incorporated with change to reflect that the need for reimbursement is dependant upon funding.

3. Incorporated with change to reflect connectivity to both National Guard and other components and services.

4. Change incorporated

5. Change incorporated

6. This comment appears to apply to paragraph 1.3, not to 1.6. In any case, no change appears to be warranted. Paragraph 1.3 states how the revenue will be spent. DCSPER appears to want shared use revenue to supplement Army Training. That would be an illegal augmentation of appropriated funds.

7. Not incorporated. This is an ORD for the National Guard System. The ORD specifies that the system will be available to all components. Furthermore, it would be presumptuous of the National Guard to assume the mission of improving the readiness of the overall Army.

8. Incorporated.

9. Incorporated.

10. Incorporated

11. Incorporated

12. Incorporated

13. Incorporated with change. Incorporated in both Paragraph 4.1.9 and 4.1.10.

14. Paragraph 4.4.e added.

15. Not incorporated in this section. The use of intelligence data is not anticipated.

16. Incorporated with wording changes.

17. Incorporated with wording changes.

18. Incorporated with wording changes. The objective is to put a classroom near the soldier, not to move the soldier near the classroom.

19. No change incorporated. The lead paragraph in 4.1 mentions the scenarios as reference material, not operational requirements.

ARMY NATIONAL GUARD

OPERATIONAL REQUIREMENTS DOCUMENT (ORD)

for a

DISTRIBUTIVE TRAINING TECHNOLOGY SYSTEM

COORDINATION/CONCURRENCE SHEET

THIS DOCUMENT PREPARED IN ACCORDANCE WITH DoD REGULATION 5000.2, Change 3, 23 March 1998, CJCSI 3170.01, and TRADOC pamphlet 71-9, 1 Aug 98.

OBJECTIVE:

The Operational Requirements Document (ORD) contains performance and operational parameters for the Distributive Training Technology (DTT) System. It is based in terms of minimum acceptable requirements to satisfy an approved Mission Need Statement (MNS).

SIGNATURE

DATE

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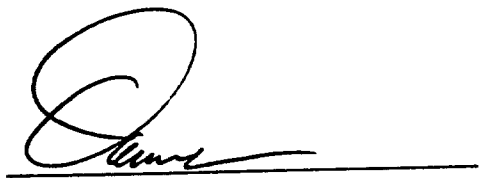
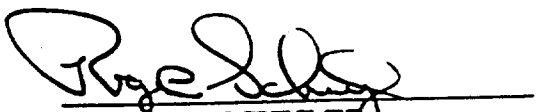


CONCUR/NON-CONCUR

DAVID K. GERMAIN
Colonel, GS
Chief, Training Division



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CONCUR/NON-CONCUR

ROGER C. SCHULTZ
Major General, U.S. Army
Director, Army National Guard

ARMY NATIONAL GUARD

OPERATIONAL REQUIREMENTS DOCUMENT (ORD)

for a

DISTRIBUTIVE TRAINING TECHNOLOGY (DTT) SYSTEM

30 June 2000

ARMY NATIONAL GUARD
ARMY NATIONAL GUARD READINESS CENTER
ARLINGTON, VA

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Operational Requirements Document (ORD)
for a
Distributive Training Technology (DTT) System

1. General Description of Operational Capability

1.1 Overall Mission Area

The National Guard Bureau (NGB) DTT system will provide the high-speed information access capability necessary for improvement of National Guard soldier readiness, and it will also increase the quality of life in communities where they live and work. The system supports the training mission area (Total Army School System (TASS), The Army Distance Learning Program (TADLP), and Force XXI) by providing a means to deliver flexible, exportable and effective training. Goals for the DTT system are:

1.1.1 Improve readiness by providing greater access to military training and education. This includes MOS training, functional courses, officer and noncommissioned officer education, distributed simulations and training to support disaster relief operations. Emerging National Guard training missions include Homeland Defense, facilitating training for civilian first responders to Weapons of Mass Destruction (WMD) incidents, counterdrug operations, information operations, and Partnership for Peace. Normally, there will be no charges to any military users of the DTT attending requisite military education or training events because such use will be fully funded.

1.1.2 Facilitate Command, Control, Communications, and Computing (C4) within the National Guard.

1.1.3 Demonstrate the concept of "shared use" of the installed education, training, and information resources with public and private entities to foster economic development, improve educational levels and provide information access for communities in which the National Guard is based.

1.2 Type of System Proposed

The DTT system is intended to furnish an electronic training and a communications infrastructure and all interfaces necessary to provide connectivity to automated training and soldier support systems of both the National Guard and other components and services. The system will be an automated information system (AIS) that will transmit data, voice and video across multiple Army installations, the TASS Battalions and companies, and other classroom locations. The system provides the user interface for network content and services, a courseware repository listing, metering of DTT services, a user account registry, and capability to schedule local and networked resources. Distributed Learning (DL) media originated or delivered by the system includes printed matter, interactive multi-media instruction (IMI), such as a computer-based instruction delivered on compact disks – read only memory (CD-ROM), interactive, real

time video tele-training, video and audio recordings, one- or two-way audio and/or video, simulators and simulation exercises, and other training materials available via the Internet.

1.3 Operational Concept Description

The DTT system will modernize the existing National Guard training system through the application of information technology and the use of multimedia training delivery means. The modernized training system will link Army and Guard schools with soldiers through a telecommunications common operating environment (COE) to deliver standardized individual and professional development courses and unit collective training at any place and any time.

Planners expect the National Guard will use the DTT classrooms an average of four weekday evenings and both weekend days per week, sharing the remaining days with State and local governments, schools, and other community organizations to help defray the telecommunications and facilities costs. This concept involves sharing this new training technology for non-military training on a fee-for-service basis. The income generated through the shared-use of equipment and services will be used to offset operational and maintenance costs and provide the sites with state-of-the-art technology upgrades. Military training will normally be given first priority for use of distributed learning classrooms. Examples of cases where military training might not be given first priority include support to emergency operations and unscheduled military training.

1.4 Support Concept Description

Support for the NGB DTT system will normally be accomplished by the currently existing maintenance and supply infrastructure, supplemented as necessary by contractor support. Centralized and distributed support concepts will be employed that maximize use of commercial-off-the-shelf (COTS) hardware, software, and components for repairs and or replacement. A single reporting or calling point will respond to and monitor system problems from support request initiation to completion of repairs.

1.5 Mission Need Statement (MNS)

The MNS identifies the need for a modernized training system that will provide for the delivery of standardized individual, collective and self-development training to soldiers, units, and civilian employees at the right place and time through the application of multiple means and technologies. Implementation of the DTT system will:

1.5.1 Improve National Guard readiness through the delivery of standardized training that is readily usable in respective student/unit training environments.

1.5.2 Connect personnel, agencies, proponents and all components in the field to support the delivery of training.

1.5.3 Deliver accredited training that is equivalent in quality to training received in Army service schools.

1.6 Doctrine, Training, Leader Development, Organization, Materiel, and Soldiers (DTLOMS)

A DTLOMS determination analysis was completed and non-material alternatives were judged to be inadequate. The TADLP has already addressed potential nonmaterial solutions in doctrine and training with on-going changes to delivery technology and courseware. Planned changes include delivery of training through distributed technology. Further nonmaterial solutions are inadequate because they do not address deficiencies in the delivery of training. Changes in leadership, organization, and soldiers will not provide the local access to training that is required.

The need is to deliver required training to the soldier at his/her convenience in time and place. The means to deliver this training is an electronic network and distributed classrooms, each is a material item not readily available from TRADOC, other DoD components, other government agencies, or the private sector.

Existing and proposed systems that might be used by the National Guard include:

- The Total Army Distance Learning Program (TADLP).
- The Satellite Education Network (SEN).
- The Air National Guard Network (WarriorNet).
- Reserve Education and Learning Network (REAL).
- Other publicly available networks and training delivery systems.

No nationwide alternative exists to satisfy the simultaneous requirements for distributed learning; command, control, and communications; and shared usage of resources with local communities.

The planned TADLP network will provide classrooms (now referred to as Digital Training Facilities (DTFs) only to the TASS training Battalion level. Under the TASS concept, the training Battalion is the hub for training within the TASS region. To achieve the intended economies of the TASS and the TADLP, training must be delivered as close to the soldier as possible. The National Guard DTT classrooms and network will extend the reach of the TADLP by linking TASS training Battalions to additional locations within each State in the TASS region.

1.7 Joint Use

The National Guard has a published objective of joining, partnering, or using local networks wherever a compatible capability is available. Inter-service cooperation is being explored with the Office of the Secretary of Defense's (OSD) Total Force Advanced Distributed Learning Action Team. The National Guard is cooperating with Army, Air Force, Navy, and the Reserve Components and expects use by the Active and Reserve Components of multiple services.

2. Threat to be Countered

While the DTT system is not intended to address, or be subjected to a specific threat, it will be designed to deliver distributed training materials to CONUS and OCONUS locations in such a

way that only the intended parties will receive the training. As an information system, the DTT may be threatened by adverse information operations.

3. Shortcomings of Existing Systems

3.1 Current Facilities

The National Guard current resident and nonresident training systems are expensive to operate and maintain with intensive personnel and facility requirements. Resident instruction is provided at various Active and Reserve Component schools. The manpower, facilities, training aids, devices, simulators and simulations (TADSS), ammunition, fuel, travel and per diem funds, and other training resources required to support the current training base are not adequate to train and sustain the skills soldiers need to perform required tasks.

3.2 Personnel Availability

Resident schools are not satisfying the requirements of Guard soldiers who cannot attend resident courses that require them to be away from their civilian jobs for extended periods. This results in soldiers being unqualified in their MOS and leads to units being unable to meet Army standards for mission readiness. Similarly, requirements for soldiers to be away from their units to attend training or to perform as Subject Matter Experts (SME) negatively impact unit readiness. Additionally, the lack of sufficient training mechanisms to support the citizen soldier's military qualifications frequently results in a costly higher turnover of personnel.

3.3 Unit Burden

National Guard soldiers who can attend resident school training or perform as SME for extended periods negatively impact on a unit's ability to collectively train as a unit. Continued reductions in training funds and resources for resident military training schools further reduces training opportunities for National Guard soldiers to meet MOS qualifications resulting in low unit personnel readiness.

3.4 Universal Requirements

The National Command Authority frequently levies unresourced requirements to deliver on-demand or just-in-time training for deploying units, and sustainment training to units deployed in contingency operations. Under the current system, these requirements are met by forming and deploying special training teams. This training burden degrades the overall training base and negatively impacts the on-going training mission.

3.5 Subject Matter Experts (SMEs)

Advanced systems entering the inventory (such as information systems that contribute to digitizing the battlefield) are complex and require extensive and expensive New Equipment Training (NET) to support their fielding. The current training system relies almost exclusively

on SMEs to bring training to key personnel in units across the Army. This method involves high levels of travel and per diem expense to support the training. It also draws the most skilled and experienced personnel away from their units for extended periods of time to serve as SMEs. This training delivery method is difficult for unit commanders to support as downsizing actions reduce their capability to provide SMEs.

4. Capability and Performance Requirements

As increased training requirements, diverse missions, environmental constraints, and shrinking training resources reduce the National Guard's training capability, more effective, responsive, and less costly ways must be found to deliver training to soldiers, and units. The DTT system will mitigate many of the shortcomings described above. The system will achieve this goal with the appropriate integration of hardware, software, and DL facilities, communications infrastructure, and courseware necessary to deliver standardized training to soldiers and units at locations other than Army and National Guard schools. The capabilities and associated performance parameters required for the program are described below.

4.1 Capability Requirements

These requirements are based on the scenarios included in Appendix A. The scenarios represent the functional proponent viewpoint of what the system must be able to do.

4.1.1 Classrooms must have the capability to enable students to access course materials and accomplish course requirements using distributed learning media and training technologies. Rationale: Classrooms will employ DL media and technologies to reduce student travel times and thereby increase available training time.

4.1.2 Instructors and students must be able to communicate with each other through the system during the delivery of instructor-led DL training. Rationale: As in resident instruction, instructors and students must be able to communicate in real-time.

4.1.3 Students enrolled in self-study courses must have the capability to submit questions through the system to the course instructor or SME. Rationale: Instructor guidance and feedback are critical to student performance in self-study activities.

4.1.4 The student workstations must be capable of operating both independently and in-groups as required by the training situation. They must also be capable of being electronically monitored or supervised by a local administrator/facilitator in either mode. Rationale: Classroom configuration flexibility is necessary to meet the demands of ARNG demographics in the surrounding communities. Supervisor/facilitator monitoring is required to prevent accidental or intentional misuse of classroom equipment.

4.1.5 Student workstations must provide a user-friendly graphic user interface (GUI) environment and have the ability to:

4.1.5.1 Run Computer Based Training from CD-ROM, local hard drive or remote-dial access. Rationale: Some training materials will be distributed via CD-ROM, Internet, and diskette. Students will access these materials from CD, hard or floppy drives, or download them from web sites.

4.1.5.2 Play high quality audio. Rationale: Synchronous training will be either audio only or audio-video. Computer-based and web-based instruction will, in many cases, be designed with an audio component. Research indicates that the quality of the audio component of DL is critical.

4.1.5.3 Use headphones for personalized training and have access to push-to-talk microphones or a conferencing speakerphone for multiple student training sessions. Rationale: Individualized, self-paced activities performed in the classroom will require private listening to prevent distraction of other students. Group learning activities will use microphone/conference phone as the audio input device.

4.1.5.4 Access and run local PC applications and productivity tools. Rationale: Some DL materials will be designed to run or be viewed using commercial software.

4.1.6 Instructors must have the capability to electronically access and download digitized course modules and supporting materials stored by proponent schools to instruct DL courses. At remote sites, students will require the capability to electronically access and download appropriate course materials for self-study. The system must also provide users the capability to electronically access reference materials from DoD and non-DoD domains. This is a Key Performance Parameter (KPP). Rationale: ARNG readiness is dependent upon access to MOSQ producing courseware and DoD reference material. All instructors and students must be able to access digitized materials.

4.1.7 The system must have the capability to interface with the Army Training Requirements and Resources System (ATRRS) to determine military training requirements for DL classrooms. Rationale: Military training takes precedence over shared use of network and classrooms. The system must be able to identify periods committed to military training to determine periods available for shared use events.

4.1.8 The system must provide an interface to ATRRS for two-way flow of information. Rationale: the Army Training Requirements and Resources System will serve as the single database of record for DL training program identification, resourcing, course management, class schedule, student registration, progress towards completion and graduation, and statistical information for the Army. Site managers must have visibility of both ATRRS and an internal scheduling system to determine availability of classroom seats for both military and non-military training events, and to identify and resolve conflicts. The Army Training Requirements and Resources System must be able to determine seat availability at all DTTP classrooms.

4.1.9 System administrators must have the capability to centrally schedule two-way, interactive course presentations electronically with proponent schools or between classrooms of all

Army components. Rationale: Two-way video teleconferencing utilizes centrally controlled network resources.

4.1.10 Local administrators/facilitators must have the capability to schedule classroom use electronically with proponent schools or between classrooms of all Army components. Rationale: Electronic scheduling will promote efficiency, timely scheduling and electronic record retention.

4.1.11 Students must have the capability to complete course examinations using electronic means. Rationale: Courseware digitization will include digitization of testing and evaluation materials.

4.1.12 The system must provide capabilities for student-to-student, student-to-instructor, and student-to-group conferencing and collaboration. These capabilities must be available on-demand and apply to both internal classroom communications and external communications with remote locations. Rationale: Leadership and professional development courses increasingly utilize small group instruction methods. This method often requires communication and collaboration between/among groups.

4.1.13 The system must provide capabilities for users to manipulate and print or digitally record word processing, graphics, spreadsheet and database documents. Rationale: Course materials may be provided as files of commercial software packages. Students may be required to print these files for future reference.

4.1.14 The system must enable digital data to be saved at user-selected intervals. Rationale: Students in some courses will be required to produce reports and briefings using courseware residing on classroom workstations and save files to diskettes or other removable media.

4.1.15 The system must comply with JTA/JTA-Army standards and the Defense Information Infrastructure (DII) Common Operating Environment (COE) standards. This is a KPP. Rationale: The system must be compatible and interoperable with other DL systems, specifically the TADLP.

4.1.16 The system should integrate live and constructive simulators and simulations in a setting that brings the digitized battlefield and its effects to a virtual classroom. Rationale: Collective-training programs will increasingly utilize distributed training technology and methods and leverage the DL network and classrooms.

4.1.17 The system must provide access to the Internet. Rationale: Many asynchronous DL courses will be conducted via the Internet. Additionally, the Internet will be used to access and download course materials.

4.1.18 National Guard proponent training centers/schools must be equipped to originate live training events and distribute multimedia courseware and other training materials to multiple classroom sites. Rationale: National Guard training centers are the proponents

for a variety of functional courses. These centers are responsible for conducting DL courses and distributing course materials.

4.2 Performance Requirements

4.2.1 Classrooms must be operable at least 14-hours a day, 7-days a week, with a 92 percent threshold and 96 percent goal for hardware and software availability rates for both synchronous and asynchronous training. Surge requirements and training support for contingency operations may require operation of the system 24-hours a day, 7-days a week. Rationale: To accommodate Reserve Component training periods, the system must be available on weekends. To accommodate civilian employment schedules, the system must be accessible to soldiers during the day and evening. The system must be accessible during normal business hours to accommodate shared use clients.

4.2.2 The system must respond to student commands in asynchronous training modules in less than 1-3 minutes during initialization of the course module and 15 seconds thereafter. This requirement does not apply to Web based courses because response time is outside of system control. Rationale: Excessive response time is not only a training distracter, it can disrupt training activities in which the students work as a group on individual workstations.

4.2.3 For Command and Control communications, the system should provide two-way video, two-way audio connection to at least 1 VTC in each State and Territory and the ARNG Readiness Center simultaneously, that is, an objective of 60 simultaneous users, the threshold minimum is 54. Rationale: A secondary mission of the network is Command, Control and Communication. This requires that the NGB be able to communicate simultaneously with the 50 States, 3 Territories, and the District of Columbia in the event of national emergency.

4.3 Logistics and Readiness

Integrated logistics support will be provided to maintain a system goal of 96 percent for a 24 hours per day, 7 days a week operational availability with a threshold of 92 percent operational availability.

4.4 Other System Characteristics

There are no unique requirements for the DTT system to meet survivability, natural environmental conditions, or safety requirements. The system will be an AIS that will transmit data, voice and video across multiple Army installations and TASS units. The following security requirements apply:

a. Classified training and training materials will not be used with the system.

b. Sensitive but unclassified (SBU) data, such as social security numbers and credit card numbers, will be transmitted and must be protected.

c. The system must be sufficiently resistant to adverse information operations that such operations cannot cause catastrophic failure.

d. A security plan, prepared in accordance with AR 380-19, is required. The plan will define authorized system users, the type of data that will be processed and transmitted using the system, and state the security policy applicable to the system.

e. The classrooms and network should be certified to C2 level of security.

5. Program Support

5.1 Maintenance Planning

The maintenance concept is for local administrators/facilitators (site managers) to ensure that equipment and peripherals are in usable condition for student use on a daily basis. Where necessary, site managers will ensure equipment is turned on, required preventive maintenance is performed, and equipment is operational. Fault diagnostics, replacement of computer boards and cards, and exchange or repair of components may be accomplished by the site management staff or by a maintenance support contractor. Maintenance and upgrade of training software and training materials is the responsibility of the proponents or training development activities, as applicable. The maintenance planning must ensure the following:

5.1.1 Repair and replacement of all DTT system components and peripherals will be performed in accordance with the Integrated Logistics Support Plan (ILSP).

5.1.2 Classroom site managers have overall responsibility to ensure that the local network and classroom equipment maintains the minimum 92 percent operational availability rate to sustain DTT operations at least 14-hours a day, 7-days a week for both synchronous and asynchronous transmission. Site managers must also be prepared to support surge requirements for training support in the event of contingency operations on a 24-hours a day, 7-days a week basis.

5.2 Support Equipment

No new automated test equipment (ATE) will be required.

5.3 Human System Integration

A system manpower and personnel integration (MANPRINT) management plan (SMMP) will identify issues related to human factors engineering, manpower, personnel, training, and system safety. The MANPRINT analyses will be performed to assess the allocation of functional tasks and their impact upon soldiers, hardware, and software. Considerations for developing MANPRINT issues and concerns are described below:

5.3.1 No new MOS will be required for personnel to operate or maintain the DTT system. However, sufficient training and training materials must be provided to system instructors, site managers, facilitators, and maintainers to provide them with the knowledge and skills needed to perform required tasks and assigned duties with the system.

5.3.2 The manpower necessary to operate, maintain, and support the DTT system is projected to be within the Guard's current and projected force structure or will be arranged by formal agreement (MOU or Contract) with third parties. System components housed in National Guard facilities will be under the care of organizational elements as assigned by the respective facility commanders or commandants. It is also envisioned that system components may be housed at universities and colleges, public schools, other government facilities, or private sector property and cared for by the site managers of these facilities. Generally, personnel requirements will be satisfied by positions in currently-approved Tables of Organization and Equipment (TOE) and Tables of Distribution and Allowances (TDA) for units and organizations or, where necessary, the use of external site management support. While personnel and equipment in the force structure may require realignment to meet mission needs, full deployment of the DTT system will not increase the overall Guard end-strength.

5.3.3 Students must be provided (through printed or electronic tutorials, seminars, or other methods) the skills needed to operate student workstation components used to receive and execute multimedia DL courses. Skills include those necessary to enter information required to meet course completion and performance-evaluation requirements.

5.3.4 System instructors, administrators, facilitators, and maintainers must identify any potential unsafe conditions and eliminate them or establish controls for operating the system at acceptable levels of risk.

5.4 Computer Hardware and Software Resources

The DTT system hardware and software will be interoperable with current and planned military and commercial training technologies, hardware systems and communications systems. Training materials processed and delivered through the DTT system will comply with the standards set by

the JTA and JTA-Army, including multimedia standards (e.g., MPEG-1 or MPEG-2 video compression standards; JPEG, GIF, IMG image standards; etc.).

5.5 Other Logistics Considerations

The system will operate in sheltered environments using available power sources. There are no unique facility and shelter requirements for the DTT system other than that the DL classrooms must meet requisite lighting, cooling, heating and electrical standards.

5.6 Command, Control, Communications, and Computers (C4)

The ARNG GuardNet XXI communications backbone will serve as the primary carrier for National Guard Command, Control, Communications, and Computer systems. The system is not expected to carry intelligence information.

5.7 Transportation and Basing

The system will operate from within fixed facilities. Any movement of components of the DTT system should require only normal transportation packaging used for an AIS.

5.8 Standardization, Interoperability, and Commonality

Compliance with applicable JTA/JTA-Army standards and the DII COE standards will provide commonality among the various components of the DTT system. The system will be able to exchange information with other training automation systems.

5.9 Mapping, Charting, and Geodesy (MC&G) Support

The system will have the capability to use maps, charts, and data derived from geographic information systems.

5.10 Environmental Support

The DTT system has no unique weather, oceanographic, or astrophysical environmental support requirements

6. Force Structure

The DTT system will be available to all Army components. Reimbursement for direct, incremental incurred expenses will be handled in accordance with AR 350-1. The system will also be accessible by the other services and agencies of the DoD community. Numbers, size, and locations of readiness training classrooms will be coordinated with TRADOC and included in a combined (1-N) listing of AC, USAR, and NGB sponsored sites. Changes to the classroom schedule will be appropriately coordinated between the NGB and the States.

7. Scheduling Considerations

The initial operational capability (IOC) date is end of the fourth quarter of FY 99. The IOC is the initial fielding of fully capable classrooms including classroom management software and courseware repositories. Full operational capability (FOC) date is end the fourth quarter FY 03. The FOC is the completion of initial fielding.

7.1. Installation Objectives

Scheduling considerations for installation of the DTT system includes the following objectives:

7.1.1 One student workstation for each 75 National Guard personnel. The minimum acceptable threshold is one workstation for each 100 National Guard personnel.

7.1.2 At least 1 classroom in each of the 54 States and Territories in FY 98.

7.1.3 At least 1 classroom with a multi-media capability in each of the 54 States and Territories by the end of CY 99.

7.1.4 At least one classroom within 50 miles of all National Guard Personnel. The threshold is to have a DTTP classroom or a TDALP DTF within 50 miles, or 1 hour driving time, of 95 percent of National Guard personnel in each state

Appendix A
DISTRIBUTED LEARNING SCENARIOS

Delivery/Courseware – Student Centered View

Students can receive and participate in audio tele-training.
Students can participate in multi-user audio conferences.
Students can participate in audio-graphic training sessions.
Students can view presentations on large screen monitors.
Students can participate in two-way video/two-way audio with viewer response devices.
Students can participate in one-way video/two-way audio with viewer response devices.
Students can receive one-way video/one-way audio satellite broadcast sessions (delivered via network or satellite).
Students can conduct computer-based training.
Students can conduct video on-demand training sessions.
Students can record training sessions.
Students can play videotape presentations.
Students can digitize and transmit graphics.
Students can upload and download digitized information.
Students can print documents.
Students can copy, fax, and scan documents.
Students can access the Internet.

Students in classroom with VCR/video disk courseware - Instructor on-site.
Students in classroom with Computer and CD-ROM drive - Instructor on-site.
Students in classroom with Computer and Internet - Instructor on-site.
Students in classroom with LAN and collaborative / groupware software - Instructor on-site.

Students in classroom with VCR/video disk courseware - Instructor at remote site.
Students in classroom with Computer and CD-ROM drive - Instructor at remote site.
Students in classroom with Computer and Internet - Instructor at remote site.
Students in classroom with Computer and Internet – Instructor on-line.
Students in classroom with LAN and collaborative / groupware software – Instructor on-line.

Students in classroom – No Instructor (self-study).
Students in classroom with Computer and CD-ROM drive – No Instructor (self-study).
Students in classroom with Computer and Internet – No Instructor (self-study).
Students in classroom with LAN and collaborative / groupware software – No Instructor (self-study).

Student remote with Computer, CD-ROM drive, and Internet – Instructor at remote site.
Student remote with Computer, CD-ROM drive, and Internet – Instructor on-line.
Student remote with Computer, CD-ROM drive, and Internet-based collaborative / groupware software - Instructor on-line.

Delivery/Courseware – Instructor Centered View

Instructor can originate audio tele-training.
Instructor can originate and control audio-graphic training sessions.
Instructor can originate and control two-way video/two-way audio with viewer response devices.
Instructor can originate and control one-way video/two-way audio with viewer response devices.
Instructor can originate and control one-way video/one-way audio with viewer response devices.
Instructor can record training sessions.
Instructor can digitize and transmit graphics.
Instructor can generate computer-based instruction.
Instructor can access video on-demand.
Instructor can upload and download digitized information.
Instructor can print documents.
Instructor can copy, fax, and scan documents.
Instructor can access the Internet.

Instructor teaches class using VCR/video disk/CD-ROM.
Instructor teaches class via one-way video/one-way audio.
Instructor teaches class via one-way video/two-way audio.
Instructor teaches class via two-way video/two-way audio.
Instructor answers questions via e-mail.
Instructor teaches class on-line to multiple classrooms.
Instructor teaches class on-line with students at remote site.
Instructor teaches class via video on-demand.

Delivery/Courseware - Administration View

Administration supports and manages instruction.
Administration meters and tracks usage of classroom sites.
Network bandwidth has capacity to carry video tele-training (or satellite reception capability).
Audio bridge can reach and connect multiple sites.
Users can participate in audio/video teleconferencing between multiple classrooms.

Delivery/Courseware – Courseware Origination View

System provides capability to develop a course.
System provides capability to update a course.
System provides capability to change course formats.
System provides capability to digitize courses.
System provides capability to store courseware.
System provides capability to distribute courseware on user-demand.