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US Army Research Laboratory

Manpower, Personnel, and Training Assessment (MPTA) Handbook

Richard A Tauson and Wayne Cream

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14. ABSTRACT
The Manpower, Personnel, and Training Assessment (MPTA) is part of the Human Systems Integration Assessment (HSIA) that supports each Acquisition Milestone Review. Originally, the MPTA was completed by the Human Resources Command and reviewed the availability and completeness of the documents defining a developmental system's manpower, personnel, and training (MPT) requirements. There was no technical analysis of how well the requirements were met. In 2005 that responsibility was transferred to the US Army Research Laboratory's (ARL's) Human Research and Engineering Directorate (HRED). The ARL–HRED field elements are experienced in the use of field data to provide technical human-factors analysis but some of the practitioners have less experience conducting MPTAs. The MPTA Handbook provides current guidelines for conducting an MPTA. It includes a list of the critical documents needed for the assessment; which agency produced each document; and the document's contribution to the MPTA. It also includes 2 checklists: one to ensure the documents needed to support the MPTA are available and complete, and one to support the analysis of the technical suitability of the MPT characteristics of the proposed system. The purpose of this handbook is to provide the basis for more uniform, complete, and comprehensive MPTAs.

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1. Introduction

1.1 Human Systems Integration: Definition and Requirements

Human Systems Integration (HSI), which formerly was referred to as Manpower and Personnel Integration or MANPRINT, is the Army acquisition community's mechanism for considering the human or Soldier costs associated with fielding a system. Programs are evaluated in terms of their cost, schedule, and technical performance, but the Army recognizes that it must be able to support the system by allocating the number and type of Soldiers needed to operate and maintain a system. The cost and time needed to ensure the system can be supported by the Soldier can add greatly to system-ownership cost over the system's life cycle. Failure to consider manpower, personnel, and training (MPT) cost up front often results in a system that is more expensive to support and, initially, a system that does not perform well and one that has limited utility.

In order to ensure that HSI considerations are addressed in all acquisition programs, the program manager (PM), or joint program office (JPO) in multiservice acquisition programs, is required by Army Regulation (AR) 602–2[1] to establish an HSI program. This includes forming an HSI working group that tracks HSI concerns and the program's compliance with its requirements; makes recommendations on reducing HSI-related program risk; and provides an HSI Assessment (HSIA) report prior to each Milestone Decision. The HSIA summarizes the HSI domain reports, listed in Table 1.

The US Army Research Laboratory's (ARL's) Human Research and Engineering Directorate (HRED) is both the integrator of the individual HSI assessments as well as the action office for conducting the Human Factors Engineering Assessment (HFEA) and the Manpower, Personnel, and Training Assessment (MPTA). Often, the HFEA and MPTA are produced as a combined Human Factors Engineering–Manpower, Personnel, and Training assessment. In some cases the Soldier Survivability Assessment may also be covered in the combined assessment. Format templates for MPTAs and combined assessments are frequently updated, but can be obtained through ARL HRED.

One of the HSI practitioner's roles is to review all of the relevant program documents; identify deficiencies in HSI requirements, wording, and/or metrics; and provide specific recommendations that will bring the documentation and system into compliance with AR 602–2.[1] This document is intended to be a guide for HSI practitioners conducting MPTAs or combined assessments. As a guide, this

document is not intended to limit the MPTA evaluator from using additional resources or techniques, but it will encourage some consistency in MPTAs.

Table 1 HSI and HSI-domain assessment agencies by acquisition category (ACAT)

Assessment	ACAT ID, IC, and II	ACAT IA (IAM, IAC)	ACAT III and IIIAC
Manpower, Personnel, and Training	ARL HRED		
Health Hazards	APHC		
Human Factors Engineering	ARL HRED		
Soldier Survivability	ARL SLAD (lead) ARL HRED (assist)		
System Safety	CRC[a]	US Army CECOM	AMC LCMC Safety Office
Draft G-1 HSI Assessment (Domain Integration)	ARL HRED		
G-1 HSI final assessment (Domain Integration)	HQDA G-1 (DAPE-MR)		

[a]Combat Readiness Center (CRC) conducts Independent Safety Assessments
Notes: ARL HRED—Army Research Laboratory, Human Research and Engineering Directorate; ARL SLAD—ARL's Survivability/Lethality Analysis Directorate; APHC—Army Public Health Center; CECOM—Communications–Electronics Command; AMC LCMC—Army Materiel Command, Life Cycle Management Command; HQDA G-1—Headquarters, Department of the Army, Personnel. (Adapted from AR 602–2, 2015)

1.2 MPTA Definition and Requirements (AR 602–2)

The MPTA, one of the HSI domain reports, addresses the direct human cost—in terms of number, type, and skills of Soldiers required—to operate and maintain the system. The areas of concern covered by the MPTA are

- Manpower—the number of Soldiers required to operate and maintain the system. Since the Army has a limited number of Soldiers, any additional manpower required to field a system must be offset by a reduction of the number of Soldiers somewhere else in the force.
- Personnel—the type of Soldier required to operate and maintain the system. This includes Military Occupational Specialty (MOS), any Additional Skill Identifier (ASI) required, core knowledge, skills, and abilities (KSAs) required for the job, rank, physical requirements, level of security clearance held, and Armed Services Vocational Aptitude Battery (ASVAB) scores.
- Training—the appropriateness and completeness of the training provided to support the system. This assessment should consider if the training materiel is appropriate for the skill and knowledge level of the Soldiers being trained;

if the time allocated for initial training is adequate; if there are adequate training resources, equipment and support assets; and if the critical knowledge skills and abilities to operate and maintain the system can be retained by the appropriate Soldiers with the available sustainment training. This assessment should be different from and complementary to the formal evaluation of the training package performed by the US Army Training and Doctrine Command (TRADOC).

There are 2 very different, but potentially synergistic, components of an MPTA.

The first component of the MPTA is primarily a review of critical documents to ensure they are completed or updated as required in each development phase and that the documents contain certain critical content. A rough list of required documents and when they are needed is available in Appendix A.

The second component of an MPTA involves identifying technical shortcomings in the system's planned manpower allocation, personnel assignment, or training plans. For this part of the MPTA, data sources will include, but are not limited to, test results, observation of training, usability assessments, interviews with Soldiers, and manpower modeling. Some guidelines on the type of questions to ask in this portion of the MPTA are available in Appendix B.

A complete MPTA should include both components. The required documents should be available and complete (though they may be in draft form). If they are not, this constitutes a serious void in the program's planning for the system's MPT requirements. The second component ensures that the program's plans are realistic and supported by the system's design, manpower and personnel allocation, and training plan. A simplified diagram of the process flow for an HSI Assessment, including the MPTA, is shown in the following Figure.

As the diagram suggests, it is the PM or JPO who requests the HSIA. Ideally this should have been anticipated by his formation of an HSI working group, which maintained the HSI plan (or equivalent document) in which HSI issues, including any MPT issues or concerns, are tracked. Once the HSIA report, with the domain reports, is completed, it must be approved by the director of HRED and the director of the G-1 HSI Office. The PM is provided with an information copy, but does not have approval authority for the report.

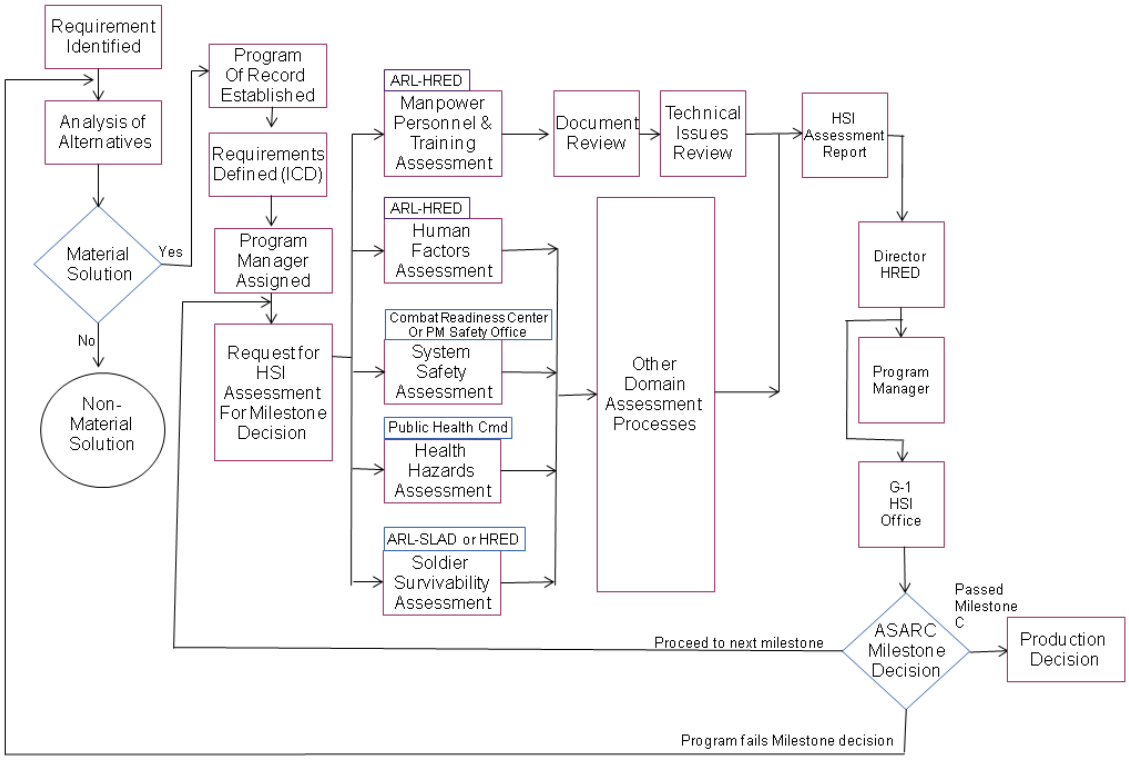

Figure HSI in the acquisition process leading to a milestone decision by the Army Systems Acquisition Review Council (ASARC)

2. Requirements and Sources

The HSI process, including the MPT decision-making process, begins prior to Milestone A with the system-requirements definition. TRADOC, as the training and combat developer, has control over the development of the requirements but it is very beneficial if the HSI requirements, including MPT, are reviewed by HSI practitioners to ensure the requirements are realistic and verifiable.

Once the system requirements are finalized and a program has entered the acquisition cycle, as each milestone is being addressed, one of the first steps in the assessment should be the collection of documents that will provide the basic requirements and known MPT implications of the systems. Generally, the evaluator should request these documents through the PM. A list of some of the key support documents (when they become available) and their purpose are in the "Manpower, Personnel, and Training (MPT) Document Matrix" in Appendix A.

The MPT evaluator should be aware that many of the documents may only be available in draft or incomplete form early in the program. They also may be updated or modified as the program matures, so they should be checked as part of updating the MPTA during each milestone review. Typically, the best way to

acquire the most recent version of the manuals is to ask the PM's representative. They often are stored on an online server or website. The agency responsible for producing each document can also be approached, but this is a more time-consuming method.

3. Key Documents

This section draws upon entries at the Defense Acquisition University's online Acquisition Encyclopedia (at https://dap.dau.mil/acquipedia).[2] An explanation of the acquisition process, including the Acquisition Phases, Milestones, and context in which many of the key documents are developed, is available in Department of Defense Instruction (DoDI) 5000.02.[3]

1. Initial Capabilities Document (ICD)

The ICD is developed by the Service Command, Joint Staff, or Office of the Secretary of Defense (OSD). It documents the capability gaps to be satisfied by the materiel or non-materiel solution. The ICD is developed to support the Analysis of Alternatives and the Milestone A decision and is not updated. (The Capabilities Development Document supports system development and demonstration and the Capability Production Document supports production and deployment.)

The ICD describes a gap in an Army functional area and one or more change recommendations in Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities (DOTMLPF). It documents the need for a materiel solution or a combined materiel and nonmateriel solution to satisfy the capability gap.

The MPTA analyst should look at the ICD to ensure that MPT were addressed. It may also provide subject-matter expert's input on MPT factors relating to the capability gap and to issues identified in predecessor systems.

2. Analysis of Alternatives (AoA)

The AoA documents the advantages and disadvantages of different strategies to address the Army's need in terms of operational effectiveness, life-cycle cost, and suitability. The AoA initially precedes the decision to adopt a materiel solution and may lead to a solution based on other changes to DOTMLPF. The AoA is produced by TRADOC and should be updated at each materiel-development phase.

The MPTA analyst should look at the AoA for insight into which predecessor systems were considered to answer the Army's requirement as possible indicators of the MPT requirements for the new solution. The AoA may also indicate the technology readiness level (TRL) of proposed solutions, since systems with

relatively low TRLs often lead to underestimation of the systems' MPT requirements. Finally, the analyst should review the AoA to ensure the MPT requirements of each alternative were considered.

3. Supportability Strategy

The Supportability Strategy is developed by the Combat Developers Integrated Logistics Support Lead in support of Milestone A and then reused by the materiel developer at Milestone B. It provides the Integrated Logistics Support (ILS) requirements and the plan for its implementation. The Supportability Strategy provides some of the earliest insight into how the system will be supported and maintained, which will define the maintainer requirements for the MPTA.

4. Manpower Estimate Report (MER) (required for ACAT I systems only)

The MER is a projection of the numbers of active-duty and Reserve Soldiers needed to operate, maintain, and sustain a new system, as well as the Department of Defense (DOD) civilians and contractors needed to support the system. It presents the number of Soldier-hours that the Army must commit to fielding the system. The MER may be produced by TRADOC, or by ARL HRED, or both.

5. System Training Plan (STRAP)

The STRAP is a description of the required training needed for instructors, operators, maintainers, and leadership. It is written by the TRADOC proponent in accordance with AR 350–38.[4] The STRAP should include a training strategy, identification of the target trainees (operators and maintainers), description of individual and collective training requirements, and identities of the instructors. It may describe the duration of training and should specify any certification or licensing requirements for the system, including recertification requirements to remain an operator or maintainer.

6. Basis of Issue Plan/Basis of Issue Plan Feeder Data (BOIP/BOIPFD)

The BOIP is developed from the BOIPFD which is compiled by the Materiel developer (PM or JPO). The BOIP describes the new system, its capabilities, the number of systems to be deployed to each unit, and the number and MOSs of Soldiers required to operate and maintain the new system. The BOIP is used by the PM to develop life-cycle costs, identify necessary changes to the unit's Table of Organization and Equipment (TO&E), and to support trade-off analyses during the research and development process.

7. Capabilities Development Document (CDD)

The CDD is a derivative of the ICD prepared for the Milestone B decision by the combat developer or user representative. The CDD describes the proposed materiel solution in terms of operational performance capabilities and introduces the system's Key Performance Parameters and Key System Attributes. It should include operational mission capabilities and logistical characteristics such as reliability, maintainability, and availability (RAM) requirements. The CDD should indicate what the system must do but not limit the vendor in the technical approach to how that is achieved. As a result, it may include indications of what the manpower and workload requirements for the system will be but not absolutely define them. The CDD replaced the Operational Requirements Document (ORD) and Required Operational Capability of earlier acquisition programs.

8. Target Audience Description (TAD)

The TAD is the initial description of the number and type of personnel required to operate, maintain, and support a proposed system. This should include active Soldiers, reserve and National Guard components, civilian support, and contractor or field support representative (FSR) personnel. It should also include the characteristics (physical profile, ASVAB qualifying scores, ASIs, MOS, rank requirements, etc.) describing the Soldiers operating or maintaining the system. In cases where operating a system requires a security clearance, the TAD will define what level of clearance is needed. TRADOC is responsible for producing this document.

9. Materiel Fielding Plan (MFP)

The MFP details how to field and deploy a new system. There may be a unique MFP for each major command receiving the system. The MFP will include fielding and logistics requirements for the new system. The MFP is largely derived from information in the program documents, including the Life Cycle Sustainment Plan, the CDD, and the BOIP. The MFP contains information such as the fielding schedule and Army units receiving the new system. It can help provide advanced information on the "necessary materiel, personnel, skills, and facilities to properly receive, train, use, maintain, and support new Army systems."[5]

10. Human Systems Integration Plan (HSIP) (or equivalent)

The HSIP, or an equivalent document, is maintained by the materiel developer usually with the help of the program's HSI Working group. For programs that have ARL–HRED support, ARL HRED typically leads in the development and maintenance of the HSIP. As HSI-related issues are discovered, they are assigned to a domain and may be assigned a severity code and a remediation plan. Ideally,

at each acquisition milestone the HSIP should have the issues identified for the MPTA. In practice, there may be differences in issues' scoring, and some issues emerging from late test events may need to be added to the MPTA that were not captured in the HSIP.

11. Test and Evaluation Master Plan (TEMP)

The TEMP is maintained by the materiel developer with the assistance of the Army Test and Evaluation Command. It may exist in a preliminary format, the Test Evaluation Strategy, to support Milestone A and evolve into the full TEMP by Milestone B with updates through the test and evaluation process. It identifies the test and evaluation requirements and major test activities and schedules. It can be used to identify test events that will allow the MPT evaluator to collect information to support the MPTA.

12. Operational Mode Summary/Mission Profile (OMS/MP)

The OMS/MP is developed by the Army Capabilities Integration Center's Capability Assessments and Reliability, Availability, and Maintainability Division. The OMS/MP includes the expected use of the system in combat and peacetime, including factors like projected use on various terrain types. This can be used to project operator and maintainer workload.

4. Reporting

Through each materiel-development phase of the system under assessment, there will be informational gaps, inconsistencies, or shortcomings discovered that will impact the MPT implications of the system on the Soldiers required to operate, maintain, or sustain the system. These informational gaps, inconsistencies, or shortcomings, should be categorized in terms of severity, in accordance with the definitions in AR 602–2[1] which are summarized in Table 2.

As issues or concerns are discovered, they should be reported to the HSI Joint Working Group (HSI-JWG) and entered into the HSIP, or equivalent, database. This allows the HSI-JWG to integrate the issues and concerns with any related issues affecting other domains. It also allows the PM's office to remain aware of any issues or concerns and to work with the MPTA evaluator on mitigation strategies.

Table 2 Definitions of critical issues, major issues, and minor issues[1]

Category	Definition	Rating implication
Critical Issue	An issue regarding one or more of the Army HSI domains which warrants immediate attention and/or resolution to preclude serious risk to the program and the Army, regarding one or more of the following areas of risk: - high probability for catastrophic injury or death to the crew or other friendly personnel; - seriously degraded mission performance or effectiveness; the requirement for major unprogrammed manpower, personnel, and training resources; or - jeopardized ability of the manpower, personnel, and training community (DCS, G–1, TRADOC, and Human Resources Command) to support system fielding with trained available personnel. Critical unresolved issues will be addressed in an HSI assessment and reported to the MDA. Critical issues often result in an overall *RED* rating to the program (that is, a recommendation that the program not be allowed to proceed to the next phase until the issues are resolved or the risks have been mitigated).	Critical issues result in an overall *RED* rating to the program (that is, a recommendation that the program not be allowed to proceed to the next phase until the issues are resolved or the risks have been mitigated).
Major Issue	An issue regarding one or more of the Army HSI domains that, at the time of the rating, will not preclude the program from proceeding to the next acquisition phase. Major issues often differ from those deemed as critical in that the degree of severity or the probability for occurrence is lower, or there is adequate time within the program schedule to resolve the issue or mitigate the risk.	Major issues often result in an overall *AMBER* rating to the program. This generally results in a recommendation that the program proceed to the next phase, but that the major issues be mitigated before the next milestone or production decision, or the issues may be reassigned a Critical rating.
Minor Issue	Minor issues are potential issues or areas of risk regarding one or more of the Army HSI domains lacking sufficient supporting data or analyses. Actions to provide data and/or analyses will be accomplished as early as possible to determine the severity of the potential issue or the degree of probability for occurrence. This will facilitate issue resolution or risk mitigation.	Systems which have Minor issues are rated *AMBER*. Minor issues reflect findings that would allow some aspect of the system to be improved in relation to MPT, but which are not serious enough to stop or delay the program if not corrected.
No Issue	No issues are identified or previous issues have been mitigated.	"No issues" is rated *GREEN*.

As the milestone or fielding decision approaches, the issues should be documented in a report following the format shown in Appendix A. The completed draft MPTA should be reviewed according to local policy and sent to the ARL–HRED director for signature. Typically an informational copy is also sent to the PM in order to provide an opportunity for comment. The MPTA or combined assessment will then be integrated into the HSIA Report and sent to the G-1 HSI Office, with a copy of the final report being sent to the PM's office.

5. References

1. Headquarters, Department of the Army. Human systems integration in the system acquisition process. Washington (DC): Headquarters, Department of the Army; 2015 Jan 27. Army Regulation No.: AR 602–2.

2. Acquisition Encyclopedia. Defense Acquisition University [accessed 2015 May 21]. https://dap.dau.mil/acquipedia

3. Department of Defense. Instruction 5000.02: Operation of the defense acquisition system; 2015 Jan 7 [accessed 2015 May 21]. http://www.dtic.mil/whs/directives/corres/pdf/500002p.pdf

4. Headquarters, Department of the Army. Policies and management for training aids, devices, simulators, and simulations. Washington (DC): Headquarters, Department of the Army; 2013 Mar 28. Army Regulation No.: AR 350–38.

5. Acquisition Encyclopedia: Military fielding plan (MFP). Defense Acquisition University [accessed 2015 May 21]. https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=e2b7b1b5-48b8-48b1-9f63-7d7933ac1778

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Appendix A. Manpower, Personnel, and Training (MPT) Document Matrix

This appendix appears in its original form, without editorial change.

DR (D)
IPR (Interim Progress Review)
FRP (Full-Rate Production)

Requirements Documents

Document Title	Regulations or References	ACAT Level			Review/Milestone						Purpose of Document	Prepared By and in Coordination With…	Approved or Validated By	Submitted to
		I	II	III	A	DR	B	DR	C	FRP DR				
Capabilities Development Document (CDD)	Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3170.01E, 11 May 05 DoDI 5000.2 8 Dec 08	X	X	X			X		X		When an affordable increment of militarily-useful capability has been identified, the CDD will be developed to support subsequent program initiation and refine the integrated architecture.	User or user's representative	Army Chief of Staff for Warfighter systems ACAT – I and IA: As designated by the JROC Chairman ACAT – IC: As designated by the Service Chief or DoD Component Head or as delegated	Milestone Decision Authority Component Acquisition Executive (CAE); Program Executive Officer; Program Manager
Capabilities Production Document (CPD)	CJCSI 3170.01E, 11 May 05 DoDI 5000.2 8 Dec 08	X	X	X	X		X		X		Document developed to support Production and Deployment phase.	User or user's representative	Army Chief of Staff for Warfighter systems ACAT – I and IA: As designated by the JROC Chairman ACAT – IC: As designated by the Service Chief or DoD Component Head or as delegated	Milestone Decision Authority CAE; Program Executive Officer; Program Manager
Initial Capabilities Document (ICD)	CJCSI 3170.01E, 11 May 05 DoDI 5000.2 8 Dec 08	X	X	X	X						Multiple concepts and alternatives that examine affordability, technology maturity and responsiveness.	Prepared by Services, Unified Commands, Joint Staff, or Office of the Secretary of Defense (OSD) Staff	Army Chief of Staff for Warfighter systems Chairman, Joint Requirements Oversight Council (JROC)	Under Secretary of Defense (Acquisition, Logistics & Test)
Mission Need Statement (MNS)	CJCSI 3170.01E, 11 May 05 DoDI 5000.2 8 Dec 08 DA Pam 70-3	X	X	X	X						Defines a broad non-system specific statement of operational capability need written in board operational terms. MNS are rarely developed for ACT II through IV programs. DA Pam 70-3	Prepared by Services, Unified Commands, Joint Staff, or OSD Staff	Army Chief of Staff for Warfighter systems Chairman, Joint Requirements Oversight Council (JROC)	Under Secretary of Defense (Acquisition, Logistics & Test)

Program Documents

Document Title	Regulations or References	ACAT Level			Review/Milestone						Purpose of Document	Prepared by and in Coordination With	Approved or Validated By	Submitted To
		I	II	III	A	DR	B	DR	C	FRP DR				
Acquisition Decision Memorandum (ADM)	DoDI 5000.2 8 Dec 08	X	X	X			X	X	X	X	Provides the decision of the ADM, including approval of the Acquisition Strategy if not approved prior the milestone) and the exit criteria for the next phase of the program.	Defense Acquisition Board Executive Secretary, Component Executive Secretary, Milestone Decision Authority staff	Milestone Decision Authority	Service Chief or as designated Component Acquisition Executive Component Program Manager
Acquisition Plan (may be combined with the Acquisition Strategy)	DoDI 5000.2 8 Dec 08 DA Pam 70-3	X	X	X			X	X	X		Used to facilitate attainment of the acquisition objectives, the plan must address all the technical, business, management, and other significant considerations that will control the acquisition. Provided to the contract administration organization to facilitate resource allocation and planning for the evaluation, identification, and management of contractor performance.	Program Manager	Program Manager. Submitted as part of the Acquisition Strategy to the Milestone Decision Authority.	Milestone Decision Authority
Acquisition Program Baseline (APB)	DoDI 5000.2 8 Dec 08 DA Pam 70-3	X	X	X			X		X	X	APB is based on users' performance requirements, schedule requirements, and estimate of total program cost. Performance shall include interoperability, supportability and, as applicable, environmental requirements.	Program Manager in coordination with the user. Prepared using the Consolidated Acquisition Reporting System (CARS)	ACAT – I: Milestone Decision Authority with concurrence by the Program Executive Office (PEO) and CAE and coordination with the USD(Comptroller) and Requirements Authority	Milestone Decision Authority
Acquisition Strategy	DoDI 5000.2 8 Dec 08 FAR	X	X	X		X	X	X	X	X	Developed in preparation for program initiation. Defines the approach to be followed and provides a guide for program execution from initiation through procurement of systems, including how the program is structured to achieve full capability.	Program Manager through the Working-Level Integrated Product Team and Operational Test Agency (OTA)	Milestone Decision Authority with concurrence by the PEO and CAE as appropriate.	Milestone Decision Authority

Document Title	Regulations or References	ACAT Level				Review/Milestone					Purpose of Document	Prepared by and in Coordination With	Approved or Validated By	Submitted To
		I	II	III	A	DR	B	DR	C	FRP DR				
Analysis of Alternatives (AoA) (Formerly the Cost and Operational Effectiveness Analysis – COEA) AoA may not be required for an ACAT III or IV programs. DA Pam 70-3 (¶ 2.4.1)	DoDI 5000.2 8 Dec 08 DA Pam 70-3	X	X	X		X	X		X		Analysis of alternative ways to meet the military need, including commercial and non-developmental technologies and products and services determined through market analysis. For most systems, the analysis shall consider and baseline against the system(s) that the acquisition program will replace, if they exist.	Training and Doctrine Command (TRADOC), (or appropriate principal staff office for Major Automated Information Systems (MAIS programs) responsible for the mission area in which a deficiency or opportunity has been identified.	Program Analysis and Evaluation (PA&E), shall assess the AoA, in terms of its comprehensiveness, objectivity, and compliance with the Clinger-Cohen Act.	Component head or Principal Staff Assistant, and to the Milestone Decision Authority (MDA).
Basis Of Issue Plan/ Basis of Issue Feeder Data (BOIP/BOIPF)	AR 71-32 DA Pam 70-3 DA Pam 700-142	X	X	X			X		X	X	A compilation of specified organizational, doctrinal, training, and personnel information developed by the materiel developer and combat developer for new or modified materiel items. Feeder documents required for the Type Classification, Materiel Fielding Plan, and the Army modernization reference data	BOIPF is developed by the Materiel Developer BOIP is developed by Army Force Management Support Agency	HQDA	Milestone Decision Authority
Cost Analysis Requirements Description (CARD) (Major Defense Acquisition Programs (DAPs) only)	DoDI. 5000.2 8 Dec 08	X	X				X		X	X	Provides quantitative descriptions of the program characteristics from which cost estimates will be derived. Ensures that cost projections developed by the program office, service cost agencies, and the CAIG are based on a common definition of the system and the acquisition program. A separate CARD is generally prepared for each alternative under consideration.	Program Manager Prepared for ACAT IA programs in coordination with the IPT members.	Reviewed by Cost Integrated Product Team (IPT) Normally approved by the sponsoring component's Program Executive Officer	Draft CARD provided to the various cost teams. Final CARD should be given to the Cost Analysis Improvement Group (CAIG)

Document Title	Regulations or References	ACAT Level				Review/Milestone					Purpose of Document	Prepared by and in Coordination With	Approved or Validated By	Submitted To
		I	II	III	A	DR	B	DR	C	FRP DR				
Economic Analysis (MAISs only)	DoDI 5000.2 8 Dec 08 DA Pam 70-3	X					X				Consist of a Life Cycle Cost Estimate and a life-cycle benefits estimate, including a return on investment calculation. The MDA usually directs an update to the EA whenever program cost, schedule, or performance parameters significantly deviate from the approved APB.	Program Manager	PA&E shall provide results of the assessment to both the PM and MDA.	Milestone Decision Authority shall consider the DoD Component cost analysis and PA&E assessment.
Health Hazard (HH) Domain Assessment	AR 602-2	X	X	X	X		X		X		The process of identifying, controlling, or eliminating health hazards during the acquisition process.	APHC	Deputy Chief of Staff for Personnel (DCSPER) (DAPE-MR)	
Human Factors (HFE) Engineering Domain Assessment	AR 602-2	X	X	X	X		X		X		Report that assesses systems design from the human factors engineering perspectives as the system approaches the end of a system acquisition phase.	ARL-HRED	DCSPER (DAPE-MR)	
Independent Cost Estimate (MDAPs only) (N/A for AIS) Component Cost Analyses (MAIS and selected MDAPs)	DoDI 5000.2 8 Dec 08 DA Pam 70-3	X	X				X		X	X	Independent estimate of the full life-cycle cost of the program, including operation and support costs that affect the decision to proceed with development or production of the system, regardless of funding source or management control.	ACAT-ID: Director, Cost Analysis Improvement Group (CAIG) ACAT -IC: Component cost analysis activity	Director, Cost Analysis Improvement Group (CAIG) Milestone Decision Authority	ACAT – ID & IC: Congress Milestone Decision Authority
Lessons Learned from Predecessor Systems (May also be contained in HSIPs from related programs)	AR 602-2	X	X	X	X						Information provides the avoidance of costly mistakes during new system development	Functional Proponent/ user of predecessor system		PM

Document Title	Regulations or References	ACAT Level				Review/Milestone					Purpose of Document	Prepared by and in Coordination With	Approved or Validated By	Submitted To
		I	II	III	A	DR	B	DR	C	FRP DR				
Live Fire Test & Evaluation (LFT&E) Report	DoDI 5000.2 8 Dec 08	X	X	X						X	Certification must include a report on plans to evaluate the survivability or lethality and assess possible alternatives to realistic survivability testing. Certifies to Congress, before the system or program enters System Demonstration, that live-fire testing of such system or program would be unreasonably expensive and impractical.	Program Manager	Milestone Decision Authority Director, Operational Test and Evaluation (DOT&E) approves the alternate LFT&E Plan.	Congress
Manpower Estimate Report (MDAPs only) (N/A for AIS)	DoDI 5000.2 8 Dec 08 DA Pam 70-3	X					X		X	X	Outlines the DoD Component's official manpower position, addresses whether the program is affordable from a military end-strength and civilian work year perspective, addresses availability of personnel, and clearly states the risks associated with achieving the manpower numbers reported in the estimate. Notifies Congress of manpower estimate for the program.	Program Manager Service manpower sponsor	ACAT – ID: Under Secretary of Defense (Personnel and Readiness) Milestone Decision Authority	ACAT – ID & IC: Congress ACAT – IC: Assistant Secretary of Defense (Force Management & Personnel) (information only) Milestone Decision Authority
Manpower Personnel Training (MPT) Domain Assessment	AR 602-2	X	X	X	X		X		X		Assesses manpower, personnel and training risks of the system. Identifies MPT issues and addresses impacts the system has on MPT resources by examining a myriad of domain characteristics.	ARL-HRED	DCSPER (DAPE-MR)	
HSI Assessment	AR 602-2	X	X	X	X		X		X		Independent review of the HSI status of the system. The objective is to present any unresolved HSI risks/issues to decision makers at appropriate decision points. The HSI Assessment is a rollup of the seven Domain assessments (M,P,T, SS, HFE, SSv, HH).	DCSPER (DAPE-MR) ARL-HRED	Deputy Chief of Staff for Personnel (DCSPER)	Milestone Decision Authority

Document Title	Regulations or References	ACAT Level			Review/Milestone						Purpose of Document	Prepared by and in Coordination With	Approved or Validated By	Submitted To
		I	II	III	A	DR	B	DR	C	FRP DR				
Materiel Fielding Plan	AR 700-127 AR 700-142 DA Pam 700-142	X	X	X			X		X	X	Serves as the single stand-alone document containing the detailed plans and actions the fielding and gaining commands will accomplish to successfully field and deploy a materiel system. The MFP will also address any system or materiel it replaces and describe how it will be transferred or retrograded.	Program Manager or fielding command, in coordination with the supportability IPT members, gaining Major Commands (MACOMs), and HQDA. Prepared for each new materiel system having a significant support impact on the gaining MACOM	Deputy Chief of Staff for Operations	Gaining MACOMs and HQDA
Operational Test Activity Report / System Evaluation Report (SER) or System Assessment (SA)	DoDI 5000.2 8 Dec 08 AR 700-142 DA Pam 700-142 DA Pam 70-3	X	X	X			X		X	X	Document test & evaluation results and presents a position relative to the proposed materiel release and lists the factors that would prevent a full release. The SER or SA assesses the technical performance; system safety; and operational effectiveness, suitability and survivability.	Army Test and Evaluation Command (ATEC)	ATEC, DOT&E	Congress Milestone Decision Authority
Programmatic Environment, Safety, and Occupational Health Evaluation (PESHE)	DoD 5000.2	X	X	X	X		X		X		Helps the PM to identify and manage Environmental Safety and Occupational Health hazards, risks, and compliance with regulatory requirements.	Program Manager	Program Manager	
Post-Deployment Performance Review	DA Pam 70-3	X								X	Used to verify whether the fielded system meets or exceeds thresholds and objectives for cost, performance, and support parameters approved at full rate production and assesses the acquisition programs compliance with the strategic plan.	Program Manager	Program Manager	Milestone Decision Authority

Document Title	Regulations or References	ACAT Level				Review/Milestone					Purpose of Document	Prepared by and in Coordination With	Approved or Validated By	Submitted To
		I	II	III	A	DR	B	DR	C	FRP DR				
Product Support Management Plan / Supportability Strategy (Part of the Acquisition Strategy & formerly the ILS Plan)	AR 700-127	X	X	X	X		X		X		Provides an integrated acquisition and logistics strategy necessary to maintain the readiness and operational capability of the system.	Program Manager in coordination with the Materiel Developer.	Program Manager. Submitted as part of the Acquisition Strategy to the Milestone Decision Authority.	Milestone Decision Authority
Request for Proposals /Statement of Work	FAR DA Pam 70-3	X	X	X		X	X				Translates CDD/CPD system-specific requirements into contractor work efforts	PM's contractor	Source Selection Advisory Council	
Soldier Survivability (SSv) Domain Assessment	AR 602-2	X	X	X	X		X		X		Soldier survivability Assessment assesses the system design characteristics in regard to soldier survivability.	ARL-SLAD (lead) ARL-HRED (assist)	DCSPER (DAPE-MR)	
Human Systems Integration Plan (HSIP)/ HSIP-like tracking document/Common Data Elements (These are HSI Issue Tracking Documents)	AR 602-2	X	X	X	X		X		X	X	Serves as a planning and management Domain Guide and an audit trail to identify tasks, analyses, trade-offs and decisions that must be made in order to address HSI issues during system development and the acquisition process.	HSI Working-level Integrated Product Team chaired by the Combat Developer develops a HSIP jointly with the Materiel Developer. May be done by ARL-HRED in support of the PM	MAISRC systems: HSIP should be jointly approved by the Functional Proponent, the Program/Project Manager, and the Combat Developer or TRADOC System Manager (TSM). ASARC systems: HSIP should be jointly approved by the Program/Project Manager and the Combat Developer or TSM.	Deputy Chief of Staff for Personnel (DCSPER)
System Safety (SS) Domain Assessment	AR 602-2	X	X	X	X		X		X		A report which assesses the overall safety of the emerging or changing system and ensures that system safety issues and concerns, and recommended solutions are integrated into the acquisition program.	Combat Readiness Center & AMC (ACAT ID, IC & II) CECOM (IA (IAM, IAC)) AMC (ACAT III)	DCSPER (DAPE-MR)	

Document Title	Regulations or References	ACAT Level				Review/Milestone					Purpose of Document	Prepared by and in Coordination With	Approved or Validated By	Submitted To
		I	II	III	A	DR	B	DR	C	FRP DR				
System Training Plan (STRAP) Training Strategy /Training Development Plan / New Equipment Training (NET)	TRADOC Reg 350-70	X	X	X	X		X		X		Identifies training initiatives that enhance the user's capabilities and improve readiness. The STRAP documents the results of early training analyses (who requires training, what tasks are to be trained) and training design (where and how the Army will conduct raining, including identification of Training Aids, Devices, Simulators, and Simulations and embedded training requirements). NET accomplishes the transfer of knowledge on the operation and maintenance associated with the fielding of new, improved, or displaced equipment from the materiel developer to the tester, training, support and user.	Program Manager, in coordination with the training community or TSM	TRADOC. Submitted as part of the Acquisition Strategy to the Milestone Decision Authority.	Milestone Decision Authority
Target Audience Description (TAD)	AR 602-2 AR 611-1 DA Pam 611-21	X	X	X	X		X		X		The TAD lists occupational identifiers for personnel who are projected to operate, maintain, train, and support a specific future Army system.	PM in coordination with User and Personnel Proponent(s)		
Technology Development Strategy (TDS)	DoDI 5000.02	X	X	X	X						Describes how the (potential) acquisition program will address technology maturity, cost, schedule, performance goals, and exit criteria for the Technology Development phase. This document is the forerunner for the Acquisition Strategy developed for Milestone B	Program Manager in coordination with the user.		Milestone Decision Authority

Document Title	Regulations or References	ACAT Level			Review/Milestone						Purpose of Document	Prepared by and in Coordination With	Approved or Validated By	Submitted To
		I	II	III	A	DR	B	DR	C	FRP DR				
Test & Evaluation Strategy/Test & Evaluation Master Plan (TEMP) (includes Critical Operational Issues and Criteria (COICs)	DoDI 5000.2 8 Dec 08	X	X	X	X		X		X	X	Coordinates developmental testing, operational testing, live fire testing, interoperability testing, modeling, and simulation activities into an efficient continuum. COICs are the operational effectiveness and operational suitability issues (not parameters, objectives or thresholds) that must be examined in operational test and evaluation to evaluate/assess the system's capability to perform its mission.	Program Manager, through the program's T&E Working–level Integrated Product Team and in concert with the user and test communities.	OIPT Leader DOT&E	Milestone Decision Authority

Appendix B. Manpower Personnel and Training Assessment Process Guide Sheet

This appendix appears in its original form, without editorial change.

Manpower Personnel & Training Assessment Process Guide Sheet
Milestone B & C

I. Document review

(Some of these documents may be unavailable or in draft form, but you should try to get as many of these as possible. Use Appendix A to check on the availability of required documents and include any voids in the MPTA)

Title	Date	Pre MS	MS A	MS B	MS C
Analysis of Alternatives					
Acquisition Program Baseline					
Technology Development Strategy (MS A) or Acquisition Strategy (MS B)					
Acquisition Plan					
Operational Requirements Document (ORD)					
Initial Capabilities Document (ICD)					
Capabilities Development Document (CDD)					
Capabilities Production Document					
Mission Needs Statement (MNS)					
Basis of Issue Plan / Basis of Issue Feeder (BOIP/BOIPF)					
Cost Analysis Requirements Description (CARD)					
Manpower Estimate Report					
Target Audience Description					
Materiel Fielding Plan					
Operational Mode Summary / Mission Profile (OMS/MP)					
Product Support Management Plan / Supportability Strategy					
System HSI Management Plan (HSIP)(or equivalent)					
System Training Plan (STraP)					

Test & Evaluation Strategy / Test & Evaluation Master Plan (Includes Critical Operational Issues & Criteria (COICs)					
Operational Test Activity Report(s) / System Assessment Report					

Any government or contractor reports involving operators, training, user feedback (User Juries, interviews).					
Documents, usability test results, HSI Assessments, etc. for the predecessor system, if applicable.					

These questions should form the core of the assessment. The questions, and data sources, are not limiting and additional concerns or information sources may be included, based on the characteristics of the system being assessed.

The data sources are the most direct sources of information for each question. Additional sources of information can be located in the document list in the MPTA Handbook.

II. MANPOWER

1. Are there sufficient numbers of Soldiers available to operate the system?		
a. If this system replaces an existing system, is the same number of operators required?	Data Sources: - Table of Organization and Equipment (TO&E) of the receiving unit - Early design documents of the new system, showing the number of operators or crew. - Analysis of Alternatives (AoA) - Capabilities Development Document (CDD)	
b. If the system is an entirely new system, not replacing a predecessor, can the available Soldiers in the receiving unit operate the system in addition to their existing duties?	Data Sources: - Table of Organization and Equipment (TO&E) of the receiving unit - Workload models, Soldier interviews, and results of User Evaluations using mock-ups or prototypes to predict workload. - Analysis of Alternatives (AoA) - Capabilities Development Document (CDD)	

c. If the new system and the predecessor system will be used by a unit at the same time, is there a plan to provide Manpower for both systems?	Data Sources: - TO&E of the receiving unit - Workload models, Soldier interviews, and User Evaluations using mock-ups or prototypes to predict workload.	
d. If the system requires additional Soldiers, has a source for those Soldiers (bill payer) been identified?	Data Sources: - Manpower Assessment Report	
e. Does evidence support that the proposed number of operators are sufficient to support the system?	Data Sources: - Workload studies - Field Study results	
f. Have Active, Reserve, and National Guard components been considered in all of the above?	Data Sources: - Manpower Assessment Report	

Manpower (cont.)		
2. Are there sufficient numbers of Soldiers available to Maintain the system?		
a. What is the maintenance concept for this system?	Data Sources: - Product Support Management Plan / Supportability Strategy	
b. To what extent is maintenance performed by Soldiers, FSRs, or through shipping line-replaceable units (LRUs) to the rear.	Data Sources: - Product Support Management Plan / Supportability Strategy	
c. If this system replaces an existing system, is the same number of Maintainers required?	Data Sources: - Table of Organization and Equipment (TO&E) of the receiving unit - Workload models, Soldier interviews, Log Demos, & User Evaluations using mock-ups or prototypes to predict workload. - Maintenance Strategy - Analysis of Alternatives (AoA) - Capabilities Development Document (CDD) - Associated Items of Support Equipment - Field Tests, Customer Tests, User Tests.	
1. If the new system and the predecessor system will be used by a unit at the same time, is there a plan to provide	- TO&E of the receiving unit - Workload models, Soldier interviews, and User Evaluations	

Manpower to maintain both systems?	using mock-ups or prototypes to predict workload. - Field Tests, Customer Tests, User Tests.	

d. If the system is an entirely new system, not replacing a predecessor, can the available Soldiers in the receiving unit maintain the system in addition to their existing duties?	Data Sources: - Table of Organization and Equipment (TO&E) of the receiving unit - Workload models, Soldier interviews, & User Evaluations using mock-ups to predict workload - Analysis of Alternatives (AoA) - Capabilities Development Document (CDD) - Associated Items of Support Equipment - PM Technical Support contracts - Field Tests, Customer Tests, User Tests.	
e. Have the Soldiers required to perform Logistical Support and Sustainment, including Associated Items of Support Equipment (AIOSE) been considered in the Manpower requirements.	Data Sources - Manpower Estimate - Product Support Management Plan / Supportability Strategy	
f. Does evidence support that the proposed number of maintainers are sufficient to support the system?	Data Sources: - Workload studies - LogDemo Results - RAM/Integrated Logistics Support Analysis - Field Tests, Customer Tests, User Tests.	

g. If the system requires additional Soldiers, has a source for those Soldiers (bill payer) been identified?	Data Sources: - Manpower Assessment Report	
h. Have Active, Reserve, and National Guard components been considered in all of the above?	Data Sources: - Manpower Assessment Report	

Manpower (cont)		
3. Have the requirements for non-Soldier personnel required to maintain the system been identified?		
a. How many civilians will be required to maintain or sustain the systems? 1. What Civilian Occupation will be required? 2. What Grade of Civilian will be required?	Data Source – Manpower Estimate report PM Support Contracts Field Tests, Customer Tests, Operational Tests.	
b. How many contractor personnel (Field Service Representatives (FSRs), contractor-instructors, etc.) will be needed to support the system? 1. Will the need for contractor support be on-going or reduced over time after initial fielding?	Data Source – Manpower Estimate report Field Tests, Customer Tests, Operational Tests.	
c. Does evidence support that the proposed number of civilians are sufficient to support the system?	Data Sources: - Workload studies - LogDemo Results - RAM/Integrated Logistics Support Analysis	

Personnel

1. Are the Soldiers assigned to operate this system of the correct MOS, skill-set, rank, and aptitude?		
a. Are the Operators of the correct 1. MOS: Military Occupational Specialty 2. WOMOS: Warrant Officers MOS 3. AOC: Area of Concentration	Data Sources - DA Pam 611-21 Smartbook at https://smartbook.armyg1.pentagon.mil/default.aspx This will include listings of MOS, and the physical and mental requirements. - TRADOC and target user population interviews will provide insight on skill-sets, experience levels, and rank and responsibility crosswalks. - Security Classification Guideline for the system. - User Juries, or reports from operators in Maintenance or Operational Test or other Use Evaluations. - Target Audience Description - Task Analysis	
b. Rank: Are the Soldiers assigned to the system of ranks corresponding to skill and responsibility required? For instance, is vehicle command being assigned to an enlisted Soldier; is a high degree of experience being assumed when a junior operator is likely?		
c. Skill Set: Are the skill required to operate the system compatible with the target user's skills. If new skills need to be trained will this degraded the Soldier's ability to maintain his core knowledge Skills and Abilities?		
d. Aptitude: Are the tasks required to operate the system within the aptitude range for the target Soldier, in terms of ASVAB, education level?		

e. Security Clearance: Do the operators, maintainers, civilian support, and contractors associated with the system require security clearances, and at what level?		
f. Physical requirements: Are the physical requirements (size, strength) required to maintain the system compatible with the operator Target Audience?	- PULHES (Physical capacity/stamina, Upper extremities, Lower extremities, Hearing/ear, Eyes, Psychiatric) requirement for the MOS	
g. Is the operator MOS open to Male and Female Soldiers?	- Target Audience Description	
h. Are the skills required to operate this system so specific or restrictive that it will restrict promotion or career development?	- Interviews with Senior NCOs following training and Operational Testing - TCM Subject Mater Expert opinion	
i. Will operating the system require special licensing, an additional Functional Area (officers), or Additional Skill Identifier (enlisted and Warrants)?	- ICD or CDD - Target Audience Description	

Personnel (Cont)		
2. Are the Soldiers assigned to maintain this system of the correct MOS, skill-set, rank, and aptitude?		
a. Are the Maintainers of the correct MOS: Military Occupational Specialty WOMOS: Warrant Officers MOS AOC: Area of Concentration	Data Sources - DA Pam 611-21 Smartbook at https://smartbook.armyg1.pentagon.mil/default.aspx This will include listings of MOS, and the physical and mental requirements. - TRADOC and target user population interviews will provide insight on skill-sets, experience levels, and rank and responsibility crosswalks. - Security Classification Guideline for the system. - User Juries, or reports from operators in Maintenance or Operational Test or other Use Evaluations - Target Audience Description - Task Analysis	
b. Rank: Are the Soldiers assigned to the system of ranks corresponding to skill and responsibility required? For instance, is vehicle command being assigned to an enlisted Soldier; is a high degree of experience being assumed when a junior operator is likely?		
c. Skill Set: Are the skill required to maintain the system compatible with the target user's skills. If new skills need to be trained will this degraded the Soldier's ability to maintain his score KSAs?		
d. Aptitude: Are the tasks required to maintain the system within the aptitude range for the target Soldier, in terms of ASVAB, education level?		
e. Security Clearance: Do the operators, maintainers, civilian support, and contractors associated with the system require security clearances, and at what level?		

f. Physical requirements: Are the physical requirements (size, strength) required to maintain the system compatible with the maintainer Target Audience?	- PULHES requirement for the MOS	
g. Is the maintainer MOS open to Male and Female Soldiers?	- Target Audience Description	
h. Are the skills required to operate this system so specific or restrictive that it will restrict promotion or career development?	- Interviews with Senior NCOs following training, LogDemo, and Operational Testing - TCM Subject Mater Expert opinion	
i. Will maintaining or supporting the system require special licensing, an additional Functional Area (officers), or Additional Skill Identifier (enlisted and Warrants)?	- ICD or CDD - Target Audience Description	
	-	

Training

1. Is the Training Strategy supportable?		
	-	
a. Is there an approved New Equipment Training (NET) package?	Data Sources - Training Manual (TM's), Field Manuals (FM's), training packages - System Training Plan (STraP)	
b. Are there instructors identified to conduct NET?	Data Sources – System Training Plan (STraP) – ICD or CDD	
c. Is there a long-term training plan for new operators and maintainers?	Data Sources – System Training Plan (STraP) - ICD or CDD	
d. Are there resources to support new operator and maintainer training, to include 1. Instructors 2. Student time (course length) 3. Facilities (classrooms, ranges, training aids such as mock-ups) 4. Support or auxiliary equipment or materiel required for system initialization 5. Equipment that must interface with the new system (e.g. information or situation awareness systems) 6. Simulators that emulate items 4 and 5 above.	Data Sources – System Training Plan (STraP) - ICD or CDD	

d.1. If the new system and the predecessor system will be in a unit at the same time, is there a plan to support training for both systems?	Data Sources – System Training Plan (STraP) ICD or CDD	
e. Is there a strategy for Sustainment training?	Data Sources – System Training Plan (STraP)	
f. Are there resources to support operator and maintainer sustainment training, to include 1. Instructors 2. Student time (course length) 3. Facilities (classrooms, ranges, training aids such as mock-ups) 4. Support or auxiliary equipment or materiel required for system initialization 5. Equipment that must interface with the new system (e.g. information or situation awareness systems) 6. Simulators that emulate items 4 and 5 above.	Data Sources – System Training Plan (STraP) - ICD or CDD	

g. If there is a licensure, certification, or security clearance required to operate and maintain the system, has a license renewal or recertification process been defined?	– System Training plan (STraP)	
h. Are the licensing or recertification requirement sustainable in terms of 1. Instructor availability 2. Time required 3. Resources (ranges, test equipment)	– TRADOC	
i. Is there a Training Effectiveness Analysis (TEA) or formal training assessment planned?	Data Sources – System Training Plan (STraP) – Review of NET and Sustainment Training resources – Observation or Reports from NET	

Training (Cont)		
2. Are training materials appropriate?		
	Data Sources (**All Training issues**) - Training Manual (TM's), Field Manuals (FM's), training packages - Subjective (Soldier & SME feedback) and Objective (ability of trained Soldier's ability to complete tasks; reports on failed tasks of training gaps) from New Equipment Training for any User or Operational Testing. - Training Effectiveness Analysis (TEA)	
a. Is the material written at a 9th grade level or below	Data Source Flesh-Kincaid Grade Level (FKGL) From a sample of about 200 words Calculate the average number of words per sentence (WPS) Calculate the average number of syllables per word (SPW) FKGL – (0.39 * WPS) + (11.8 * SPW) – 15.59	

b. Is the training material Accurate?	Data Sources – Validate Maintenance Manuals through Log Demo – Follow training with manuals to check for accuracy. – Verify with Soldiers that Training provided them with the necessary information to operate or maintain the system through operational test	
c. Is the training easy to understand?	Data Sources - Interviews with Soldiers completing training - In testing, can trained Soldiers complete the required tasks?	
d. Is there a need or strategy for collective training	- System Training Plan (STraP) - ICD & CDD	
e. Is the time and cost required for operator and maintainer training sustainable by the unit and the individual Soldier	- System Training Plan (STraP)Training requirements for predecessor system	
f. Is there a training plan for Reserve or National Guard units?	- System Training Plan (STraP)	
g. Is there a plan to use Simulators, Mock-ups, or Imbedded training for initial or sustainment training	- ICD - STRAP - VV&A for simulation	
	-	

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List of Symbols, Abbreviations, and Acronyms

ACAT	acquisition category
AMC	Army Materiel Command
AoA	Analysis of Alternatives
APHC	Army Public Health Center
AR	Army Regulation
ARL	US Army Research Laboratory
ASARC	Army Systems Acquisition Review Council
ASI	Additional Skill Identifier
ASVAB	Armed Services Vocational Aptitude Battery
ATEC	US Army Test and Evaluation Command
BOIP	Basis of Issue Plan
BOIPFD	Basis of Issue Plan Feeder Data
CAE	Component Acquisition Executive
CAIG	Cost Analysis Improvement Group
CARD	Cost Analysis Requirements Description
CDD	Capabilities Development Document
CECOM	US Army Communications–Electronics Command
CJCSI	Chairman of the Joint Chiefs of Staff Instruction
COIC	Critical Operational Issues and Criteria
DCSPER	Deputy Chief of Staff for Personnel
DOD	Department of Defense
DODI	Department of Defense Instruction
DOT&E	Director Operational Test and Evaluation
DOTMLPF	Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, and Facilities

FSR	field support representative
HFEA	Human Factors Engineering Assessment
HQDA	Headquarters, Department of the Army
HRED	Human Research and Engineering Directorate
HSI	Human Systems Integration
HSIA	Human Systems Integration Assessment
HSIP	Human Systems Integration Plan
ICD	Initial Capabilities Document
ILS	Integrated Logistics Support
IPT	Integrated Product Team
JPO	joint program office
JROC	Joint Requirements Oversight Counsel
JWG	Joint Working Group
KSA	knowledge, skills, and abilities
LFT&E	Live Fire Test and Evaluation
MACOM	Major Command
MAIS	Major Automated Information Systems
MDA	Milestone Decision Authority
MDAP	Major Defense Acquisition Program
MER	Manpower Estimate Report
MFP	Materiel Fielding Plan
MOS	Military Occupational Specialty
MP	Mission Profile
MPT	manpower, personnel, and training
MPTA	Manpower, Personnel, and Training Assessment
NET	New Equipment Training
OMS	Operational Mode Summary

OSD	Office of the Secretary of Defense
PA&E	Program of Analysis and Evaluation
PEO	Program Executive Officer
PM	program manager
PULHES	Physical (stamina), Upper extremities, Lower extremities, Hearing (ears), Eyes, Psychiatric (military physical profile)
RAM	reliability, maintainability, and availability
SA	System Assessment
SER	System Evaluation Report
STRAP	System Training Plan
TAD	Target Audience Description
TEMP	Test and Evaluation Master Plan
TO&E	Table of Organization and Equipment
TRADOC	US Army Training and Doctrine Command
TRL	technology readiness level
TSM	TRADOC System Manager

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RDRL HRM CH C BURNS
THIRD AVE BLDG 1467B RM 336
FORT KNOX KY 40121

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RDRL HRM DJ D DURBIN
BLDG 4506 (DCD) RM 107
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FORT HUACHUCA AZ 85613-7069

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BCBL 806 HARRISON DR
FORT LEAVENWORTH KS
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ORLANDO FL 32826-3276

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WARREN MI 48397-5000

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FIELD ELEMENT
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3040 NW AUSTIN RD RM 221
FORT SILL OK 73503-9043

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91012 STATION AVE
FORT HOOD TX 76544-5073

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1 (PDF) ARMY RSCH LAB – HRED
HQ USASOC
RDRL HRM CN R SPENCER
BLDG E2929 DESERT STORM DR
FORT BRAGG NC 28310

1 (PDF) ARMY G1
DAPE MR B KNAPP
300 ARMY PENTAGON RM 2C489
WASHINGTON DC 20310-0300

ABERDEEN PROVING GROUND

12 (PDF) DIR USARL
RDRL HR
L ALLENDER
P FRANASZCZUK
K MCDOWELL
RDRL HRM
P SAVAGE-KNEPSHIELD
RDRL HRM AL
C PAULILLO
RDRL HRM B
J GRYNOVICKI
R TAUSON
RDRL HRM C
L GARRETT
RDRL HRS
J LOCKETT
RDRL HRS B
M LAFIANDRA
RDRL HRS D
A SCHARINE
RDRL HRS E
D HEADLEY

INTENTIONALLY LEFT BLANK.