



DoD 8570.01-M

Information Assurance Workforce Improvement Program

*Incorporating Change 4,
11/10/2015*

**December 19, 2005
Assistant Secretary of Defense for
Networks and Information
Integration/Department of Defense Chief
Information Officer**

[Use appropriate letterhead]

December 19, 2005

FOREWORD

This Manual is issued under the authority of ~~DoD Directive 8570.1 “Information Assurance Training, Certification, and Workforce Management,” August 15, 2004 DoD Directive 5144.02 (Reference (a)) to implement the policy in DoD Directive 8140.01 (Reference (ab))~~. It provides guidance and procedures for the training, certification, and management of the DoD workforce conducting Information Assurance (IA) functions in assigned duty positions. It also provides information and guidance on reporting metrics and the implementation schedule for Reference ~~(ab)~~.

This Manual applies to the Office of the Secretary of Defense (OSD), the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Office of the Inspector General of the Department of Defense, the Defense Agencies, the DoD Field Activities, and all other organizational entities in the Department of Defense (hereafter referred to collectively as the “DoD Components”).

This Manual is effective immediately and is mandatory for use by all the DoD Components. ~~Send recommended changes to the Manual to the following address:~~

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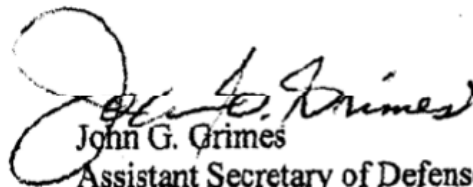

John G. Grimes
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- (ab) ~~DoD Directive 8570.1, "Information Assurance Training, Certification, and Workforce Management," August 15, 2004~~ DoD Directive 8140.01, "Cyberspace Workforce Management," August 11, 2015
- (bc) ~~DoD Instruction 8500.2, "Information Assurance (IA) Implementation," February 6, 2003-~~ DoD Instruction 8500.01, "Cybersecurity," March 14, 2014
- (ed) Section 3544 of ~~44~~ Title 44, United States Code
- (de) DoD Instruction 5105.18, "DoD Intergovernmental and Intragovernmental Committee Management Program," July 10, 2009, *as amended*
- (df) *Section 1607 of* Title 29, Code of Federal Regulations, ~~section 1607, current edition~~
- (eg) Office of Personnel Management Job Family ~~Position Classification~~ Standard for Administrative Work in the Information Technology Group, GS-2200; Information Technology Management, GS-2210, May 2001, as revised¹
- (g) ~~DoD 1400.25 M Subchapter 1920, "Classification," April 28, 2006~~
- (h) ~~DoD Directive 8500.1, "Information Assurance (IA)," October 24, 2002~~
- (ih) DoD Directive O-8530.1, "Computer Network Defense (CND)," January 8, 2001
- (ji) DoD 5200.2-R, "Personnel Security Program," January 1987, *as amended*
- (kj) DoD Instruction 8510.01, ~~"DoD Information Assurance Certification and Accreditation Process (DIACAP)," November 28, 2007-~~ "Risk Management Framework (RMF) for DoD Information Technology (IT)," March 12, 2014
- (lk) Section 2224 of ~~44~~ Title 10, United States Code. ~~"Defense Information Assurance Program"~~
- (ml) Section 278g-3 of ~~44~~ Title 15, United States Code
- (nm) Office of Management and Budget Circular A-130 *Revised*, "Management of Federal Information Resources, Transmittal Memorandum No. 4," Appendix 3, November ~~30~~ 28, 2000
- (on) Department of Homeland Security National Cyber Security Division Program Management Office, "Customer Agency Guide Information Systems Security Line of Business (ISS LOB), Shared Service Centers for Tier 1 Security Awareness Training and FISMA Reporting," February 27, 2007
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- (qp) DoD Instruction 7730.64, "Automated Extracts of Manpower and Unit Organizational Element Files," December 11, 2004
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- (sr) DoD Instruction 7730.54, "Reserve DoD Components Common Personnel Data System (RCCPDS)," ~~August 6, 2004~~ May 20, 2011
- (ts) DoD Instruction ~~1444.2, "Consolidation of Automated Civilian Personnel Records,"~~ ~~September 16, 1987~~ 1444.02, Volume 1, "Data Submission Requirements for DoD Civilian Personnel: Appropriated Fund (APF) Civilians," November 5, 2013

¹ www.opm.gov/fedclass/gs2200a.pdf

- (~~ut~~) ~~DoD 8910.1 M, "DoD Procedures for Management of Information Requirements," June 30, 1998 DoD Manual 8910.01, Volume 1, " DoD Information Collections Manual: Procedures for DoD Internal Information Collections," June 30, 2014~~
- (~~vu~~) Director of Central Intelligence Directive 6/3, "Protecting Sensitive Compartmented Information within Information Systems," June 5, 1999
- (~~wv~~) Committee on National Security Systems Instruction No. 4009, "National Information ~~Security System Assurance (IA)~~ Glossary," ~~as revised May 2003 April 26, 2010~~
- (~~xw~~) Joint Publication 1-02, "Department of Defense Dictionary of Military and Associated Terms," ~~as amended current edition~~
- (~~yx~~) Chapter 51 of ~~€~~Title 5, United States Code
- (~~zy~~) International Standards Organization/International Electronics Commission (ISO/IEC) 17024, "*Conformity Assessment - General Requirements for Bodies Operating Certification of Persons,*" ~~April 2003 July 3, 2012~~
- (~~aaz~~) DoD 5500.07-R, "~~DoD~~ Joint Ethics Regulation (*JER*)," August ~~130~~, 1993, *as amended*

ACRONYMS

Acronym	Meaning
ASD(NII)/DoD CIO	Assistant Secretary of Defense for Networks and Information Integration/DoD Chief Information Officer
C&A	Certification and Accreditation
CBT	Computer Based Training
CDS	Cross Domain Solutions
CE	Computing Environment
CIO	Chief Information Officer
CO/XO	Commanding Officer/Executive Officer
CND	Computer Network Defense
CND-A	Computer Network Defense Analyst
CND-AU	Computer Network Defense Auditor
CND-IS	Computer Network Defense Infrastructure Support
CND-IR	Computer Network Defense Incident Responder
CND-SP	Computer Network Defense Service Provider
CND-SPM	Computer Network Defense Service Provider Manager
COOP	Continuity of Operations Plan
CUI	Controlled Unclassified Information
DAA	Designated Accrediting Authority
DCIO	Deputy Chief Information Officer
DCPDS	Defense Civilian Personnel Data System
DEERS	Defense Eligibility Enrollment Reporting System
DIAP	Defense-wide Information Assurance Program
DISA	Defense Information Systems Agency
DMDC	Defense Manpower Data Center
DoD	Department of Defense
DWCA	Defense Workforce Certification Application
e-JMAPS	e-Joint Manpower and Personnel System
FISMA	Federal Information Security Management Act
FN	Foreign National

Acronym	Meaning
FY	Fiscal Year
GIG	Global Information Grid
GS	General Schedule
IA	Information Assurance
IAM	Information Assurance Management
IAO	Information Assurance Officer
IASE	Information Assurance Support Environment (DoD IA Portal)
IASAE	Information Assurance System Architect and Engineer
IAT	Information Assurance Technical
IAVA	Information Assurance Vulnerability Alert
IAVB	Information Assurance Vulnerability Bulletin
IAVM	Information Assurance Vulnerability Management
IA WIPAC	Information Assurance Workforce Improvement Program Advisory Council
INFOSEC	“Security” (The parenthetical title in DCPDS for civilian personnel performing security (IA) functions)
IRT	Incident Response Teams
IS	Information System
(ISC)2	International Information Systems Security Certification Consortium
ISO/IEC	International Organization for Standardization/International Electro-technical Commission
ISS LoB	Information System Security Line of Business
ISSM	Information System Security Manager
ISSO	Information System Security Officer
IT	Information Technology
LN	Local National
MAC	Mission Assurance Category
NE	Network Environment
NIPRNet	Non-classified Internet Protocol Router Network
OJT	On the Job Training

Acronym	Meaning
OM G B	Office of Management and Budget
OPM	Office of Personnel Management
OSD	Office of the Secretary of Defense
PSC	Position Specialty Code
SCI	Sensitive Compartmented Information
SIPRNet	Secret Internet Protocol Router Network
SP	Service Provider
SSC	Shared Service Center
TA	Technical Advisory
USD(AT&L)	Under Secretary of Defense for Acquisition, Technology, and Logistics
USD(I)	Under Secretary of Defense for Intelligence
USD(P&R)	Under Secretary of Defense for Personnel and Readiness
USSTRATCOM	United States Strategic Command
WIP	Workforce Improvement Program

C1. CHAPTER 1

GENERAL INFORMATION

C1.1. PURPOSE

This Manual:

C1.1.1. Implements ~~DoD Directive 8570.1~~ (*the policy in Reference (ab)*).

C1.1.2. Provides guidance for the identification and categorization of positions and certification of personnel conducting Information Assurance (IA) functions within the DoD workforce supporting the DoD Global Information Grid (GIG) per DoD Instruction ~~8500.2~~ *8500.01* (Reference (bc)). The DoD IA Workforce includes, but is not limited to, all individuals performing any of the IA functions described in this Manual. Additional chapters focusing on personnel performing specialized IA functions including certification and accreditation (C&A) and vulnerability assessment will be published as changes to this Manual.

C1.1.3. Establishes IA workforce management reporting requirements to support Reference (ab).

C1.2. DEFINITIONS. See Appendix 1.

C1.3. DoD IA WORKFORCE MANAGEMENT OBJECTIVES:

C1.3.1. Develop a DoD IA workforce with a common understanding of the concepts, principles, and applications of IA for each category, specialty, level, and function to enhance protection and availability of DoD information, information systems, and networks.

C1.3.2. Establish baseline technical and management IA skills among personnel performing IA functions across the DoD enterprise.

C1.3.3. Provide warfighters qualified IA personnel in each category, specialty and level.

C1.3.4. Implement a formal IA workforce skill development and sustainment process, comprised of resident courses, distributive training, blended training, supervised on the job training (OJT), exercises, and certification/recertification.

C1.3.5. Verify IA workforce knowledge and skills through standard certification testing.

C1.3.6. Augment and expand on a continuous basis the knowledge and skills obtained through experience or formal education.

C1.4. RESPONSIBILITIES

In addition to the responsibilities listed in Reference (*ab*) and section 3544 of title 44, United States Code (Reference (*ed*)), this Manual assigns the following:

C1.4.1. The Assistant Secretary of Defense for Networks and Information Integration/DoD Chief Information Officer (ASD(NII)/DoD CIO) shall:

C1.4.1.1. Coordinate changes and updates to this Manual to maintain state of the art functional and certification requirements for the IA workforce.

C1.4.1.2. Develop, coordinate, and publish baseline certification requirements for personnel performing specialized IA functions.

C1.4.1.3. Coordinate the implementation and sustainment requirements of this Manual to include supporting tools and resources (e.g., conferences, website, database integration, workforce identification).

C1.4.1.4. Per DoD Instruction 5105.18 (Reference (*de*)) and in coordination with the Under Secretary of Defense for Personnel and Readiness (USD(P&R)), establish an IA Workforce Improvement Program Advisory Council (IA WIPAC), to ensure that the requirements of Reference (*ab*) and this Manual are met. The IA WIPAC shall:

C1.4.1.4.1. Meet at least annually at the call of the DoD Deputy Chief Information Officer (DCIO). At a minimum, its composition will include representatives from the Chairman of the Joint Chiefs of Staff; USD(P&R); the Under Secretary of Defense for Intelligence (USD(I)); the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)); the Military Departments and Services; the Defense Information Systems Agency (DISA); and the U.S. Strategic Command (USSTRATCOM). Members must be full-time or permanent part-time Federal employees or active-duty military members.

C1.4.1.4.2. Establish an approval process for IA baseline certifications to be added to or deleted from the approved IA baseline certification list on the DISA IA Support Environment (IASE) website. Certifications must have a strong correlation to IA workforce levels and functions. The Defense-wide Information Assurance Program (DIAP) office will provide oversight to the IA WIPAC and IA baseline certification approval process outlined in AP2.2 and post updates to the DISA IASE website. The IA WIPAC Executive Secretariat will publish a memorandum to announce updates to the Certification Table.

C1.4.1.4.3. Review and update the IA levels, functions, and associated certification requirements contained in this Manual.

C1.4.1.4.4. Monitor the DoD IA certification program process improvements.

C1.4.1.4.5. Review DoD Component programs and plans to validate/approve compliance with DoD baseline IA workforce management requirements. Reviews will include the following:

C1.4.1.4.5.1. DoD Component implementation and sustainment plans for IA workforce identification, training, certification, management, metrics, and documentation requirements as established in this Manual and References (*ab*) and (*ed*).

C1.4.1.4.5.2. DoD Component plans and methodologies to track, monitor, and document completion of IA Awareness training requirements for all network users as established in this Manual and References (*ab*) and (*ed*).

C1.4.1.4.6. Report recommended actions to the ASD(NII)/DoD CIO and the USD(P&R) based on these reviews or other information available to it (such as Federal Information Security Management Act (FISMA) Reporting Information or metrics required by this Manual) to improve the program.

C1.4.1.4.7. Conduct assessments to ensure the validity of the IA workforce functions, training, and certification requirements per 29 CFR Volume 4, section 1607 (Reference (*ef*)).

C1.4.1.4.8. Prioritize enterprise-wide requirements for the development of training content to address gaps and deficiencies.

C1.4.1.5. Prepare an IA Workforce Improvement Program (WIP) Annual Report.

C1.4.1.6. Require the Director of the Defense Information Systems Agency (DISA) to:

C1.4.1.6.1. Provide appropriate representation to the IA WIPAC.

C1.4.1.6.2. Coordinate with the DIAP Office, USD(AT&L), and the DoD Component IA WIP Office of Primary Responsibility Points of Contact (OPR POC) to develop and maintain online resources correlating DoD IA training products and classes to requirements defined in law, executive orders, and DoD issuances. Additionally, provide information correlating IA functions (Chapters 3, 4, 5, 10, and 11) to workforce categories, specialties, and levels to core IA training curriculum.

C1.4.1.6.3. Serve as the DoD Shared Service Center (SSC) for the Office of Management and Budget (OMB)-directed Information System Security Line of Business (ISS LoB) for Tier I Awareness training. See Chapter 6 for additional information/requirements.

C1.4.1.7. Require the DIAP to provide IA workforce management oversight and coordination for the requirements established in this Manual.

C1.4.2. The Under Secretary of Defense for Personnel and Readiness (USD(P&R)) shall support and provide appropriate representation to the IA WIPAC. The Defense Activity for Non-Traditional Education Support (DANTES) will manage the certification testing process requirement for the Department.

C1.4.3. The Undersecretary of Defense for Intelligence shall provide appropriate representation to the IA WIPAC to represent the intelligence community.

C1.4.4. The Heads of the DoD Components shall:

C1.4.4.1. Comply with the responsibilities and requirements of Reference (ab) and this Manual.

C1.4.4.2. Provide support for the continuous improvement of the IA workforce management processes and maintenance of requirements. Provide appropriate representation as required to the IA WIPAC.

C1.4.4.3. Provide for initial IA orientation and annual awareness training to all authorized users to ensure they know, understand, and can apply the IA requirements of their system(s) in accordance with Reference (ab) (see Chapter 6).

C1.4.4.4. Per Reference (ab), identify all positions performing information system management, specialized, or privileged access IA functions by category, specialty, and level as described in Chapters 3, 4, 5, 10, and 11 of this Manual. This applies to all positions with IA duties, whether performed as primary or additional/embedded duties (see Chapters 2, 3, 4, 5, 7, 10, and 11). This requirement applies to military and civilian positions including those staffed by local nationals (LNs).

C1.4.4.5. Identify all IA function requirements to be performed by contractors in their statement of work/contract including LNs. Ensure contractors are appropriately certified, and have the appropriate background investigation to perform those IA functions.

C1.4.4.6. Train, certify, and obtain the proper background investigation for all military and civilian personnel identified as part of the IA workforce to accomplish their IA duties (see Chapters 3, 4, 5, 10, and 11, and Appendices 2 and 3).

C1.4.4.6.1. Include requirements for IA training in all DoD Component and local policy and procedures as part of the IA program.

C1.4.4.6.2. Ensure IA personnel performing IA functions obtain/maintain a certification corresponding to the highest level function(s) required by their position.

C1.4.4.6.3. Nominate, as appropriate, other certifications that correspond to the IA functions established for a particular level. Nominations may include operating system certifications that include the appropriate IA requirements. Provide nominations to the IA WIPAC.

C1.4.4.6.4. Obtain the appropriate background investigation per Reference (bc) prior to granting unsupervised privileged access or management responsibilities to any DoD system.

C1.4.4.7. Identify, track, and monitor IA personnel performing IA functions (as described in Chapters 3, 4, 5, 10, and 11) to ensure that IA positions are staffed with trained and certified personnel (see Chapter 7).

C1.4.4.8. Collect metrics and submit reports to the ASD(NII)/DoD CIO to support planning and analysis of the IA workforce and annual FISMA reporting according to Reference (ed) (see Chapter 8).

C1.4.4.9. Establish, resource, and implement plans, policies, and processes to meet the requirements of Reference (*ab*) and this Manual (see Chapter 9).

C1.4.4.10. Identify all GS-2210 and other civilian positions/personnel (e.g., 0854, 1550) using the Office of Personnel Management (OPM) specified parenthetical specialty titles per OPM Job Classification Standard (Reference (~~f~~ and ~~g~~)). Enter the appropriate parenthetical specialty title for the primary function and may enter another specialty to identify additional duty responsibilities in the Defense Civilian Personnel Data System (DCPDS) or equivalent civilian personnel database. This is required for all DoD personnel even if the individual performs more than two specialties.

C1.4.4.11. Enter “INFOSEC” as the “Position Specialty Code” into the DCPDS in accordance with Reference (*ab*) for 2210 and other civilian personnel (e.g., 0854, 1550) performing IA functions described in Chapters 3, 4, 5, 10, and 11 as primary, additional, or embedded duty and their category, specialty and level.

C1.4.4.12. Ensure that all DoD contracts requiring performance of IA functions (specified in Chapters 3, 4, 10, and 11) include the requirement to report contractor personnel’s IA certification status and compliance with this Manual. Contractors also must meet the background investigation requirements of Reference (~~bc~~).

C1.4.4.13. Ensure personnel performing IA functions on national security systems meet the Committee on National Security Systems training requirements. This is in addition to the requirements of this Manual.

C1.4.4.14. Include appropriate IA content in officer accession programs, Flag, Commanding/Executive Officer (CO/XO), and Warrant Officer indoctrination, and DoD Component professional military education. The training is intended to develop leadership understanding of the critical importance of information assurance to the successful execution of DoD’s mission at all levels of the Department of Defense.

C2. CHAPTER 2

IA WORKFORCE STRUCTURE OVERVIEW

C2.1. INTRODUCTION

C2.1.1. IA functions focus on the development, operation, management, and enforcement of security capabilities for systems and networks. Personnel performing IA functions establish IA policies and implement security measures and procedures for the Department of Defense and affiliated information systems and networks.

C2.1.2. IA measures protect and defend information and information systems by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation. This includes providing for their restoration by incorporating protection, detection, and reaction capabilities.

C2.1.3. IA duties may be performed as primary or additional/embedded duties, by a DoD employee (civilian, including LNs, or military) or by a support contractor (including LNs).

C2.1.4. As a condition of privileged access to any information system, personnel performing IA functions described in this Manual must satisfy both preparatory and sustaining DoD IA training and certification requirements (see Chapters 3, 4, 5, 10, and 11). Additionally, personnel with privileged access must complete a "Privileged Access Agreement," a sample of which is shown in Appendix 4, DoD Components may expand the requirements of this agreement to meet their needs.

C2.1.5. The certification requirements of this Manual apply to DoD civilian employees, military personnel, LNs, and support contractors performing the IA functions below and described in detail in Chapters 3, 4, 5, 10 and 11.

C2.1.6. Personnel performing IA duties addressed by Reference (ab) and this Manual include the following IA oversight responsibilities:

C2.1.6.1. Work closely with data owners, information system owners, and users to ensure secure use and operation of information systems (IS) and networks.

C2.1.6.2. Ensure rigorous application of IA policies, principles, and practices in the delivery of all information technology (IT) services.

C2.1.6.3. Maintain system audit functions and periodically review audit information for detection of system abuses.

C2.1.6.4. Identify IA requirements as part of the IT acquisition development process.

C2.1.6.5. Assess and implement identified corrections (e.g., system patches and fixes) associated with technical vulnerabilities as part of the Information Assurance Vulnerability

Management (IAVM) program, consistent with References (ab) and (bc), ~~DoD Directive 8500.1 (Reference (fh))~~, and DoD Directive O-8530.1 (Reference (ih)).

C2.1.6.6. Maintain configuration control of hardware, systems, and application software.

C2.1.6.7. Identify and properly react to security anomalies or integrity loopholes such as system weaknesses or vulnerabilities.

C2.1.6.8. Install and administer user identification or authentication mechanisms.

C2.1.7. The IA workforce training and certification program establishes a baseline of validated (tested) knowledge that is relevant, recognized, and accepted across the Department of Defense.

C2.2. IA WORKFORCE CATEGORIES, SPECIALTIES, AND LEVELS

C2.2.1. This Manual identifies categories and specialties within the IA workforce. Categories are IA Technical (IAT) and IA Management (IAM). Specialties are Computer Network Defense Service Providers (CND-SPs) and IA System Architects and Engineers (IASAEs). These categories and specialties are subdivided into levels each based on functional skill requirements and/or system environment focus (see Chapters 3, 4, 5, 10, and 11).

C2.2.2. The levels and functions in the Technical, Management, CND-SP, and IASAE categories and specialties apply to civilian, military, and contractor personnel (including those LNs specifically authorized to perform IA functions according to Reference (bc)).

C2.2.3. The levels and functions provide the basis to determine all IA Technical, IA Management, CND-SP, and IASAE staffing requirements. They also provide a framework for the identification of IAT, IAM, CND-SP and IASAE positions and qualified personnel (or those who can become qualified) across the Department of Defense.

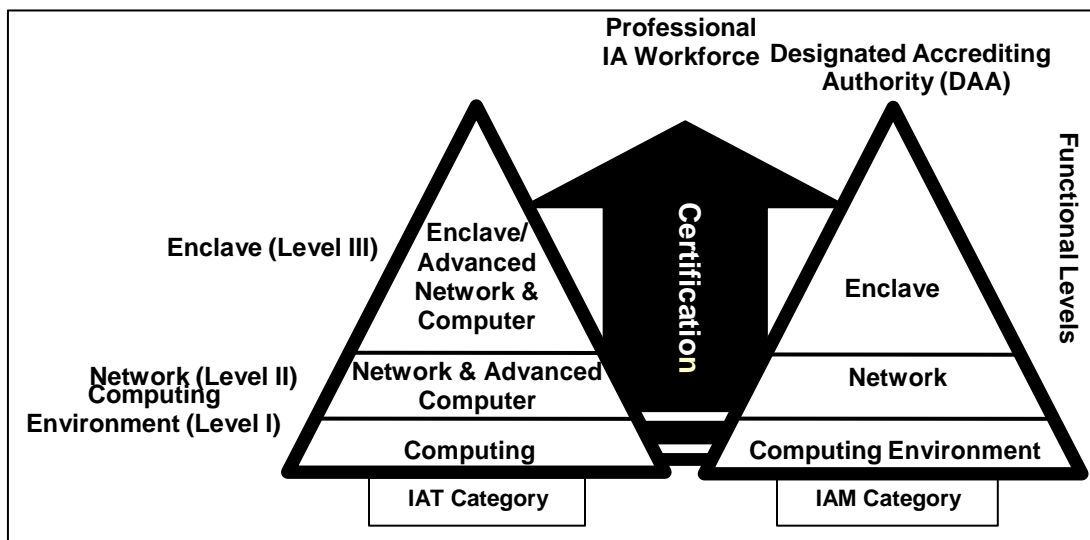
C2.2.4. Each DoD position responsible for IA functional requirement(s) must be correlated with a category or specialty and level. Assigning position category or specialty levels based on functions across the Department of Defense establishes a common framework for identifying the IA workforce.

C2.2.5. A position may include functions spanning multiple levels. In these cases, the level, and related certification requirements will be those of the highest level functions. Individuals performing functions in multiple categories or specialties must hold certifications appropriate to the functions performed in each category or specialty. (Note: one certification may cover more than one category or specialty and level, (e.g., a Security + certification can qualify someone to fill both an IAT-I and an IAM-I position.)

C2.2.6. IA workforce categories or specialties and levels do not necessarily correlate to civilian grades, military ranks, or any specific occupational classification standard.

C2.2.7. Figure C2.F1., below, provides an overview of the basic IA workforce structure.

Figure C2.F1. Overview of Basic IA Workforce Structure



C2.3. TRAINING AND CERTIFICATION PROGRAMS

C2.3.1. IA certification programs are intended to produce IA personnel with a baseline understanding of the fundamental IA principles and practices related to the functions of their assigned position. Each category, specialty, and skill level has specific training and certification requirements. Meeting these requirements will require a combination of formal training and experiential activities such as on-the-job training and continuing education. These training and certification requirements must be provided by the Department of Defense at no cost to government employees (military or civilian).

C2.3.2. The DoD Components must use certifications approved (and published on the DISA IASE website) by the office of the ASD(NII)/DoD CIO to meet the minimum IA baseline certification requirement.

C2.3.3. Approved certifications will demonstrate close correlation to the IA categories, specialties, levels, and functions described in Chapters 3, 4, 5, 10, and 11, and demonstrate portability throughout the Department of Defense, the Federal government, and the private sector.

C2.3.4. Individuals in IA positions, as defined in Chapters 3, 4, 5, 10, and 11 not meeting qualification requirements must be reassigned to other duties, consistent with applicable law. Until certification is attained, individuals in IA positions not meeting qualification requirements may perform those duties under the direct supervision of an appropriately certified individual unless the qualification requirement has been waived due to severe operational or personnel constraints. (See paragraphs C3.2.4.2., C3.2.4.3., C4.2.3.2.1., C4.2.3.4.2., C10.2.3.4., and C11.2.4.2.)

C2.3.5. Appendix 2 establishes the IA workforce certification requirement and criteria for assigned responsibilities. It also includes a requirement for the periodic review of DoD categories, specialties, functions, levels, and the approval of their associated certifications.

C2.3.6. Appendix 3 provides a matrix of qualifications and the categories, specialties and levels to which they apply. IA workforce members must obtain all the qualifications corresponding to their IA functions as defined in Chapters 3, 4, 5, 10, and 11, and Appendix 3.

C2.3.7. Certification holders must adhere to all recertification policies set by their certification provider and ensure that their certifications stay active. Expired certifications must be renewed. Expired certifications are not to be considered in the workforce metrics.

C2.3.8. To support IA professionals, the DoD IA Portal at Defense Knowledge Online and the IASE provides DoD IA policy, training requirements, and DoD- sponsored training. The DoD IA Portal is located at <http://www.us.army.mil> and the IASE is located at <http://iase.disa.mil/>.

C2.3.9. Contractor personnel supporting IA functions in Chapters 3, 4, 10, and 11 shall obtain the appropriate DoD-approved IA baseline certification prior to being engaged. Contractors have up to 6 months to obtain the rest of the qualifications for their position outlined in AP3.T1. The contracting officer will ensure that contractor personnel are appropriately certified. Additional training on local or system procedures may be provided by the DoD organization receiving services.

C2.3.10. Organizations employing LNs should coordinate in advance with appropriate offices such as the Status of Forces Agreement, the Local or Country Human Resources section of OPM, local unions, and/or training. Effective coordination will greatly enhance the capability to achieve the requirements of this Manual.

C2.3.11. Personnel IA certification status and renewal rates are management review items according to Reference (bc).

C2.3.12. All personnel holding an approved IA baseline certification in fulfillment of the requirements of this Manual must release their certification information to the Department of Defense through the Defense Workforce Certification Application (DWCA): <https://www.dmdc.osd.mil/appj/dwc/index.jsp>.

C3. CHAPTER 3

IA WORKFORCE TECHNICAL CATEGORY

C3.1. INTRODUCTION

C3.1.1. This chapter provides detailed position guidelines and IA functions for each level within the Technical category.

C3.1.2. The functions associated with each of these levels are intended to be baseline DoD requirements. The DoD Components are expected to have additional requirements reflecting their operating policy and information system technical environment. The requirements of this Manual do not exempt individuals from meeting their own organization's standards and requirements.

C3.2. TECHNICAL CATEGORY DESCRIPTION

C3.2.1. This category comprises IAT Levels I, II, and III.

C3.2.2. Personnel required to perform any technical category IA functions (one or more functions) at any level must be certified to the highest level function(s) performed. An IAT position's functions for a particular level establish the basis for the individual's certification requirement.

C3.2.2.1. The IAT category's functions are cumulative. Thus, an IAT Level II or III position requires mastery of the functions of the preceding levels.

C3.2.3. IAT Category Training Requirements:

C3.2.3.1. Participation in initial training (classroom, distributive, or blended) before, or immediately on, assignment of IA responsibilities. Training need not result in award of a military specialty code (e.g., Military Occupational Specialty, Navy Enlisted Classification Code, and/or Air Force Specialty Code), but must be sufficient to meet minimum certification standards outlined here and in Appendices 2 and 3.

C3.2.3.2. Completion of an on the job skills practical evaluation to meet functional requirements listed in this chapter.

C3.2.3.3. Completion of sustainment training/continuing education as required to maintain certification status. For planning purposes the standard is normally a minimum of 20 to 40 hours annually, or 120 hours over 3 years.

C3.2.4. IAT Category Certification Requirements:

C3.2.4.1. The certification program for IAT category positions must include the functions identified for that level. All IAT category personnel, whether they perform IA functions as primary or additional/embedded duty, must be certified based on the IA functions of the position.

C3.2.4.1.1. Within 6 months of assignment of IA duties, all military and Government civilian IAT personnel must achieve the appropriate IA certification unless a waiver is granted per paragraphs C3.2.4.2 or C3.2.4.3.

C3.2.4.1.1.1. DoD employees and contractors performing IA functions on the effective date of this Manual have up to 4 years to comply with the certification requirements, based on DoD Component plans to meet the implementation milestones established in Chapter 9.

C3.2.4.1.1.2. New hires' qualification periods begin the date they start in the position (i.e., they must obtain the appropriate certification within 6 months of being assigned IA functions).

C3.2.4.1.2. IAT Level I certification is the minimum requirement prior to IA Managers authorizing unsupervised privileged access for personnel performing IAT Levels I through III functions described in this Chapter.

C3.2.4.2. Designated Accrediting Authorities (DAAs) may waive the certification requirement under severe operational or personnel constraints. The waiver will be documented by the DAA using a memorandum for the record stating the reason for the waiver and the plan to rectify the constraint. Waivers will not extend beyond 6 months, must include an expiration date, and be documented in the individual's IA training record. Consecutive waivers for personnel are not authorized except as noted in paragraph C3.2.4.3. Waivers must be a management review item per Reference (bc). Uncertified IAT Level Is are not authorized to have unsupervised privileged access.

C3.2.4.3. IAT category personnel must be fully trained and certified prior to deployment to a combat environment. The DAA may approve a waiver for certified IAT-I's to fill level IAT-II or IAT-III billets without attaining the appropriate certification while deployed to a combat environment. The DAA may grant an interim waiver limited to the period of the deployment. The interim waiver places an individual in a suspense status and must be time limited and include an expiration date not to exceed 6 months following date of return from combat status.

C3.2.4.4. Personnel in technical category positions must be issued and retain an appointing letter to their IA duties including a statement of responsibilities for the system. Appendix 4 provides a sample statement of acceptance of responsibilities. DoD Components will appropriately edit this form and maintain a completed copy in the individual's personnel record or with the contracting officer's technical representative for contractors.

C3.2.4.5. Personnel in technical category positions must maintain certifications, as required by the certifying provider, to retain privileged system access. Level 1 certification is required prior to being authorized unsupervised privileged access.

C3.2.4.6. Personnel who are not appropriately qualified within 6 months of assignment to a position or who fail to maintain their certification status shall not be permitted privileged access. The DoD Components will develop programs to address remedial training and conditions for individuals to attain or return to certified status.

C3.2.4.7. The DoD Components must document and maintain the certification status of their IAT category personnel as long as they are assigned to those duties. Identification and tracking requirements are addressed in Chapter 7.

C3.2.4.8. To support the GIG infrastructure security requirements, certification standards apply equally to DoD civilian, military, and contractor personnel including those staffed by LNs (with conditional privileged access per Reference (bc)).

C3.2.4.8.1. New contract language must specify certification requirements. Existing contracts must be modified, at an appropriate time during the phased implementation, to specify certification requirements.

C3.2.4.8.2. Per References (bc) and (ih) and DoD 5200.2-R (Reference (ji)), LNs and Foreign Nationals (FNs) must comply with background investigation requirements and cannot be assigned to IAT Level III positions.

C3.2.4.8.3. In addition to the IA baseline certification requirement for their level, IATs with privileged access must obtain appropriate Computing Environment (CE) certifications for the operating system(s) and/or security related tools/devices they support as required by their employing organization. If supporting multiple tools and devices, an IAT should obtain CE certifications for all the tools and devices they are supporting. At a minimum the IAT should obtain a certification for the tool or device he or she spends the most time supporting. For example, if an IAT is spending most of his or her time supporting security functions on a CISCO router, the IAT should obtain a CE certification for that equipment. This requirement ensures they can effectively apply IA requirements to their hardware and software systems.

C3.2.4.8.4. New hire civilian personnel must agree as a “condition of employment” that they will obtain the appropriate certification for the position to be filled.

C3.2.4.8.5. All personnel must agree to release their IA baseline certification qualification(s) to the Department of Defense through the DWCA.

C3.2.4.9. Technical category training requirements are summarized in Table C3.T1.

Table C3.T1. IA Technical Workforce Requirements

Civilian, Military, Contractor* (Including Civilian or Contractor LNs)	IAT Level I - III (FN and LN Levels I & II only)
Initial Training **	Yes
IA Baseline Certification (from approved list)	Yes (within 6 months)
Initial OJT Evaluation	Yes (for initial position)
CE/OS Certificate	Yes
Maintain Certification Status	Yes (as required by certification)
Continuous Education or Sustainment Training	Yes (as required by certification (e.g., International Information Systems Security Certification Consortium, (ISC)2 requires 120 hours within 3 years for the CISSP))
Background Investigation	As required by IA level and Reference (bc)
Sign Privileged Access Statement	Yes
*Contractor category, level, and certification requirements to be specified in the contract	
**Classroom, distributive, blended, government, or commercial provider	

C3.3. IAT LEVEL I

C3.3.1. IAT Level I personnel make the CE less vulnerable by correcting flaws and implementing IAT controls in the hardware or software installed within their operational systems. IAT Level I position requirements are listed in Table C3.T2.

Table C3.T2. IAT Level I Position Requirements

IAT Level I	
Attribute	Level
Experience	Normally has 0 to 5 or more years of experience in IA technology or a related field.
System Environment	CE.
Knowledge	Applies basic knowledge of IA concepts, practices, and procedures within the CE.
Supervision	Works under supervision and typically reports to a CE manager.
Other	Actions are usually authorized and controlled by policies and established procedures.
IA Baseline Certification & CE/OS Certificate	Within 6 months of assignment to position and mandatory for unsupervised privileged access.

C3.3.2. Table C3.T3. lists the specific functions associated with the IAT Level I position. Personnel performing these functions, regardless of their occupational title (e.g., system administrator, help desk technician, information system technician, mechanic, infantry, logistics, aviation mechanic, etc.) shall be identified as part of the IA workforce and must comply with the requirements in the tables above and C3.T1.

Table C3.T3. IAT Level I Functions

T-I.1. Recognize a potential security violation, take appropriate action to report the incident as required by regulation, and mitigate any adverse impact.
T-I.2. Apply instructions and pre-established guidelines to perform IA tasks within CE.
T-I.3. Provide end user IA support for all CE operating systems, peripherals, and applications.
T-I.4. Support, monitor, test, and troubleshoot hardware and software IA problems pertaining to their CE.
T-I.5. Apply CE specific IA program requirements to identify areas of weakness.
T-I.6. Apply appropriate CE access controls.

T-I.7.	Install and operate the IT systems in a test configuration manner that does not alter the program code or compromise security safeguards.
T-I.8.	Conduct tests of IA safeguards in accordance with established test plans and procedures.
T-I.9.	Implement and monitor IA safeguards for CE system(s) in accordance with implementation plans and standard operating procedures.
T-I.10.	Apply established IA security procedures and safeguards and comply with responsibilities of assignment.
T-I.11.	Comply with system termination procedures and incident reporting requirements related to potential CE security incidents or actual breaches.
T-I.12.	Implement online warnings to inform users of access rules for CE systems.
T-I.13.	Implement applicable patches including IA vulnerability alerts (IAVA), IA vulnerability bulletins (IAVB), and technical advisories (TA) for the CE operating system(s).
T-I.14.	Install, test, maintain, and upgrade CE operating systems software and hardware to comply with IA requirements.
T-I.15.	Understand and implement technical vulnerability corrections.
T-I.16.	Enter assets in a vulnerability management system.
T-I.17.	Apply system security laws and regulations relevant to the CE being supported.
T-I.18.	Implement DoD and DoD Component password policy.
T-I.19.	Implement specific IA security countermeasures.

C3.4. IAT LEVEL II

C3.4.1. IAT Level II personnel provide network environment (NE) and advanced level CE support. They pay special attention to intrusion detection, finding and fixing unprotected vulnerabilities, and ensuring that remote access points are well secured. These positions focus on threats and vulnerabilities and improve the security of systems. IAT Level II personnel have mastery of the functions of the IAT Level I position. IAT Level II position requirements are listed in Table C3.T4.

Table C3.T4. IAT Level II Position Requirements

IAT Level II	
Attribute	Level
Experience	Normally has at least 3 years in IA technology or a related area.
System Environment	NE and advanced CE.
Knowledge	<ul style="list-style-type: none"> • Mastery of the functions of the IAT Level I position. • Applies knowledge and experience with standard IA concepts, practices, and procedures within the NE.
Supervision	Works under general supervision and typically reports to network manager.
Other	Relies on experience and judgment to plan and accomplish goals within the NE.
IA Baseline Certification & CE/OS Certificate	Within 6 months of assignment to position.

C3.4.2. Table C3.T5. lists the specific functions associated with the IAT Level II position. Personnel performing these functions, regardless of their occupational title (e.g., system administrator, help desk technician, information system technician, mechanic, infantry, logistics coordinator) shall be identified as part of the IA workforce and must comply with the requirements in the table above and C3.T1.

Table C3.T5. IAT Level II Functions

T-II.1.	Demonstrate expertise in IAT Level I CE knowledge and skills.
T-II.2.	Examine potential security violations to determine if the NE policy has been breached, assess the impact, and preserve evidence.
T-II.3.	Support, monitor, test, and troubleshoot hardware and software IA problems pertaining to the NE.

T-II.4.	Recommend and schedule IA related repairs in the NE.
T-II.5.	Perform IA related customer support functions including installation, configuration, troubleshooting, customer assistance, and/or training, in response to customer requirements for the NE.
T-II.6.	Provide end user support for all IA related applications for the NE.
T-II.7.	Analyze patterns of non-compliance and take appropriate administrative or programmatic actions to minimize security risks and insider threats.
T-II.8.	Manage accounts, network rights, and access to NE systems and equipment.
T-II.9.	Analyze system performance for potential security problems.
T-II.10.	Assess the performance of IA security controls within the NE.
T-II.11.	Identify IA vulnerabilities resulting from a departure from the implementation plan or that were not apparent during testing.
T-II.12.	Provide leadership and direction to IA operations personnel.
T-II.13.	Configure, optimize, and test network servers, hubs, routers, and switches to ensure they comply with security policy, procedures, and technical requirements.
T-II.14.	Install, test, maintain, and upgrade network operating systems software and hardware to comply with IA requirements.
T-II.15.	Evaluate potential IA security risks and take appropriate corrective and recovery action.
T-II.16.	Ensure that hardware, software, data, and facility resources are archived, sanitized, or disposed of in a manner consistent with system security plans and requirements.
T-II.17.	Diagnose and resolve IA problems in response to reported incidents.
T-II.18.	Research, evaluate, and provide feedback on problematic IA trends and patterns in customer support requirements.
T-II.19.	Ensure IAT Level I personnel are properly trained and have met OJT program requirements.
T-II.20.	Perform system audits to assess security related factors within the NE.
T-II.21.	Develop and implement access control lists on routers, firewalls, and other network devices.
T-II.22.	Install perimeter defense systems including intrusion detection systems, firewalls, grid sensors, etc., and enhance rule sets to block sources of malicious traffic.
T-II.23.	Work with other privileged users to jointly solve IA problems.
T-II.24.	Write and maintain scripts for the NE.
T-II.25.	Demonstrate proficiency in applying security requirements to an operating system for the NE or CE used in their current position.
T-II.26.	Implement applicable patches including IAVAs, IAVBs, and TAs for their NE.
T-II.27.	Adhere to IS security laws and regulations to support functional operations for the NE.
T-II.28.	Implement response actions in reaction to security incidents.

T-II.29. Support the design and execution of exercise scenarios.
T-II.30. Support Security Test and Evaluations (Part of C&A Process).
T-II.31. Obtain and maintain IA certification appropriate to position.

C3.5. IAT LEVEL III

C3.5.1. IAT Level III personnel focus on the enclave environment and support, monitor, test, and troubleshoot hardware and software IA problems pertaining to the CE, NE, and enclave environments. IAT Level III personnel have mastery of the functions of both the IAT Level I and Level II positions. IAT Level III position requirements are listed in Table C3.T6.

Table C3.T6. IAT Level III Position Requirements

IAT Level III	
Attribute	Level
Experience	Normally has at least seven years experience in IA technology or a related area.
System Environment	Enclave Environment, advanced NE, and advanced CE.
Knowledge	<ul style="list-style-type: none"> • Expert in all functions of both IAT Level I and IAT Level II positions. • Applies extensive knowledge of a variety of the IA field's concepts, practices, and procedures to ensure the secure integration and operation of all enclave systems.
Supervision	<ul style="list-style-type: none"> • Works independently to solve problems quickly and completely. • May lead and direct the work of others. • Typically reports to an enclave manager.
Other	<ul style="list-style-type: none"> • Relies on extensive experience and judgment to plan and accomplish goals for the enclave environment. • Supports, monitors, tests, and troubleshoots hardware and software IA problems pertaining to the enclave environment. • Must be a U.S. Citizen.
IA Baseline Certification & CE/OS Certificate	Within 6 months of assignment to position.

C3.5.2. Table C3.T7. lists the specific functions associated with the IAT Level III position. Personnel performing these functions, regardless of their occupational title (e.g., system administrator, help desk technician, information system technician, aviation mechanic, infantry, logistics coordinator) shall be identified as part of the IA workforce and must comply with the requirements in the table above and C3.T1.

Table C3.T7. IAT Level III Functions

T-III.1. Mastery of IAT Level I and IAT Level II CE/NE knowledge and skills.
T-III.2. Recommend, schedule, and/or implement IA related repairs within the enclave environment.
T-III.3. Coordinate and/or provide support for all enclave applications and operations.
T-III.4. Lead teams and/or support actions to quickly resolve or mitigate IA problems for the enclave environment.
T-III.5. Formulate or provide input to the enclave's IA/IT budget.
T-III.6. Support the installation of new or modified hardware, operating systems, and software applications ensuring integration with IA security requirements for the enclave.
T-III.7. Identify and/or determine whether a security incident is indicative of a violation of law that requires specific legal action.
T-III.8. Direct and/or implement operational structures and processes to ensure an effective enclave IA security program including boundary defense, incident detection and response, and key management.
T-III.9. Provide direction and/or support to system developers regarding correction of security problems identified during testing.
T-III.10. Evaluate functional operation and performance in light of test results and make recommendations regarding C&A.
T-III.11. Examine enclave vulnerabilities and determine actions to mitigate them.
T-III.12. Monitor and evaluate the effectiveness of enclave IA security procedures and safeguards.
T-III.13. Analyze IA security incidents and patterns to determine remedial actions to correct vulnerabilities.
T-III.14. Support development and/or implementation of the enclave termination plan to ensure that IA security incidents are avoided during shutdown and long term protection of archived resources is achieved.
T-III.15. Implement vulnerability countermeasures for the enclave.
T-III.16. Provide support for IA customer service performance requirements.
T-III.17. Provide support for the development of IA related customer support policies, procedures, and standards.
T-III.18. Write and maintain scripts required to ensure security of the enclave environment.

T-III.19. Implement and maintain perimeter defense systems including, but not limited to, intrusion detection systems, firewalls, grid sensors.
T-III.20. Schedule and perform regular and special backups on all enclave systems.
T-III.21. Establish enclave logging procedures to include: important enclave events; services and proxies; log archiving facility.
T-III.22. Provide OJT for IAT Level I and II DoD personnel.
T-III.23. Analyze IAVAs and Information Assurance Vulnerability Bulletins for enclave impact and take or recommend appropriate action.
T-III.24. Obtain and maintain IA certification appropriate to position.

C4. CHAPTER 4IA WORKFORCE MANAGEMENT CATEGORYC4.1. INTRODUCTION

C4.1.1. This chapter provides detailed position guidelines and IA functions for each level within the Information Assurance Management (IAM) category.

C4.1.2. The functions associated with each of these levels are intended to be baseline DoD requirements. The DoD Components are expected to have additional requirements reflecting their operating policy and information system technical environment. The requirements of this Manual do not exempt individuals from meeting their own organization's standards and requirements.

C4.2. MANAGEMENT CATEGORY DESCRIPTION

C4.2.1. This Category comprises IAM Levels I, II, and III, as well as the DAA function covered in Chapter 5. Positions required to perform IA Manager responsibilities, as established in Reference (bc), and performing functions defined in this chapter are included in the Information Assurance Management category.

C4.2.2. The levels and functions in the management category are not necessarily cumulative. Table C4.T1. provides IAM category requirements.

Table C4.T1. IAM Workforce Requirements

Civilian, Military, or Contractor* (Including LNs)	IAM Level I - III (FN/LN Levels I & II** only)
Initial Training ***	Yes
IA Baseline Certification (from approved list)	Yes (within six months)
Initial OJT Evaluation	No
CE/OS Certificate	No
Maintain Certification Status	Yes (as required by certification)
Continuous Education or Sustainment Training	Yes (as required by certification (e.g., (ISC) 2 requires 120 hours within 3 years for CISSP))
Background Investigation	As required by IA level and Reference (bc)

<p>*Requirements to be stated in contract ** FN/LN IAM Level II must meet conditions of References (bc), (ih) and (ji) ***Classroom, distributive, blended, government, or commercial provider</p>
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C4.2.3. IAM Category Certification Requirements:

C4.2.3.1. The certification requirement for IAM category positions includes all the functions identified for that level. All management category personnel, whether they perform IA functions as primary or as an additional/embedded duty, will be certified based on the IA functions of the position.

C4.2.3.1.1. Personnel required to perform any management category IA function(s) (one or more functions) at any level must be certified to the highest level function(s) performed. An IAM position's functional requirement(s) for a particular level establish the basis for the certification requirement.

C4.2.3.1.2. IAM positions that also perform IAT functions must also obtain the appropriate technical level certification and complete the other IAT level requirements prior to being granted unsupervised privileged access.

C4.2.3.2. Within 6 months of assignment of IA duties, management category military and Government civilian personnel must achieve the appropriate IA baseline certification for their level. The requirements in paragraphs C3.2.4.1.1.1. and C3.2.4.1.1.2. for current and new hire DoD employees also apply to IAMs.

C4.2.3.2.1. DAAs may waive the certification requirement under severe operational or personnel constraints. The waiver will be documented by the DAA using a memorandum for the record stating the reason for the waiver and the plan to rectify the constraint.

C4.2.3.2.2. Waivers will not extend beyond 6 months and must include an expiration date and be documented in the individual IA training record. Consecutive waivers for personnel are not authorized except as noted in paragraph C4.2.3.4.2. Waivers must be a management review item.

C4.2.3.3. Personnel in management category positions must maintain certifications, as required by their certification provider to retain their position.

C4.2.3.4. Personnel not certified within 6 months of assignment of IA duties or who fail to maintain their certified status will not be permitted to carry out the responsibilities of the position. The DoD Components must develop programs to address remedial training and to establish conditions allowing management personnel to return to certified status.

C4.2.3.4.1. If after appropriate remediation efforts individuals do not meet certification requirements, they must be reassigned to other duties.

C4.2.3.4.2. IAM category personnel must be fully trained and certified prior to deployment to a combat environment. However, the DAA may grant an interim waiver for

personnel required to fill IAM II or III level billets with IAM I or IAM II certified individuals who cannot obtain the appropriate certification while deployed in a combat environment. The interim waiver may be granted by the DAA for the period of deployment. The interim waiver places an individual in a suspense status and must be time limited and include an expiration date not to exceed 6 months following the date of return from the combat environment.

C4.2.3.5. The DoD Components must document and maintain the certification status of their management category personnel as long as they are assigned to those duties. Identification and tracking requirements are addressed in Chapter 7.

C4.2.3.6. Personnel in management category positions will retain an appointing letter assigning them IA responsibilities for their system(s) per Reference (bc). If a management category position requires IA privileged access, a statement of responsibility for the system(s) will also be executed per Reference (bc). Appendix 4 provides a sample statement of acceptance of responsibilities.

C4.2.3.7. In support of GIG infrastructure security requirements, certification standards apply equally to DoD civilian, military, contractor personnel, and LNs.

C4.2.3.7.1. New contract language must specify certification requirements. Existing contracts must be modified to specify certification requirements during the phased implementation described in Chapter 9.

C4.2.3.7.2. LNs or FNs may be conditionally assigned to IAM Level II but may not be assigned to IAM Level III positions (per Reference (bc)). They must comply with background investigation requirements per Reference (ji).

C4.3. IAM LEVEL I

C4.3.1. IAM Level I personnel are responsible for the implementation and operation of a DoD IS or system DoD Component within their CE. Incumbents ensure that IA related IS are functional and secure within the CE. IAM Level I position requirements are listed in Table C4.T2.

Table C4.T2. IAM Level I Position Requirements

IAM Level I	
Attribute	Level
Experience	Usually an entry level management position with 0 to 5 or more years of management experience.
System Environment	CE IAM.
Knowledge	Applies knowledge of IA policy, procedures, and structure to develop, implement, and maintain a secure CE.

Supervision	<ul style="list-style-type: none"> • For IA issues, typically reports to an IAM Level II (NE). • May report to other management for other CE operational requirements.
Other	Manages IA operations for a CE system(s).
IA Baseline Certification	Within 6 months of assignment to position.

C4.3.2. Table C4.T3. lists the specific functions associated with the IAM Level I position. Personnel performing these functions, regardless of their occupational title (e.g., ISSO, IAO, ISSM, logistics manager, pilot, infantry officer) shall be identified as part of the IA workforce and must comply with the requirements in the table above and C4.T1.

Table C4.T3. IAM Level I Functions

M-I.1. Use federal and organization specific published documents to manage operations of their CE system(s).
M-I.2. Provide system related input on IA security requirements to be included in statements of work and other appropriate procurement documents.
M-I.3. Support and administer data retention and recovery within the CE.
M-I.4. Participate in the development or modification of the computer environment IA security program plans and requirements.
M-I.5. Validate users' designation for IT Level I or II sensitive positions, per Reference (b)(c).
M-I.6. Develop procedures to ensure system users are aware of their IA responsibilities before granting access to DoD information systems.
M-I.7. Recognize a possible security violation and take appropriate action to report the incident, as required.
M-I.8. Supervise or manage protective or corrective measures when an IA incident or vulnerability is discovered.
M-I.9. Ensure that system security configuration guidelines are followed.
M-I.10. Ensure that IA requirements are integrated into the Continuity of Operations Plan (COOP) for that system or DoD Component.
M-I.11. Ensure that IA security requirements are appropriately identified in computer environment operation procedures.

M-I.12. Monitor system performance and review for compliance with IA security and privacy requirements within the computer environment.
M-I.13. Ensure that IA inspections, tests, and reviews are coordinated for the CE.
M-I.14. Participate in an IS risk assessment during the Certification and Accreditation process.
M-I.15. Collect and maintain data needed to meet system IA reporting requirements.
M-I.16. Obtain and maintain IA baseline certification appropriate to position.

C4.4. IAM LEVEL II

C4.4.1. IAM Level II personnel are responsible for the IA program of an IS within the NE. Incumbents in these positions perform a variety of security related tasks, including the development and implementation of system information security standards and procedures. They ensure that IS are functional and secure within the NE. IAM Level II position requirements are listed in Table C4.T4.

Table C4.T4. IAM Level II Position Requirements

IAM Level II	
Attribute	Level
Experience	Usually has at least five years of management experience.
System Environment	NE IAM.
Knowledge	Applies knowledge of IA policy, procedures, and workforce structure to develop, implement, and maintain a secure NE.
Supervision	<ul style="list-style-type: none"> • For IA issues, typically reports to an IAM Level III (Enclave) Manager or DAA. • May report to other senior management for network operational requirements.
Other	<ul style="list-style-type: none"> • Relies on experience and judgment to plan and accomplish goals. • Manages IA operations for a NE(s).
IA Baseline Certification	Within six months of assignment to position.

C4.4.2. Table C4.T5. lists the specific functions associated with the IAM Level II position. Personnel performing these functions, regardless of their occupational title (e.g., ISSO, IAO, ISSM, logistics manager, pilot, infantry officer) shall be identified as part of the IA workforce and must comply with the requirements in the table above and C4.T1.

Table C4.T5. IAM Level II Functions

M-II.1.	Develop, implement, and enforce policies and procedures reflecting the legislative intent of applicable laws and regulations for the NE.
M-II.2.	Prepare, distribute, and maintain plans, instructions, guidance, and standard operating procedures concerning the security of network system(s) operations.
M-II.3.	Develop NE security requirements specific to an IT acquisition for inclusion in procurement documents.
M-II.4.	Recommend resource allocations required to securely operate and maintain an organization's NE IA requirements.
M-II.5.	Participate in an IS risk assessment during the C&A process.
M-II.6.	Develop security requirements for hardware, software, and services acquisitions specific to NE IA security programs.
M-II.7.	Ensure that IA and IA enabled software, hardware, and firmware comply with appropriate NE security configuration guidelines, policies, and procedures.
M-II.8.	Assist in the gathering and preservation of evidence used in the prosecution of computer crimes.
M-II.9.	Ensure that NE IS recovery processes are monitored and that IA features and procedures are properly restored.
M-II.10.	Review IA security plans for the NE.
M-II.11.	Ensure that all IAM review items are tracked and reported.
M-II.12.	Identify alternative functional IA security strategies to address organizational NE security concerns.
M-II.13.	Ensure that IA inspections, tests, and reviews are coordinated for the NE.
M-II.14.	Review the selected security safeguards to determine that security concerns identified in the approved plan have been fully addressed.
M-II.15.	Evaluate the presence and adequacy of security measures proposed or provided in response to requirements contained in acquisition documents.
M-II.16.	Monitor contract performance and periodically review deliverables for conformance with contract requirements related to NE IA, security, and privacy.
M-II.17.	Provide leadership and direction to NE personnel by ensuring that IA security awareness, basics, literacy, and training are provided to operations personnel commensurate with their responsibilities.
M-II.18.	Develop and implement programs to ensure that systems, network, and data users are aware of, understand, and follow NE and IA policies and procedures.
M-II.19.	Advise the DAA of any changes affecting the NE IA posture.

M-II.20. Conduct an NE physical security assessment and correct physical security weaknesses.
M-II.21. Help prepare IA certification and accreditation documentation.
M-II.22. Ensure that compliance monitoring occurs, and review results of such monitoring across the NE.
M-II.23. Obtain and maintain IA baseline certification appropriate to position.

C4.5. IAM LEVEL III

C4.5.1. IAM Level III personnel are responsible for ensuring that all enclave IS are functional and secure. They determine the enclaves' long term IA systems needs and acquisition requirements to accomplish operational objectives. They also develop and implement information security standards and procedures through the DoD certification and accreditation process. IAM Level III position requirements are listed in Table C4.T6.

Table C4.T6. IAM Level III Position Requirements

IAM Level III	
Attribute	Level
Experience	Usually has at least 10 years of management experience.
System Environment	Enclave Environment IAM.
Knowledge	Applies knowledge of IA policy, procedures, and workforce structure to develop, implement, and maintain a secure enclave environment.
Supervision	<ul style="list-style-type: none"> • Typically reports to a DAA for IA issues. • May report to other senior managers for enclave operational requirements.
Other	<ul style="list-style-type: none"> • Must be a U.S. Citizen. • Relies on extensive experience and judgment to plan and accomplish enclave security related goals. • Manages IA operations for an enclave(s).
IA Baseline Certification	Within 6 months of assignment to position.

C4.5.2. Table C4.T7. lists the specific functions associated with the IAM Level III position. Personnel performing these functions, regardless of their occupational title (e.g., ISSO, IAO, ISSM, logistics manager, pilot, infantry officer) shall be identified as part of the IA workforce and must comply with the requirements in the table above and C4.T1.

Table C4.T7. IAM Level III Functions

M-III.1.	Securely integrate and apply Department/Agency missions, organization, function, policies, and procedures within the enclave.
M-III.2.	Ensure that protection and detection capabilities are acquired or developed using the IS security engineering approach and are consistent with DoD Component level IA architecture.
M-III.3.	Ensure IAT Levels I – III, IAM Levels I and II, and anyone with privileged access performing IA functions receive the necessary initial and sustaining IA training and certification(s) to carry out their IA duties.
M-III.4.	Prepare or oversee the preparation of IA certification and accreditation documentation.
M-III.5.	Participate in an IS risk assessment during the C&A process.
M-III.6.	Ensure information ownership responsibilities are established for each DoD IS and implement a role based access scheme.
M-III.7.	Analyze, develop, approve, and issue enclave IA policies.
M-III.8.	Evaluate proposals to determine if proposed security solutions effectively address enclave requirements, as detailed in solicitation documents.
M-III.9.	Identify IT security program implications of new technologies or technology upgrades.
M-III.10.	Evaluate cost benefit, economic and risk analysis in decision making process.
M-III.11.	Interpret and/or approve security requirements relative to the capabilities of new information technologies.
M-III.12.	Interpret patterns of non compliance to determine their impact on levels of risk and/or overall effectiveness of the enclave's IA program.
M-III.13.	Analyze identified security strategies and select the best approach or practice for the enclave.
M-III.14.	Ensure that security related provisions of the system acquisition documents meet all identified security needs.
M-III.15.	Evaluate and approve development efforts to ensure that baseline security safeguards are appropriately installed.
M-III.16.	Evaluate the presence and adequacy of security measures proposed or provided in response to requirements contained in acquisition documents.

M-III.17. Take action as needed to ensure that accepted products meet Common Criteria requirements as stated in Reference (bc).
M-III.18. Monitor and evaluate the effectiveness of the enclaves' IA security procedures and safeguards to ensure they provide the intended level of protection.
M-III.19. Provide enclave IA guidance for development of the COOP.
M-III.20. Ensure all IAM review items are tracked and reported.
M-III.21. Advise the DAA of changes affecting the enclave's IA posture.
M-III.22. Obtain and maintain IA baseline certification appropriate to position.

C5. CHAPTER 5

DESIGNATED ACCREDITING AUTHORITY (DAA) REQUIREMENTS

C5.1. INTRODUCTION

C5.1.1. Reference (bc) directs that a DAA be appointed for each DoD information system operating within, or on behalf of, the Department of Defense. It requires that all DAAs be U.S. citizens. They must also be DoD employees, with a level of authority allowing them to accept, in writing, the risk of operating DoD ISs under their purview. Reference (ab) further requires that all DoD personnel be adequately trained and certified in order to perform the tasks associated with their IA responsibilities and makes the heads of the DoD Components responsible for ensuring that DAAs are appointed for all DoD Component ISs.

C5.1.1.1. DAA functions may be performed on a full- or part-time basis by a DoD civilian or military employee in the designated role.

C5.1.1.2. DAA performing other management functions such as IAM-II or IAM-III, must also meet the training and certification requirements for those categories and levels.

C5.1.2. All personnel performing DAA functions must satisfy both preparatory and sustaining DoD training and certification requirements.

C5.2. DAA FUNCTIONS AND RESPONSIBILITIES

C5.2.1. DAA Functional Description

C5.2.1.1. The official with the authority to formally assume responsibility for operating a system at an acceptable level of risk.

C5.2.1.2. Establishes and directs the long term goals, policies, and procedures relating to the IS security requirements.

C5.2.1.3. Ensures that the policies, systems, and procedures comply with and support IA requirements.

C5.2.1.4. Given a final report requesting approval to operate an IS at a specified level of trust, the DAA will analyze and judge the information for validity and reliability to ensure the system is able to operate at the proposed level of security.

C5.2.1.5. Review accreditation documents to confirm the level of risk is acceptable for an IS. This decision will be made by weighing the system mission requirements against the identified level of risk per DoD Instruction 8510.01 (Reference (kj)) (or its successor documents)

and implemented countermeasures to known vulnerabilities. Additional factors to consider include system architecture, system security measures, system operations policy, system security management plan, and provisions for system operator and end-user training.

C5.2.1.6. Table C5.T1. lists the DAA's functions.

Table C5.T1. DAA Functions

DAA.1.	Grant the authority to operate an IS or network at an acceptable level of risk.
DAA.2.	Review accreditation documents to confirm that the level of risk is within acceptable limits for each network and/or IS.
DAA.3.	Verify that each IS complies with IA requirements.
DAA.4.	Ensure establishment, administration, and coordination of security for systems that Component personnel or contractors operate.
DAA.5.	Ensure the program manager defines the system security requirements for acquisitions.
DAA.6.	Manages the IA workforce. Assigns IA responsibilities to the individuals reporting directly to the DAA.
DAA.7.	Ensures individuals filling IA positions are assigned in writing, trained, certified, and sign a statement of responsibilities.
DAA.8.	Assign the mission assurance category in accordance with References (bc) and (h) for each IS and approve the classification level required for the applications implemented on them.
DAA.9.	Allocate resources to achieve and maintain an acceptable level of security and to remedy security deficiencies.
DAA.10.	Resolve issues regarding those systems requiring multiple or joint accreditation. This may require documentation of condition or agreements in Memoranda of Agreement.
DAA.11.	Ensure that, when classified or sensitive unclassified information is exchanged between ISs or networks (internal or external), the content of this communication is protected from unauthorized observation or modification by acceptable means.

C5.3. DAA TRAINING AND CERTIFICATION REQUIREMENT

C5.3.1. Each assigned DAA must:

C5.3.1.1. Complete the DoD DAA computer-based training (CBT) or Web-based training (WBT) product within 60 days of assignment to the position. The CBT, titled "DAA, Designated Accrediting Authority," is located on the DoD IA Portal for those with a CAC or directly from IASE.

C5.3.1.2. The DAA and the unit training officer will sign the DAA CBT certificate upon completion of the DISA DAA Certification Course (Figure C5.F1.).

C5.3.1.3. Maintain the course completion certificate (Figure C5.F1.), also available at the DoD IA Portal, as a part of the DAA's official personnel file.

C5.3.1.4. Recertify every 3 years.

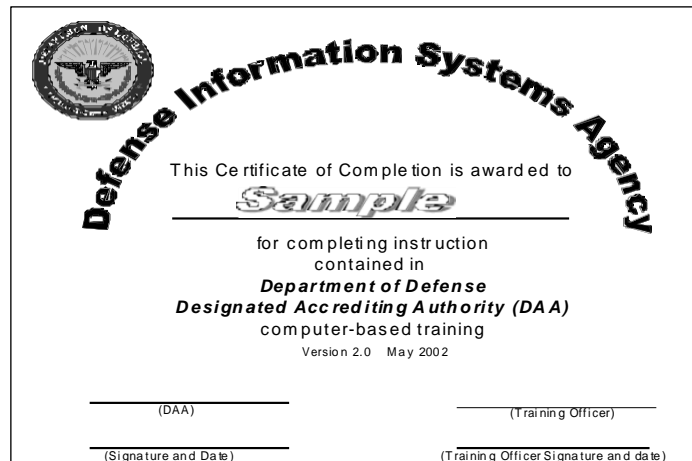
C5.3.2. The DAA may substitute the following National Defense University/Information Resource Management College Courses for the DoD DAA CBT:

C5.3.2.1. Computer Network Security Systems Instruction No. 4012 (DAA) course and certificate. The IRMC official transcript shall be used to document completion of the requirement.

C5.3.2.2. The Information System Certification and Accreditation course (catalog # 6209). The IRMC Transcript will serve as proof of Completion.

C5.3.3. The DoD Components are encouraged to provide additional training specific to their unique requirements.

Figure C5.F1. Sample DAA Certificate of Completion



C6. CHAPTER 6

AUTHORIZED USER MINIMUM IA AWARENESS REQUIREMENTS

C6.1. INTRODUCTION

C6.1.1. IT has enabled the Department of Defense to transmit, communicate, collect, process, and store unprecedented amounts of information.

C6.1.2. Increasing dependence on information systems has focused attention on the need to ensure that these assets, and the information they process, are protected from actions that would jeopardize the DoD's ability to effectively function.

C6.1.3. Responsibility for securing the Department's information and systems lies with the DoD Components. The trained and aware user is the first and most vital line of defense.

C6.1.4. IT users need to maintain a degree of understanding about IA policies and doctrine commensurate with their responsibilities. They must be capable of appropriately reporting and responding to suspicious activities, and know how to protect the information and IT systems to which they have access.

C6.1.5. IA training must be current, engaging, and relevant to the target audience to enhance its effectiveness. Its primary purpose is to educate and influence behavior. The focus must be on education and awareness of threats and vulnerabilities so users do not perform actions that lead to or enable exploitations of the DoD ISs. Authorized users must understand that they are a critical link in their organization's overall IA success.

C6.1.6. DISA's DoD IA Awareness CBT is the DoD baseline standard. It meets all DoD level requirements for end user awareness training. DISA will ensure it provides distributive awareness content to address evolving requirements promulgated by Congress, the OMB under the ISS LoB for Tier I, or the Office of the Secretary of Defense. DISA's training products can be accessed via the DoD IA Portal for those with a CAC or directly from IASE.

C6.1.7. The DoD Components are required to use the DoD SSC as their IA Awareness Provider. The DoD IA Awareness Course will be used to meet the initial and annual training mandated by this Manual and Reference (*ed*). However, Components are expected to address organization specific topics and local incident reporting procedures.

C6.1.8 The DoD SSC Intelligence Community IA Awareness Training product meets all DoD requirements and may be substituted for the DoD SSC IA Awareness Training product.

C6.2. GENERAL REQUIREMENTS

C6.2.1 The requirements for computer security awareness training have been established under the authority of 2224 of title 10, United States Code; section 278g-3 of title 15, United States Code; and OMB Circular A-130 (References (~~ik~~), (~~ml~~), and (~~nm~~)). References (~~bc~~) and (~~ih~~) implement the requirements and extend it to IA.

C6.2.2. To ensure understanding of the critical importance of IA, all individuals with access to DoD IT systems are required to receive and complete initial IA awareness training before being granted access to the system(s) and annual IA awareness training to retain access.

C6.2.3. The DoD Components must document and maintain the status of awareness compliance for each user. Required versus actual IA awareness will be a management review item.

C6.2.4. All users will be informed of their information and IS security responsibilities, and consent to monitoring.

C6.2.5. At a minimum, the following themes must be conveyed in IA initial annual awareness programs:

C6.2.5.1. Critical reliance on information and IS resources.

C6.2.5.2. Commitment to protect information and IS resources to include personal identifiable information.

C6.2.5.3. Threats, vulnerabilities, and related risks associated with IS.

C6.2.5.4. Consequences for inadequate protection of the organization's IS resources.

C6.2.5.5. The essential role of the DoD employee.

C6.3. SPECIFIC REQUIREMENTS

User awareness programs shall address the topics specified in ISS LoB, Reference (~~on~~), to include but not limited to the following:

C6.3.1. The importance of IA to the organization and to the authorized user.

C6.3.2. Relevant laws, policies, and procedures, and how they affect the authorized user (e.g., copyright, ethics, and standards of conduct).

C6.3.3. Examples of external threats such as script kiddies, crackers, hackers, protesters, or agents in the employ of terrorist groups or foreign countries.

C6.3.4. Examples of internal threats such as malicious or incompetent authorized users, users in the employ of terrorist groups or foreign countries, disgruntled employees or Service members, hackers, crackers, and self-inflicted intentional or unintentional damage.

C6.3.5. The potential elevated sensitivity level of aggregated unclassified information.

C6.3.6. Authorized user risk from social engineering.

C6.3.7. Common methods to protect critical system information and procedures.

C6.3.8. Principles of shared risk in networked systems (i.e., how a risk assumed by one person is imposed on the entire network) and changes in the physical environment (e.g., water, fire, and dust/dirt).

C6.3.9. Risks associated with remote access (e.g., telecommuting, during deployment, or on temporary duty).

C6.3.10. Legal requirements regarding privacy issues, such as email status (see DoD Directive 1000.25 (Reference (~~po~~))) and the need to protect systems containing payroll, medical and personnel records.

C6.3.11. Knowledge of malicious code (e.g., logic bomb, Trojan horse, malicious mobile code, viruses, and worms) including how they attack, how they damage an IS, how they may be introduced inadvertently or intentionally, and how users can mitigate their impact.

C6.3.12. The impact of distributed denial of service attacks and what users can do to mitigate them.

C6.3.13. How to prevent self-inflicted damage to system information security through disciplined application of IA procedures such as proper logon, use of passwords, preventing spillage of classified information, e-mail security, etc.

C6.3.14. Embedded software and hardware vulnerabilities, how the Department of Defense corrects them (e.g., IAVA process), and the impact on the authorized user.

C6.3.15. Prohibited or unauthorized activity on DoD systems (e.g., peer-to-peer file sharing, gambling, personal use, and gain issues).

C6.3.16. Requirements and procedures for reporting spillage, unauthorized or suspicious activity, and local IA office point of contact information.

C6.3.17. Categories of information classification and differences between handling information on the Non-Classified Internet Protocol Router Network (NIPRNet) or the SECRET Internet Protocol Router Network (SIPRNet).

C6.3.18. Software issues including license restrictions on DoD systems, encryption, and media sanitation requirements and procedures.

C6.3.19. Requirements and procedures for transferring data to/from a non-DoD network.

C6.3.20. Requirements and procedures for protection of Data at Rest.

C6.3.21. Requirements and procedures for sharing information.

C7. CHAPTER 7

IA WORKFORCE IDENTIFICATION, TRACKING, AND ASSIGNMENT

C7.1. INTRODUCTION

C7.1.1. The Department of Defense must manage its IA workforce effectively and efficiently to provide trained, skilled personnel who will protect the operation of its IS.

C7.1.2. The DoD Components will leverage existing manpower and personnel databases, learning management systems, other tools, and procedures to support effective management of their IA workforces.

C7.1.3. Tools and procedures must enable the assignment and tracking of qualified personnel both within the DoD Components and in support of joint assignments.

C7.1.4. As a prerequisite to effective IA management, the DoD Components must identify all positions and personnel with IA responsibilities, regardless of occupational specialty, or whether the duty is performed as primary or as an additional/embedded duty. Positions and personnel will be aligned to an IA category, specialty and level, per Chapters 3, 4, 5, 10, and 11, and documented in the appropriate database(s). IA Workforce data elements must comply with requirements established in Reference (bc), and DoD Instruction 7730.64, DoD Instruction 1336.05, and DoD Instruction 7730.54 (References (qp), (fq), and (sr)).

C7.1.5. The DoD Components must use, to the extent possible, existing personnel/manpower and unit organizational databases, such as DCPDS, to satisfy the requirements outlined in this chapter. DoD Components are responsible for providing this information per References (fq) and (sr) for military members. *Volume 1 of DoD Instruction 1444.02* (Reference (ts)) dictates DoD civilian database requirements.

C7.1.6. The Defense Manpower Data Center (DMDC) will leverage DoD Component provided information on civilian and military IA positions and personnel to support development of an integrated picture of the DoD IA workforce per Chapter 8 and References (bc), (qp), (fq), (sr), and (ts).

C7.2. IA WORKFORCE MANAGEMENT

C7.2.1. The DoD Components must identify military, civilian, and contractor personnel performing IA functions whether performed as their primary duty, or as an additional/embedded duty. Chapters 3, 4, 5, 10, and 11 provide a DoD standard naming convention and descriptions of IA categories, specialties, levels, and their related functions.

C7.2.2. Identify all positions required to perform IA functions, by category or specialty and level, in manpower tables of organization. Identification of the IA workforce positions must be a management review item.

C7.2.3. Assign appropriately trained and certified personnel to IA positions (internal and joint positions), per Chapters 2-5, 10 and 11.

C7.2.4. Require each individual assigned IA responsibilities to sign a statement of responsibilities appropriate for that position. Appendix 4 provides a recommended statement of responsibilities for privileged access users.

C7.2.5. Track IA personnel training and certification against position requirements. Positions required to perform functions in more than one category or level of management, technical, or specialized IA functions must be identified individually in the appropriate manpower database. Personnel filling these positions must be aligned with the position and maintain the appropriate certification/qualifications for each.

C7.2.6. Collect metrics on DoD Component training (including awareness) and certification programs in accordance with Chapter 8.

C7.3. IA WORKFORCE IDENTIFICATION REQUIREMENTS

C7.3.1. To manage the IA workforce effectively, the DoD Components must comply with the following requirements for each employee group.

C7.3.2. Civilians:

C7.3.2.1. DoD personnel in the 2210 job series and other civilian IA job series (e.g., 0854, 1550) General Schedule (GS) shall be classified by GS parenthetical specialty title. They must indicate a primary title based on the position's primary or paramount duties. They must also indicate a secondary parenthetical specialty title if performing additional/embedded duties beyond those primary duties.

C7.3.2.2. Identify all civilian positions and personnel required to perform IA functions described in this Manual in the appropriate database(s) (e.g., DCPDS, e-Joint Manpower and Personnel System (e-JMAPS), or equivalent), including Local Nationals, performing IA functions, regardless of series, and align them with the categories and levels described in Chapters 3, 4, 5, 10, and 11. IA workforce management metrics include the following:

C7.3.2.2.1. All IA positions, regardless of whether IA functions are performed as a primary duty, or as an additional/embedded duty.

C7.3.2.2.2. Certification status of incumbent including certification or recertification date, cost of certification/recertification test, and associated training (if paid by the government).

C7.3.2.2.3. Waivers granted for personnel filling IA positions.

C7.3.2.3. Verify that DCPDS or its equivalent has the correct data (down to the parenthetical specialty level for the series).

C7.3.2.4. Use the DCPDS Special civilian titling to align workforce metrics across the Department of Defense based on the following:

C7.3.2.4.1. Use the existing authorized Position Specialty Code, “INFOSEC,” to support IA workforce identification and management requirements across the Department of Defense. The DoD Components will ensure that DCPDS reflects the following guidance:

C7.3.2.4.2. All positions in the 2210 or other civilian IA job series (e.g., 0854, 1550) must comply with Office of Personnel Management (OPM) guidance on standardized titling. Positions in job series with primary or additional/embedded IA functions must enter at least one but not more than two authorized parenthetical titles.

C7.3.2.4.3. Ensure that all DoD civilian positions and personnel with IA functions, regardless of OPM series or job title, use “INFOSEC” as the Position Specialty Code (PSC) in the Defense Civilian Personnel Data System. The PSC allows identification of a DoD civilian position with IA functions regardless of OPM series or job title. The abbreviation for Security, “INFOSEC,” established in this Manual, supports civilian IA workforce identification and management requirements across the Department of Defense.

C7.3.3. Military:

C7.3.3.1. Identify all military positions and personnel required to perform IA functions described in this Manual in the appropriate database(s) (e.g., e-JMAPS, or DoD Component Manpower/Personnel Systems), including Foreign Nationals, regardless of occupational specialty, and align them with the categories and levels described in Chapters 3-5, 10, and 11.

C7.3.3.2. Identify the following, regardless of occupational specialty, in, e-JMAPS, or the DoD Component manpower and/or personnel management systems, as appropriate:

C7.3.3.2.1. All IA positions, regardless of whether IA responsibilities are performed as a primary duty, or as an additional/embedded duty.

C7.3.3.2.2. All personnel performing IA functions.

C7.3.3.2.3. Certification status of incumbent including certification or recertification date, cost of certification/recertification test, and associated training (if paid by the government).

C7.3.3.3. Assign a code to each IA position that identifies its category or specialty and level, and the corresponding minimum certification requirements per Chapters 3-5, 10, 11, and Appendix 3.

C7.3.3.4. Assign a code to individuals based on their certification level.

C7.3.3.5. Match the certified individuals against required positions.

C7.3.3.6. Track the IA workforce against the required positions.

C7.3.4. Contractors

C7.3.4.1. Identify all contractors performing IA functions and align them with the categories and levels described in Chapters 3, 4, 10, and 11.

C7.3.4.2. Ensure that contractor personnel, including LNs, have the appropriate IA certification and background investigation.

C7.3.4.3. Ensure the capability to collect metrics in detail on individual contractor employee certification(s) and certification status.

C7.3.4.4. Specify contractor certification and training requirements in all contracts that include acquisition of IA services. Eligible contractor personnel must have their IA certification and function level documented in DMDC supported application which will support tracking contractors IA category or specialty, level, and certification qualification.

C7.3.4.5. Contracting officers' technical representatives will enter the required data into the DMDC application which will support tracking contractors IA category, specialty, level, and certification qualification.

C8. CHAPTER 8

IA WORKFORCE MANAGEMENT REPORTING AND METRICS

C8.1. INTRODUCTION

C8.1.1. To manage its IA workforce effectively and efficiently, and provide trained and qualified personnel when and where needed, the Department of Defense must know IA position requirements, the existing IA workforce and its qualifications, and where these critical assets are employed.

C8.1.2. The workforce metrics outlined in this chapter support the DoD current and long term management of critical IA personnel resources.

C8.1.3. The DoD Components must use, to the extent possible, existing personnel/manpower/unit organizational databases and tools to satisfy these IA reporting and workforce management metrics requirements.

C8.1.4. The IA WIP Annual Report is due at the end of the fiscal year and will support the Federal Information Security Management Act (FISMA) report (Reference (bc)) requirements. The IA WIP Annual Report consolidates IA qualification and workforce management reporting requirements per References (ab), (bc), ~~(h)~~-(ih), and (ji).

C8.2. REPORTING AND IA WORKFORCE METRICS REQUIREMENTS

C8.2.1. ASD(NII)/DoD CIO coordinates IA Training and Certification Program management requirements, and ensures that collected information supports ASD(NII)/DoD CIO validation of DoD IA workforce readiness. Each DoD Component must provide DMDC with the individual and position level data required to populate the tables in Figure C8.F1., which will be used to generate the IA WIP Annual Report to support FISMA requirements and IA workforce management at each level of the DoD.

C8.2.2. All the DoD Components are required to submit data on the status of their IA workforce for inclusion in the IA WIP Annual Report.

C8.2.3. The DoD Components will provide both qualitative and quantitative information. The information reported will support the following IA workforce management critical information requirements:

C8.2.3.1. Methodologies used to identify employees required to perform IA functions.

C8.2.3.2. Training and certification requirements developed by the DoD Components for employees performing IA functions.

C8.2.3.3. Tracking processes used to determine requirements for how many employees perform IA functions and have received IA training and certification.

C8.2.3.4. Plans and methodologies to track, monitor, and document completion of IA awareness training for all network users.

C8.2.3.5. The ASD(NII)/DoD CIO will review and validate/approve the methodologies and processes reported by the DoD Components to implement and maintain the DoD baseline requirements of this Manual.

C8.2.4. To support DoD IA Workforce management requirements, the ASD(NII)/DoD CIO will combine metrics from the DoD Components to assemble a consolidated IA WIP Annual Report and status. The IA WIP Annual Report will include DoD Component comments regarding IA workforce lessons learned, issues from the previous calendar year, and plans for the next. It will also provide statistics for personnel performing IA functions on a primary or additional/embedded duty basis, broken down by IA category, specialty and level.

C8.2.5. In addition to the reporting requirements outlined in this chapter, ASD(NII)/DoD CIO will gather data on numerous aspects of the IA workforce including recruitment, retention, training, and impact on IA operations. This data will be combined with the DoD Component submitted reports to develop a comprehensive picture of the IA workforce and its operational effectiveness.

C8.2.6. The DoD Components will submit quantitative data as part of IA WIP annual reporting that identifies its positions, number filled, and qualifications of the personnel filling them to support both DoD FISMA reporting and the DoD CIO's IA workforce management responsibility.

C8.2.6.1. Each DoD Component must ensure that its personnel and staffing databases are properly configured, per References (a) through (t), to capture the following quantitative data. If a given metric cannot be captured to a database it must be collected manually and included with the submission of the qualitative data described above.

C8.2.6.2. IA workforce positions and manning status.

C8.2.6.2.1. Number of IA positions by category, specialty and level.

C8.2.6.2.1.1. Primary duty IA positions.

C8.2.6.2.1.2. Additional/embedded duty IA positions.

C8.2.6.2.2. Number of IA positions filled, by category or specialty, and level.

C8.2.2.3. Number of IA positions filled with qualified incumbents by category or specialty and level.

C8.2.6.3. Personnel qualified levels: (This is a management review item.)

C8.2.6.3.1. Number of personnel qualified, by category or specialty, and level.

C8.2.6.3.2. Number of personnel qualified, by category, specialty, and level who are actually filling an IA position.

C8.2.6.4. Number of users who completed the IA awareness training requirement versus total number of authorized users. (This is a management review item.)

C8.2.7. The IA WIP Annual Report covers 1 October through 30 September each fiscal year. Each DoD Component must provide the DMDC with individual and position level data required to populate the tables in Figure C8.F1 for the preceding fiscal year. The DoD Components will submit their qualitative information to ASD NII/DoD CIO by 30 September for the preceding fiscal year. The DMDC will create a consolidated report capturing the DoD Components' IA Workforce Metrics reflected in the tables in Figure C8.F1. (Note: LNs are included in two employee groups: Civilian and Contractor. LN includes all individuals working for the Department of Defense in a foreign country who are nationals or non U.S. residents of that country).

C8.2.8. The IA WIP Annual Report referred to in paragraphs C1.4.1.5., C8.1.4., C8.2.1., C8.2.2., C8.2.4., C8.2.6., C8.2.7., and Figure C8.F1. of this issuance has been assigned report control symbol DD-NII(A)2274 in accordance with the procedures in *Volume 1 of DoD Manual* 8910.01 (Reference (H)).

Preparation of this report/study cost the Department of Defense a total of approximately \$188,000 in Fiscal Years 2012 - 2017.

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Figure C8.F1. IA WIP Annual Report Format Workforce Metrics

Table 1: IA Workforce Primary Duty Positions

	Civilian			Military			Contractor	
	Number	Filled	Qualified* / Waiver	Number	Filled	Qualified* / Waiver	Filled	Qualified* / Waiver
IAT I								
IAT II								
IAT III								
IAM I								
IAM II								
IAM III								
CND-A								
CND- IS								
CND-IR								
CND-AU								
CND-SPM								
IASAE I								
IASAE II								
IASAE III								
Total								

* Qualified in accordance with the policy for that position. Report waivers approved by the DAA (see paragraph C3.2.4.2., C3.2.4.3., C4.2.3.2., or C4.2.3.4.2.) separately from qualified (e.g., 100/10). Count personnel filling IAT, CND-SP, IASAE, and IAM Category or specialty positions in all categories or specialties according to C2.2.5. and AP2.1.2.3.

Table 2: IA Workforce Additional/Embedded Duty Positions

	Civilian			Military			Contractor	
	Number	Filled	Qualified* / Waiver	Number	Filled	Qualified* / Waiver	Filled	Qualified* / Waiver
IAT I								
IAT II								
IAT III								
IAM I								
IAM II								
IAM III								
CND-A								
CND- IS								
CND-IR								
CND-AU								
CND-SPM								
IASAE I								
IASAE II								
IASAE III								
Total								

* Qualified in accordance with the policy for that position. Report waivers approved by the DAA (see paragraph C3.2.4.2., C3.2.4.3., C4.2.3.2., or C4.2.3.4.2.) separately from qualified (e.g., 100/10). Count personnel filling IAT, CND-SP, IASAE, IAM Category or Specialty positions in all categories per C2.2.5. and AP2.1.2.3.

C9. CHAPTER 9

IA WORKFORCE IMPLEMENTATION REQUIREMENTS

C9.1. INTRODUCTION

C9.1.1. This chapter provides guidance to support a coordinated and orderly transition from the legacy systems and processes to full compliance with the DoD's requirements. These actions require in-depth budget and personnel management planning.

C9.1.2. Adhering to the categories, specialties and levels outlined is critical to support the effective identification of the IA workforce across the Department of Defense. Standardizing skill sets supports joint assignments and system interoperability.

C9.2. GENERAL REQUIREMENTS

C9.2.1. The DoD Components must:

C9.2.1.1. Plan for, and incrementally complete, these requirements over four years from the effective date of this manual. Complete requirements to this Manual within 5 years from the publication date (1 extra year to implement CND-SP and IASAE Specialties).

C9.2.1.2. Develop and submit to the IA WIPAC implementation policies, processes, and plans to support compliance with the requirements outlined below within 6 months of the publication date of this Manual.

C9.2.1.3. Provide representation to the IA WIPAC as required in Chapter 1.

C9.3. SPECIFIC REQUIREMENTS

C9.3.1. To allow for proper identification and planning of requirements, the Department of Defense has adopted a phased approach to this implementation. The first year provides time for the identification of specific requirements to support budget and staffing planning, and to certify the initial 10 percent of the IA workforce. The next 3 years provide time to bring the full IA workforce into compliance with the requirements in phases. Thirty percent of the workforce must come into compliance each year, as outlined below.

C9.3.2. Within 12 months of the effective date of this Manual, the DoD Components must:

C9.3.2.1. Provide Component IA Manager and Human Resource Management participation in the DoD sponsored Component Implementation Workshop that will be conducted by the Defense-wide Information Assurance Program (DIAP) Office within three months of publication of this Manual.

C9.3.2.2. Identify all positions per Chapters 3-5, 7, 10 and 11, required to execute the IA functions listed in Chapters 3-5, 10 and 11 as primary or additional/embedded duties.

C9.3.2.3. Assign IA workforce category, specialty and level codes for the Component's staffing and personnel data systems based on the categories and levels described in Chapters 3-5, 10 and 11. These codes must be identified to DMDC per References (~~ep~~), (~~fq~~), (~~sr~~), and (~~ts~~). The data elements will be routinely captured by the DMDC and formatted to support the DoD's IA workforce management requirements. If a Component uses a personnel or manpower system or database that does not exchange data with DMDC systems, develop the necessary data fields to track IA workforce requirements.

C9.3.2.4. Budget for IA training, certification, and workforce management requirements of DoD government personnel, as described below. The budget plan must ensure implementation of the requirements over a three year period, and must specifically include resources for:

C9.3.2.4.1. Staffing identified IA positions (primary or additional/embedded duty).

C9.3.2.4.2. Training incumbents.

C9.3.2.4.3. Ensuring staffing and unit databases/tools are upgraded to support IA workforce management requirements as appropriate.

C9.3.2.4.4. Training for staffing managers on the systems and processes required to support the IA workforce training and management requirements.

C9.3.2.4.5. Certifying (including training and testing) current and planned IA workforce members.

C9.3.2.5. The DoD Components must plan to meet the following milestones. The milestone plan will begin with the next planning, program, and budget cycle to execute these requirements beginning in Calendar Year (CY)-07. The phases of this implementation approach are:

C9.3.2.5.1. Year One (CY-07): Identify IA workforce positions, fill 10 percent of the IA positions with certified personnel. Develop budget to support follow-on implementation years two–four.

C9.3.2.5.2. Year Two (CY-08): Fill a total of 40 percent of the IA positions with certified personnel.

C9.3.2.5.3. Year Three (CY-09): Fill a total of 70 percent of the IA positions with certified personnel.

C9.3.2.5.4. Year Four (CY-10): All IAT and IAM Category positions are held by certified personnel.

C9.3.2.5.5. Year Five (CY-11): All CND-SP and IASAE Specialty positions are held by certified personnel.

C9.3.2.5.6. Thereafter, all incumbents and new hires must be trained, certified, and recertified in accordance with this Manual.

C10. CHAPTER 10IA WORKFORCE SYSTEM ARCHITECT AND ENGINEER (IASAE) SPECIALTYC10.1. INTRODUCTION

C10.1.1. This chapter provides detailed position guidelines and IA functions for each level within the IASAE specialty.

C10.1.2. The functions associated with each of these levels are intended to be baseline DoD requirements. The DoD Components are expected to have additional requirements reflecting their operating policy and information system technical environment. The requirements of this Manual do not exempt individuals from meeting their own organization's standards and requirements.

C10.2. IASAE SPECIALTY DESCRIPTION

C10.2.1. This specialty comprises IASAE Levels I, II, and III.

C10.2.2. The levels and functions in the IASAE specialty are not necessarily cumulative. Table C10.T1. summarizes IASAE position requirements.

Table C10.T1. IASAE Workforce Requirements

Civilian, Military or Contractor* (Including LNs)	IASAE Level I – III (FN/LN Levels I and II** only)
Initial Training ***	Yes
IA Baseline Certification (from approved list)	Yes (within 6 months)
Initial OJT Evaluation	No
CE/OS Certificate	No
Maintain Certification Status	Yes (as required by certification)
Continuous Education or Sustainment Training	Yes (as required by certification (e.g., (ISC)2 requires 120 hours within 3 years for the CISSP))
Background Investigation	As required by IA level and Reference (bc)
*Requirements to be stated in contract	
**FN/LN IASAE Level II must meet conditions of References (bc), (ih) and (ji)	
***Classroom, distributive, <i>blended</i> , <i>government</i> , or commercial provider	

C10.2.3. IASAE Specialty Certification Requirements:

C10.2.3.1. The certification requirement for IASAE specialty positions includes all the functions identified for that level. All IASAE specialty personnel, whether they perform IA functions as primary or as an additional/embedded duty, will be certified based on the IA functions of the position.

C10.2.3.1.1. Personnel required to perform any IASAE specialty IA function(s) (one or more functions) at any level must be certified to the highest level function(s) performed. An IASAE position's functional requirement(s) for a particular level establish the basis for the certification requirement.

C10.2.3.1.2. IASAE positions that also perform IAT functions must also obtain the appropriate computing environment certification and complete the other IAT level requirements prior to being granted unsupervised privileged access.

C10.2.3.2. Within 6 months of assignment of IA duties, IASAE specialty military and Government civilian personnel must achieve the appropriate IA baseline certification for their level.

C10.2.3.2.1. New hires' qualification periods begin the date they start in the position (i.e., they must obtain the appropriate certification within 6 months of being assigned IA functions).

C10.2.3.2.2. DoD employees and contractors performing IA functions on the effective date of this Manual have up to 4 years to comply with the certification requirements, based on DoD Component plans to meet the implementation milestones established in Chapter 9.

C10.2.3.2.3. DAAs may waive the certification requirement under severe operational or personnel constraints. The waiver will be documented by the DAA using a memorandum for the record stating the reason for the waiver and the plan to rectify the constraint.

C10.2.3.2.4. Waivers will not extend beyond 6 months, must include an expiration date, and be documented in the individual's IA training record. Consecutive waivers for personnel are not authorized except as noted in paragraph C10.2.3.4.2. Waivers must be a management review item.

C10.2.3.3. Personnel in IASAE specialty positions must maintain certifications, as required by their certification provider to retain their position.

C10.2.3.4. Personnel not certified within 6 months of assignment of IA duties or who fail to maintain their certified status will not be permitted to carry out the responsibilities of the position. The DoD Components must develop programs to address remedial training and to establish conditions allowing IASAE personnel to return to certified status.

C10.2.3.4.1. Individuals continuing to not meet certification requirements after appropriate remediation efforts shall be reassigned to other duties.

C10.2.3.4.2. IASAE specialty personnel must be fully trained and certified prior to deployment to a combat environment. However, the DAA may grant an interim waiver for the period of the deployment for IASAE personnel to fill IASAE billets one level higher than their current certification. The interim waiver places an individual in a suspense status and must be time limited and include an expiration date not to exceed 6 months following the date of return from the combat environment.

C10.2.3.5. The DoD Components must document and maintain the certification status of their IASAE specialty personnel as long as they are assigned to those duties. Identification and tracking requirements are addressed in Chapter 7.

C10.2.3.6. Personnel in IASAE specialty positions will retain an appointing letter assigning them IA responsibilities for their system(s) in accordance with Reference (bc). If an IASAE specialty position requires IA privileged access, a statement of responsibility for the system(s) will also be executed in accordance with Reference (bc). Appendix 4 provides a sample statement of acceptance of responsibilities.

C10.2.3.7. In support of GIG infrastructure security requirements, certification standards apply equally to DoD civilian, military, contractor personnel, and LNs.

C10.2.3.7.1. New contract language must specify certification requirements. Existing contracts must be modified to specify certification requirements during the phased implementation described in Chapter 9.

C10.2.3.7.2. LNs or FNs may be conditionally assigned to IASAE Level II but may not be assigned to IASAE Level III positions in compliance with Reference (bc). IASAE positions/personnel with privileged access or management functions must comply with background investigation requirements in Table E3.T1. of Reference (bc).

C10.3. IASAE LEVEL I

C10.3.1. IASAE Level I personnel are responsible for the design, development, implementation, and/or integration of a DoD IA architecture, system, or system component for use within their CE. Incumbents ensure that IA related IS will be functional and secure within the CE. IASAE Level I position requirements are listed in Table C10.T2.

Table C10.T2. IASAE Level I Position Requirements

IASAE Level I	
Attribute	Level
Experience	Usually an entry level IASAE position with 0 or more years of IASAE experience.

System Environment	CE IASAE.
Knowledge	Applies knowledge of IA policy, procedures, and structure to design, develop, and implement CE system(s), system components, or system architectures.
Supervision	<ul style="list-style-type: none"> • For IA issues, typically reports to an IASAE Level II, IAM, or DAA. • May report to other management for other CE operational requirements.
Other	Actions are usually authorized and controlled by policies and established procedures.
IA Baseline Certification	Within 6 months of assignment to position.

C10.3.2. Table C10.T3. lists the specific functions associated with the IASAE Level I position. Positions responsible for performing any of these functions, regardless of the incumbent's occupational title (Engineer, Scientist, Computer Specialist, ISSO, IAO, ISSM, manager, pilot, infantry officer, etc.) shall be identified as part of the IA workforce and must comply with the requirements in Tables C10.T1. and C10.T2.

Table C10.T3. IASAE Level I Functions

IASAE-I.1. Identify information protection needs for CE system(s) and network(s).
IASAE-I.2. Define CE security requirements in accordance with applicable IA requirements (e.g., Reference (bc), Director Central Intelligence Directive 6/3 (Reference (vu)), organizational security policies).
IASAE-I.3. Provide system related input on IA security requirements to be included in statements of work and other appropriate procurement documents.
IASAE-I.4. Design security architectures for CE system(s) and network(s).
IASAE-I.5. Design and develop IA or IA-enabled products for use within a CE.
IASAE-I.6. Integrate and/or implement Cross Domain Solutions (CDS) for use within a CE.
IASAE-I.7. Design, develop, and implement security designs for new or existing CE system(s). Ensure that the design of hardware, operating systems, and software applications adequately address IA security requirements for the CE.
IASAE-I.8. Design, develop, and implement system security measures that provide confidentiality, integrity, availability, authentication, and non-repudiation.

IASAE-I.9. Develop and implement specific IA countermeasures for the CE.
IASAE-I.10. Develop interface specifications for CE system(s).
IASAE-I.11. Develop approaches to mitigate CE vulnerabilities, recommend changes to system or system components as needed.
IASAE-I.12. Ensure that system designs support the incorporation of DoD-directed IA vulnerability solutions, e.g., IAVAs.
IASAE-I.13. Develop IA architectures and designs for DoD IS with basic integrity and availability requirements, to include MAC III systems as defined in References (bc) and (h) ; systems with a Basic Level-of-Concern for availability or integrity in accordance with Reference (wv) ; and other DAA designated systems.
IASAE-I.14. Develop IA architectures and designs for systems processing Sensitive Compartmented Information (SCI) that will operate at Protection Level 1 or 2 as defined in Reference (vu) .
IASAE-I.15. Assess threats to and vulnerabilities of CE system(s).
IASAE-I.16. Identify, assess, and recommend IA or IA-enabled products for use within a CE; ensure recommended products are in compliance with the DoD evaluation and validation requirements of References (bc) and (h) .
IASAE-I.17. Ensure that the implementation of security designs properly mitigate identified threats.
IASAE-I.18. Assess the effectiveness of information protection measures utilized by CE system(s).
IASAE-I.19. Ensure security deficiencies identified during security/certification testing have been mitigated, corrected, or a risk acceptance has been obtained by the appropriate DAA or authorized representative.
IASAE-I.20. Provide input to IA C&A process activities and related documentation (system life-cycle support plans, concept of operations, operational procedures and maintenance training materials, etc.).
IASAE-I.21. Participate in an IS risk assessment during the C&A process and design security countermeasures to mitigate identified risks.
IASAE-I.22. Provide engineering support to security/certification test and evaluation activities.

IASAE-I.23. Document system security design features and provide input to implementation plans and standard operating procedures.
IASAE-I.24. Recognize a possible security violation and take appropriate action to report the incident.
IASAE-I.25. Implement and/or integrate security measures for use in CE system(s) and ensure that system designs incorporate security configuration guidelines.
IASAE-I.26. Ensure the implementation of CE IA policies into system architectures.
IASAE-I.27. Obtain and maintain IA baseline certification appropriate to position.

C10.4. IASAE LEVEL II

C10.4.1. IASAE Level II positions are responsible for the design, development, implementation, and/or integration of a DoD IA architecture, system, or system component for use within the NE. Incumbents ensure that IA related IS will be functional and secure within the NE. IASAE Level II position requirements are listed in Table C10.T4.

Table C10.T4. IASAE Level II Position Requirements

IASAE Level II	
Attribute	Level
Experience	Usually has at least 5 years of IASAE experience.
System Environment	NE IASAE.
Knowledge	Applies knowledge of IA policy, procedures, and workforce structure to design, develop, and implement a secure NE.
Supervision	<ul style="list-style-type: none"> • For IA issues, typically reports to an IASAE Level III, IAM, or DAA. • May report to other senior IASAE for network operational requirements.
Other	<ul style="list-style-type: none"> • Relies on experience and judgment to plan and accomplish goals. • LN opportunities are extremely limited and must meet requirements of Table E3.T1. of Reference (bc).
IA Baseline Certification	Within 6 months of assignment to position.

C10.4.2. Table C10.T5. lists the specific functions associated with the IASAE Level II position. Positions responsible for performing any of these functions, regardless of the incumbent's occupational title (Engineer, Scientist, Computer Specialist, ISSO, IAO, ISSM, manager, pilot, infantry officer, etc.) shall be identified as part of the IA workforce and must comply with the requirements in Tables C10.T4. and C10.T1.

Table C10.T5. IASAE Level II Functions

IASAE-II.1. Identify information protection needs for the NE.
IASAE-II.2. Define NE security requirements in accordance with applicable IA requirements (e.g., References (bc) and (hf) and organizational security policies).
IASAE-II.3. Provide system related input on IA security requirements to be included in statements of work and other appropriate procurement documents.
IASAE-II.4. Design security architectures for use within the NE.
IASAE-II.5. Design and develop IA or IA-enabled products for use within a NE.
IASAE-II.6. Integrate and/or implement CDS for use within a CE or NE.
IASAE-II.7. Develop and implement security designs for new or existing network system(s). Ensure that the design of hardware, operating systems, and software applications adequately address IA security requirements for the NE.
IASAE-II.8. Design, develop, and implement network security measures that provide confidentiality, integrity, availability, authentication, and non-repudiation.
IASAE-II.9. Design, develop, and implement specific IA countermeasures for the NE.
IASAE-II.10. Develop interface specifications for the NE.
IASAE-II.11. Develop approaches to mitigate NE vulnerabilities and recommend changes to network or network system components as needed.
IASAE-II.12. Ensure that network system(s) designs support the incorporation of DoD-directed IA vulnerability solutions, e.g., IAVAs.
IASAE-II.13. Develop IA architectures and designs for DoD IS with medium integrity and availability requirements, to include MAC II systems as defined in References (bc) and (h) , systems with a medium Level-of-Concern for availability or integrity in accordance with Reference (vu) , and other DAA designated systems.

IASAE-II.14. Develop IA architectures and designs for systems processing SCI that will operate at Protection Level 1 or 2 as defined in Reference (u) .
IASAE-II.15. Assess threats to and vulnerabilities of the NE.
IASAE-II.16. Identify, assess, and recommend IA or IA-enabled products for use within an NE; ensure recommended products are in compliance with the DoD evaluation and validation requirements of References (bc) and (h) .
IASAE-II.17. Ensure that the implementation of security designs properly mitigate identified threats.
IASAE-II.18. Assess the effectiveness of information protection measures used by the NE.
IASAE-II.19. Evaluate security architectures and designs and provide input as to the adequacy of security designs and architectures proposed or provided in response to requirements contained in acquisition documents.
IASAE-II.20. Ensure security deficiencies identified during security/certification testing have been mitigated, corrected, or a risk acceptance has been obtained by the appropriate DAA or authorized representative.
IASAE-II.21. Provide input to IA C&A process activities and related documentation (e.g., system life-cycle support plans, concept of operations, operational procedures, and maintenance training materials).
IASAE-II.22. Participate in an IS risk assessment during the C&A process and design security countermeasures to mitigate identified risks.
IASAE-II.23. Provide engineering support to security/certification test and evaluation activities.
IASAE-II.24. Document system security design features and provide input to implementation plans and standard operating procedures.
IASAE-II.25. Recognize a possible security violation and take appropriate action to report the incident.
IASAE-II.26. Implement and/or integrate security measures for use in network system(s) and ensure that system designs incorporate security configuration guidelines.
IASAE-II.27. Ensure the implementation of NE IA policies into system architectures.
IASAE-II.28. Ensure the implementation of subordinate CE IA policies is integrated into the NE system architecture.

IASAE-II.29. Obtain and maintain IA baseline certification appropriate to position.

C10.5. IASAE LEVEL III

C10.5.1. IASAE Level III positions are responsible for the design, development, implementation, and/or integration of a DoD IA architecture, system, or system component for use within CE, NE, and enclave environments. They ensure that the architecture and design of DoD IS are functional and secure. This may include designs for program of record systems and special purpose environments with platform IT interconnectivity. Incumbents may also be responsible for system or network designs that encompass multiple CE and/or NE to include those with differing data protection/classification requirements. IASAE Level III position requirements are listed in Table C10.T6.

Table C10.T6. IASAE Level III Position Requirements

IASAE Level III	
Attribute	Level
Experience	Usually has at least 10 years of IASAE experience.
System Environment	Enclave Environment IASAE.
Knowledge	Applies knowledge of IA policy, procedures, and workforce structure to design, develop, and implement a secure enclave environment.
Supervision	<ul style="list-style-type: none"> • Typically reports to a DAA for IA issues. • May report to other senior managers for enclave operational requirements.
Other	<ul style="list-style-type: none"> • Must be a U.S. Citizen. • Relies on extensive experience and judgment to plan and accomplish enclave security related goals. • May also serve in a management/oversight capacity for an enclave(s).
IA Baseline Certification	Within 6 months of assignment to position.

C10.5.2. Table C10.T7. lists the specific functions associated with the IASAE Level III position. Positions responsible for performing any of these functions, regardless of the incumbents' occupational title (Chief Engineer, Engineer, Scientist, Computer Specialist, ISSO, IAO, ISSM, manager, pilot, infantry officer, etc) shall be identified as part of the IA workforce and must comply with the requirements in Tables C10.T6. and C10.T1.

Table C10.T7. IASAE Level III Functions

IASAE-III.1. Identify information protection needs for the enclave environment.
IASAE-III.2. Define enclave security requirements in accordance with applicable IA policies (e.g., References (b)(c) and (u)) and organizational security policies).
IASAE-III.3. Provide input on IA security requirements to be included in statements of work and other appropriate procurement documents.
IASAE-III.4. Support Program Managers responsible for the acquisition of DoD IS to ensure IA architecture and systems engineering requirements are properly addressed throughout the acquisition life-cycle.
IASAE-III.5. Design security architectures for use within the enclave environment.
IASAE-III.6. Design and develop IA or IA-enabled products for use within the enclave.
IASAE-III.7. Design and develop CDS for use within CE, NE, or enclave environments.
IASAE-III.8. Develop and implement security designs for new or existing enclave system(s). Ensure that the design of hardware, operating systems, and software applications adequately address IA security requirements for the enclave.
IASAE-III.9. Design, develop, and implement security measures that provide confidentiality, integrity, availability, authentication, and non-repudiation for the enclave environment.
IASAE-III.10. Design, develop, and implement specific IA countermeasures for the enclave.
IASAE-III.11. Develop interface specifications for use within the enclave environment.
IASAE-III.12. Develop approaches to mitigate enclave vulnerabilities and recommend changes to system or system components as needed.
IASAE-III.13. Ensure that enclave system(s) and network(s) designs support the incorporation of DoD-directed IA vulnerability solutions, e.g., IAVAs.

IASAE-III.14. Develop IA architectures and designs for DoD IS with high integrity and availability requirements, to include MAC I systems as defined in References (bc) and (h) , systems with a high Level-of-Concern for availability or integrity in accordance with Reference (vu), and other DAA designated systems.
IASAE-III.15. Develop IA architectures and designs for systems and networks with multilevel security requirements or requirements for the processing of multiple classification levels of data (e.g., UNCLASSIFIED, SECRET, and TOP SECRET).
IASAE-III.16. Develop IA architectures and designs for systems processing SCI that will operate at Protection Level 3, 4, or 5 as defined in Reference (vu).
IASAE-III.17. Develop IA architectures and designs for DoD IS to include automated IS applications, enclaves (which include networks), and special purpose environments with platform IT interconnectivity, e.g., weapons systems, sensors, medical technologies, or distribution systems.
IASAE-III.18. Ensure that acquired or developed system(s) and network(s) employ Information Systems Security Engineering and are consistent with DoD Component level IA architecture.
IASAE-III.19. Assess threats to and vulnerabilities of the enclave.
IASAE-III.20. Identify, assess, and recommend IA or IA-enabled products for use within an enclave and ensure recommended products are in compliance with the DoD evaluation and validation requirements of References (bc) and (h) .
IASAE-III.21. Ensure that the implementation of security designs properly mitigate identified threats.
IASAE-III.22. Assess the effectiveness of information protection measures utilized by the enclave.
IASAE-III.23. Evaluate security architectures and designs and provide input as to the adequacy of security designs and architectures proposed or provided in response to requirements contained in acquisition documents.
IASAE-III.24. Ensure security deficiencies identified during security/certification testing have been mitigated, corrected, or a risk acceptance has been obtained by the appropriate DAA or authorized representative.
IASAE-III.25. Provide input to IA C&A process activities and related documentation (e.g., system life-cycle support plans, concept of operations, operational procedures, and maintenance training materials).

IASAE-III.26. Participate in an IS risk assessment during the C&A process and design security countermeasures to mitigate identified risks.
IASAE-III.27. Provide engineering support to security/certification test and evaluation activities.
IASAE-III.28. Document system security design features and provide input to implementation plans and standard operating procedures.
IASAE-III.29. Recognize a possible security violation and take appropriate action to report the incident.
IASAE-III.30. Implement and/or integrate security measures for use in the enclave and ensure that enclave designs incorporate security configuration guidelines.
IASAE-III.31. Ensure the implementation of enclave IA policies into system architectures.
IASAE-III.32. Ensure the implementation of subordinate CE and NE IA policies are integrated into the enclave system architecture.
IASAE-III.33. Oversee and provide technical guidance to IASAE Level I and II personnel.
IASAE-III.34. Obtain and maintain IA baseline certification appropriate to position.

C11. CHAPTER 11

COMPUTER NETWORK DEFENSE-SERVICE PROVIDER (CND-SP) SPECIALTY

C11.1. INTRODUCTION

C11.1.1. This chapter provides detailed guidelines and CND-SP functions for each level within the CND-SP specialty. The requirements of this Manual apply to CND-SP established and accredited in accordance with Reference (*ih*).

C11.1.2. The functions associated with this specialty are intended to be baseline DoD requirements. Each CND-SP is expected to have additional requirements reflecting its operating policy, specific organizational mission, and technical operating environment. The requirements of this Manual do not exempt individuals from meeting their own organization's standards and requirements.

C11.2. CND-SP SPECIALTY DESCRIPTION

C11.2.1. This specialty is comprised of the following:

C11.2.1.1. CND-SP Analyst (CND-A)

C11.2.1.2. CND-SP Infrastructure Support (CND-IS)

C11.2.1.3. CND-SP Incident Responder (CND-IR)

C11.2.1.4. CND-SP Auditor (CND-AU)

C11.2.1.5. CND-SP Manager (CND-SPM)

C11.2.2. Personnel assigned to accredited CND-SPs will normally occupy a position corresponding to a single CND-SP specialty. In cases where personnel perform functions corresponding to multiple CND-SP specialties, their position should be designated based on the CND-SP specialty that most closely aligns to the position's primary responsibility and functions.

C11.2.3. The following are CND-SP specialty training requirements:

C11.2.3.1. Participation in initial formal training (classroom, distributive, government, or blended) before or immediately upon assignment of Computer Network Defense (CND) responsibilities. Training does not need to result in the award of a military category code (e.g., Military Occupational Specialty, Navy Enlisted Specialty Code, and/or Air Force Specialty Code), but must be sufficient to meet minimum certification standards outlined here and in Appendices 2 and 3.

C11.2.3.2. Completion of an on-the-job skills practical evaluation to meet functional requirements listed in this chapter (except CND-SPM).

C11.2.3.3. Completion of sustainment training/continuing education as required to maintain certification status. For planning purposes the standard is normally a minimum of 20 to 40 hours annually, or 120 hours over 3 years.

C11.2.4. The following are CND technical specialty certification requirements:

C11.2.4.1. The certification program for CND-SP specialty positions must include the functions identified for that level. All CND-SP specialty personnel must be certified based on their primary CND position.

C11.2.4.1.1. Within 6 months of assignment to an accredited CND-SP position, all CND-SP specialty military and Government civilian personnel must achieve the appropriate CND certification unless a waiver is granted in accordance with paragraphs C11.2.4.2. or C11.2.4.3.

C11.2.4.1.2. DoD employees or contractors performing CND functions on the effective date of this Manual have up to 4 years to comply with these requirements, based on DoD Component plans to meet the implementation milestones established in Chapter 9.

C11.2.4.1.3. The qualification period for new hires begins the date they start in the position (i.e., they must obtain the appropriate certification within 6 months of being assigned CND functions).

C11.2.4.2. USSTRATCOM may waive the certification requirement under severe operational or personnel constraints. The waiver will be documented by the USSTRATCOM using a memorandum for the record stating the reason for the waiver and the plan to rectify the constraint. Waivers will not extend beyond 6 months, must include an expiration date, and be documented in the individual's CND training record. Consecutive waivers for personnel are not authorized except as noted in paragraph C11.2.4.3. Waivers must be a management review item in accordance with Reference (bc).

C11.2.4.3. CND-SP specialty personnel must be fully trained and certified prior to deployment to a combat environment. USSTRATCOM may approve a waiver for certified CND-SP billets without attaining the appropriate CND-SP specific certification while deployed to a combat environment (however, CND-SP specialty personnel must have the appropriate baseline IAT or IAM Certification). USSTRATCOM may grant an Interim Waiver limited to the period of the deployment. The interim waiver places an individual in a suspense status, which must be time limited and include an expiration date not to exceed 6 months following the date of return from combat status.

C11.2.4.4. Personnel in CND-SP specialty positions must maintain certifications, as required by the certification provider, to retain the CND-SP position.

C11.2.4.5. Personnel who are not appropriately certified within 6 months of assignment to a position or who fail to maintain their certification status shall not be permitted to execute the responsibilities of the position. The DoD Components will develop programs to address remedial training and conditions for individuals to attain or return to certified status.

C11.2.4.6. The DoD Components must document and maintain the certification status of their CND-SP specialty personnel as long as they are assigned to those duties. Identification and tracking requirements are addressed in Chapter 7.

C11.2.4.7. To support the GIG infrastructure security requirements, certification standards apply equally to DoD civilian, military, including those staffed by LNs (with conditional privileged access according to Reference (bc)), and contractor personnel.

C11.2.4.7.1. New contract language must specify certification requirements. Existing contracts must be modified, at an appropriate time during the phased implementation, to specify certification requirements.

C11.2.4.7.2. In addition to the baseline CND certification requirement for their level, privileged users must obtain CE certifications as required by their employing organization to ensure they can effectively apply CND requirements to those systems.

C11.2.4.7.2.1. New hire civilian personnel must agree as a “condition of employment” that they will obtain and maintain the appropriate certification for the position.

C11.2.4.7.2.2. All personnel must agree to release their certification qualification(s) to the Department of Defense.

C11.2.4.8. CND-SP specialty training requirements are summarized in Table C11.T1.

Table C11.T1. Accredited CND-SP Workforce Requirements

Civilian, Military, Contractor* (Including Civilian or Contractor LNs)	CND-A, CND-IS, CND-IR, CND-AU, CND-SPM
Initial Training **	Yes
IA Baseline Certification (from approved list)	Yes (within 6 months)
Initial OJT Evaluation	Yes (except CND-SPM)
CE/OS Certificate	Yes (except CND-SPM)
Maintain Certification Status	Yes (as required by certification)
Continuous Education or Sustainment Training	Yes As Required by Certification

	(e.g., (ISC)2 requires 120 hours triennially for the CISSP)
Background Investigation	As required by CND level and Reference (bc)
Sign Privileged Access Statement	Yes
*Contractor specialty, level, and certification requirements to be specified in the contract	
**Classroom, Distributive, Blended, Government, or Commercial Provider	

C11.3. CND-A

C11.3.1. CND–A personnel use data collected from a variety of CND tools (including intrusion detection system alerts, firewall and network traffic logs, and host system logs) to analyze events that occur within their environment. Individuals within CND-SPs who collect and analyze event information or perform threat or target analysis duties within the CND-SP shall be considered CND-As. CND-A position requirements are listed in Table C11.T2.

Table C11.T2. CND-A Position Requirements

CND-A	
Attribute	Level
Experience	Recommended at least 2 years of experience in CND technology or a related field.
System Environment	Works on a specific number of CND systems but analyzes events within the NE or enclave.
Knowledge	Significant knowledge of particular CND tools, tactics, techniques, and procedures which support their analysis of event information.
Supervision	Works under supervision and typically reports to a CND-SPM.
Other	Actions are usually authorized and controlled by policies and established procedures.
IAT-I or II IA Baseline Certification, CND IA Baseline Certification, and CE/OS Certificate	Within 6 months of assignment to position and mandatory for unsupervised privileged access.

C11.3.2. Table C11.T3. lists the specific functions associated with the CND-A position. Personnel performing these functions as their primary CND responsibilities, regardless of their occupational title within the CND-SP organization, shall be identified as part of the CND-A specialty and must comply with the requirements in Tables C11.T2. and C11.T3.

Table C11.T3. CND-A Functions

CND-A.1.	Mastery of IAT Level I and IAT Level II CE and/or NE knowledge and skills with applicable certification.
CND-A.2.	Receive and analyze network alerts from various sources within the NE or enclave and determine possible causes of such alerts.
CND-A.3.	Coordinate with enclave CND staff to validate network alerts.
CND-A.4.	Perform analysis of log files from a variety of sources within the NE or enclave, to include individual host logs, network traffic logs, firewall logs, and intrusion detection system logs.
CND-A.5.	Characterize and analyze network traffic to identify anomalous activity and potential threats to network resources.
CND-A.6.	Monitor external data sources (e.g. CND vendor sites, Computer Emergency Response Teams, SANS, Security Focus) to maintain currency of CND threat condition and determine which security issues may have an impact on the NE or enclave.
CND-A.7.	Assist in the construction of signatures which can be implemented on CND network tools in response to new or observed threats within the NE or enclave.
CND-A.8.	Perform event correlation using information gathered from a variety of sources within the NE or enclave to gain situational awareness and determine the effectiveness of an observed attack.
CND-A.9.	Notify CND managers, CND incident responders, and other CND-SP team members of suspected CND incidents and articulate the event's history, status, and potential impact for further action.

C11.4. CND-IS

C11.4.1. CND-IS personnel test, implement, deploy, maintain, and administer the infrastructure systems which are required to effectively manage the CND-SP network and resources. This may include, but is not limited to routers, firewalls, intrusion detection/prevention systems, and other CND tools as deployed within the NE or enclave. Individuals within CND-SPs who maintain these infrastructure devices shall be considered CND-IS. CND-IS position requirements are listed in Table C11.T4.

Table C11.T4. CND-IS Position Requirements

CND-IS	
Attribute	Level
Experience	Recommended at least 4 years of experience in supporting CND and/or network systems and technology.
System Environment	Manages a number of specific CND tools/systems within the NE or enclave.
Knowledge	Significant knowledge of particular networking technologies, operating systems, and CND tools,

	tactics, techniques, and procedures which are part of the systems they support.
Supervision	Works under supervision and typically reports to a CND-SPM.
Other	Actions are usually authorized and controlled by policies and established procedures.
IAT-I or II IA Baseline Certification, CND IA Baseline Certification, and CE/OS Certificate	Within 6 months of assignment to position and mandatory for unsupervised privileged access. (Note CND-IS personnel supporting multiple systems must obtain the operating system certification for each system prior to getting full unsupervised privileged access. However, they may begin performing CND-IS duties on systems for which they do have OS certifications.)

C11.4.2. Table C11.T5. lists the specific functions associated with the CND-IS position. Personnel performing these functions as their primary CND responsibilities, regardless of their occupational title within the CND-SP organization, shall be identified as part of the CND-IS specialty and must comply with the requirements in Tables C11.T4. and C11.T5.

Table C11.T5. CND-IS Functions

CND-IS.1.	Mastery of the appropriate IAT Level I and IAT Level II CE and/or NE knowledge and skills with applicable certification.
CND-IS.2.	Create, edit, and manage changes to network access control lists on specialized CND systems (e.g., firewalls and intrusion prevention systems).
CND-IS.3.	Perform system administration on specialized CND applications and systems (e.g., anti-virus, or Audit/Remediation) to include installation, configuration, maintenance, and backup/restore.
CND-IS.4.	Implement C&A requirements for specialized CND systems within the NE or enclave, and document and maintain records for them.
CND-IS.5.	Coordinate with the CND-A to manage and administer the updating of rules and signatures (e.g., IDS/IPS, anti-virus, and content blacklists) for specialized CND applications.
CND-IS.6.	Identify potential conflicts with implementation of any CND tools within the CND-SP area of responsibility (e.g., tool/signature testing and optimization).
CND-IS.7.	Administer CND test bed and test and evaluate new CND applications, rules/signatures, access controls, and configurations of CND-SP managed platforms.

C11.5. CND-IR

C11.5.1. CND-IR personnel investigate and analyze all response activities related to cyber incidents within the NE or Enclave. These tasks include, but are not limited to: creating and

maintaining incident tracking information; planning, coordinating, and directing recovery activities; and incident analysis tasks, including examining all available information and supporting evidence or artifacts related to an incident or event. Individuals within CND-SPs who perform any of the incident management and incident response tasks shall be considered CND-IRs. CND-IR position requirements are listed in Table C11.T6.

Table C11.T6. CND-IR Position Requirement

CND-IR	
Attribute	Level
Experience	Recommended at least 5 years of experience in CND technology or a related field.
System Environment	Works on a wide variety of systems within the NE or enclave as CND incidents dictate.
Knowledge	Significant knowledge of particular CND tools, tactics, techniques, and procedures which support the tracking, management, analysis, and resolution of incidents.
Supervision	Works under supervision and typically reports to a CND-SPM.
Other	Actions are usually authorized and controlled by policies and established procedures.
IAT-I, II, or III IA Baseline Certification, CND IA Baseline Certification, and CE/OS Certificate	Within 6 months of assignment to position and mandatory for unsupervised privileged access.

C11.5.2. Table C11.T7. lists the specific functions associated with the CND-IR position. Personnel performing these functions as their primary CND responsibilities, regardless of their occupational title within the CND-SP organization, shall be identified as part of the CND-IR specialty and must comply with the requirements in Tables C11.T.6. and C11.T7.

Table C11.T7. CND-IR Functions

CND-IR.1.	Mastery of the appropriate IAT Level I, IAT Level II, or IAT Level III CE, NE, or enclave knowledge and skills with applicable certification.
CND-IR.2.	Collect and analyze intrusion artifacts (e.g., source code, malware, and trojans) and use discovered data to enable mitigation potential CND incidents within the enclave.
CND-IR.3.	Perform initial, forensically sound collection of images and inspect to discern possible mitigation/remediation on enclave systems.
CND-IR.4.	Coordinate with and provide expert technical support to enclave CND technicians to resolve CND incidents.

CND-IR.5.	Track and document CND incidents from initial detection through final resolution.
CND-IR.6.	Perform CND incident triage to include determining scope, urgency, and potential impact; identify the specific vulnerability and make recommendations which enable expeditious remediation.
CND-IR.7.	Correlate incident data and perform CND trend analysis and reporting.
CND-IR.8.	Coordinate with intelligence analysts to correlate threat assessment data.
CND-IR.9.	Serve as technical experts and liaisons to law enforcement personnel and explain incident details, provide testimony, etc.
CND-IR.10.	Perform real-time CND Incident Handling (e.g., forensic collections, intrusion correlation/tracking, threat analysis, and direct system remediation) tasks to support deployable Incident Response Teams (IRT).
CND-IR.11.	Maintain deployable CND toolkit (e.g., specialized CND software/hardware) to support IRT missions.
CND-IR.12.	Write and publish CND guidance and reports on incident findings to appropriate constituencies.

C11.6. CND-AU

C11.6.1. CND-AU personnel perform assessments of systems and networks within the NE or enclave and identify where those systems/networks deviate from acceptable configurations, enclave policy, or local policy. CND-AUs achieve this through passive evaluations (compliance audits) and active evaluations (penetration tests and/or vulnerability assessments). Individuals within CND-SPs who perform compliance and audit related tasks shall be considered CND-AUs. CND-AU position requirements are listed in Table C11.T8.

Table C11.T8. CND-AU Position Requirements

CND-AU	
Attribute	Level
Experience	Recommended at least 2 years of experience in CND technology or a related field.
System Environment	Works on a specific number of CND systems but does compliance testing on portions of the NE or enclave.
Knowledge	Significant knowledge of particular CND tools, tactics, techniques, and procedures which support their compliance tests.
Supervision	Works under supervision and typically reports to a CND Manager.
Other	Actions are usually authorized and controlled by policies and established procedures.
IAT-I, II, or III IA Baseline Certification,	Within 6 months of assignment to position and mandatory for unsupervised privileged access.

CND IA Baseline Certification, and CE/OS Certificate	
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C11.6.2. Table C11.T9. lists the specific functions associated with the CND-AU position. Personnel performing these functions as their primary CND responsibilities, regardless of their occupational title within the CND-SP organization, shall be identified as part of the CND-AU specialty and must comply with the requirements in the Tables C11.T8. and C11.T9.

Table C11.T9. CND-AU Functions

CND-AU.1.	Mastery of the appropriate IAT Level I, IAT Level II, or IAT Level III CE, NE, or enclave knowledge and skills with applicable certification.
CND-AU.2.	Maintain knowledge of applicable CND policies, regulations, and compliance documents specifically related to CND auditing.
CND-AU.3.	Perform CND vulnerability assessments within the enclave.
CND-AU.4.	Perform CND risk assessments within the enclave.
CND-AU.5.	Conduct authorized penetration testing of enclave network assets.
CND-AU.6.	Analyze site/enclave CND policies and configurations and evaluate compliance with regulations and enclave directives.
CND-AU.7.	Prepare audit reports that identify technical and procedural findings and provide recommended remediation strategies/solutions.
CND-AU.8.	Maintain deployable CND audit toolkit (e.g., specialized CND software/hardware) to support CND audit missions.

C11.7. CND-SPM

C11.7.1. CND-SPMs oversee the CND-SP operations within their organization. CND-SPMs are responsible for producing guidance for their NE or enclave, assisting with risk assessments and risk management for organizations within their NE or enclave, and are responsible for managing the technical classifications within their organization. CND-SPM position requirements are listed in Table C11.T10.

Table C11.T10. CND-SPM Position Requirements

CND-SPM	
Attribute	Level
Experience	Recommended at least 4 years of experience in CND management or a related field.
System Environment	Manages technicians who are responsible for all CND duties across the entire NE or enclave.
Knowledge	Significant knowledge of the capabilities and limitations of particular CND tools, tactics, techniques, and procedures which are employed by the technicians within the NE or enclave.

Supervision	Supervises technicians within the organization; reports to a senior CND Manager or to USSTRATCOM.
Other	Actions are usually authorized and controlled by policies and established procedures.
IAM-I or II IA Baseline Certification and CND IA Baseline Certification	Within 6 months of assignment to position and mandatory for unsupervised privileged access.

C11.7.2. Table C11.T11. lists the specific functions associated with the CND-SPM position. Personnel performing these functions as their primary CND responsibilities, regardless of their occupational title within the CND-SP organization, shall be identified as part of the CND-SPM specialty and must comply with the requirements in Tables C11.T10. and C11.T11.

Table C11.T11. CND-SPM Functions

CND-SPM.1. Mastery of the appropriate IAM Level I or IAM Level II CE and/or NE knowledge and skills with applicable certification.
CND-SPM.2. Implement and enforce CND policies and procedures reflecting applicable laws, policies, procedures, and regulations (e.g., Reference (h)).
CND-SPM.3. Manage the publishing of CND guidance (e.g., IAVAs and TCNOs) for the enclave constituency.
CND-SPM.4. Provide incident reports, summaries, and other situational awareness information to higher headquarters.
CND-SPM.5. Manage an incident (e.g., coordinate documentation, work efforts, resource utilization within the organization) from inception to final remediation and after action reporting.
CND-SPM.6. Manage threat or target analysis of CND information and production of threat or target information within the network or enclave environment.
CND-SPM.7. Manage the monitoring of external CND data sources to maintain enclave situational awareness.
CND-SPM.8. Interface with external organizations (e.g., public affairs, law enforcement, Command or Component Inspector General) to ensure appropriate and accurate dissemination of incident and other CND information.
CND-SPM.9. Lead risk analysis and management activities for the network or enclave environment.
CND-SPM.10. Track compliance audit findings, incident after-action reports, and recommendations to ensure appropriate mitigation actions are taken.

AP1. APPENDIX 1

DEFINITIONS

AP1. DEFINITIONS

AP1.1. Authorized User. As defined in Reference (*ab*), any appropriately cleared individual required to access a DoD IS to carry out or assist in a lawful and authorized governmental function. Authorized users include: DoD employees, contractors, and guest researchers.

AP1.2. Categories, Specialties, Levels, and Functions. As defined in Reference (*ab*), the structure for identifying all DoD Information Assurance (IA) positions and personnel.

AP1.2.1. Categories, Specialties. The DoD IA workforce is split into two major categories of Technical and Management. Management refers to personnel performing any IAM functions described in Chapters 4 or 5. Specialties are a category of the DoD IA Workforce performing advanced and/or specialized functions. Specialties may perform functions at various levels. A specialty may also require the mastery of a specified Technical or Management level.

AP1.2.2. Levels. Each of the IA workforce categories has three levels (Technical or Management Level I, II, and III). The management category also includes the Designated Accrediting Authority (DAA) position.

AP1.2.3. Functions. High level tasks required to successfully perform IA for an information system. The function indicates the tasks that an employee performs or occupational requirements to successfully perform as part of the IA Workforce. For the purposes of this Manual the IA functions have been associated with a category and level. These functions provide a means to distinguish between different levels of work. The functional level approach also encourages a broader, more integrated means of identifying what an employee must know to perform the tasks that comprise an IA position across all of the DoD Components.

AP1.3. Certification. Recognition given to individuals who have met predetermined qualifications set by an agency of government, industry, or profession. Certification provides verification of individuals' knowledge and experience through evaluation and approval, based on a set of standards for a specific profession or occupation's functional job levels. Each certification is designed to stand on its own, and represents an individual's mastery of a particular set of knowledge and skills.

AP1.4. Computing Environment (CE). Per Reference (*hc*), local area network(s) server host and its operating system, peripherals, and applications.

AP1.5. Contractor. Per the Defense Acquisition University Glossary, "an entity in private industry which enters into contracts with the government to provide goods or services." For DoD IA purposes, an entity is a private sector employee performing IA functions in support of a

DoD IS. Private sector employees performing IA functions must meet the same standards for system access or management as government IA employees.

AP1.6. Defense Civilian Personnel Data System (DCPDS). DCPDS is a human resources transaction IS supporting civilian personnel operations in the Department of Defense. DCPDS is designed to support appropriated fund, non-appropriated fund, and LN human resources operations.

AP1.6.1. The Corporate Management Information System (CMIS) consolidates DoD employee and position data for all DoD civilian employees from all DCPDS databases to provide a corporate level data query and reporting capability.

AP1.6.2. DCPDS and CMIS support strategic DoD civilian workforce planning, trend analysis, mobilization, and contingency planning.

AP1.7. Designated Accrediting Authority (DAA). As defined in Reference (bc).

AP1.8. DoD Information System (IS). As defined in References (ab) and (bc), includes automated IS (AIS) applications, enclaves, outsourced IT based processes, and platform IT interconnections.

AP1.8.1. An AIS application performs clearly defined functions for which there are readily identifiable security considerations and needs addressed as part of the acquisition. An AIS application may be a single software application (e.g., Integrated Consumable Items Support); multiple software applications related to a single mission (e.g., payroll or personnel); or a combination of software and hardware performing a specific support function across a range of missions (e.g., Global Command and Control System, Defense Messaging System). AIS applications are deployed to enclaves for operations and have their operational security needs assumed by the enclave.

AP1.8.2. Note: An AIS application is analogous to a “major application,” as defined in OMB A-130 (Reference (am)). However, to avoid confusion with the DoD acquisition category called “Major Automated Information System”, this term (AIS) is not used in this Manual.

AP1.9. Duty.

AP1.9.1. Primary. An IA position with primary duties focused on IA functions. The position may have other duties assigned, but the main effort focuses on IA functions. The position would normally require at least 25 to 40(+) hours per week devoted to IA functions.

AP1.9.2. Additional. A position requiring a significant portion of the incumbent’s attention and energies to be focused on IA functions, but in which IA functions are not the primary responsibility. The position would normally require 15 to 24 hours, out of a 40(+) hour week, devoted to IA functions.

AP1.9.3. Embedded. A position with IA functions identified as an integral part of other major assigned duties. These positions normally require up to 14 hours, out of a 40(+) hour week be devoted to IA related functions.

AP1.10. Eligible DoD Contractors. An employee or individual under contract or subcontractor the Department of Defense, designated as providing services or support to the Department that requires logical and/or physical access to the Department's assets.

AP1.11. Enclave. As defined in Reference (~~hc~~) a collection of CE connected by one or more internal networks under the control of a single authority and security policy, including personnel and physical security. Enclaves provide standard IA capabilities such as boundary defense, incident detection and response, and key management, and also deliver common applications such as office automation and electronic mail. Enclaves are analogous to general support systems, as defined in OMB A-130 (Reference (~~am~~)). Enclaves may be specific to an organization or a mission and the CE may be organized by physical proximity or by function, independent of location. Examples of enclaves include local area networks and the applications they host, backbone networks, and data processing centers.

AP1.12. Foreign National. Individuals who are non-U.S. citizens including U.S. military personnel, DoD civilian employees, and contractors.

AP1.13. General Schedule (GS)/Pay Band. The Office of Personnel Management's basic classification and compensation system for white collar occupations in the federal government, as established by Reference (~~yx~~).

AP1.13.1. Job Series. A subgroup of an occupational group or job family that includes all classes of positions at the various levels in a particular kind of work, such as the GS-2210 series. Positions within a series are similar in subject matter, basic knowledge and skill requirements.

AP1.13.2. Parenthetical Specialty. A subset of work within a series distinguishing positions on the basis of specialized technical requirements. For example, the 2210 series has officially designated parenthetical specialties agencies must include in the official position titles. "INFOSEC" is the parenthetical specialty used in DCPDS for 2210 employees performing security (IA) functions.

AP1.13.3. Position Specialty Code. A unique DoD civilian workforce code to support effective management of the IA workforce. The position specialty code identifies a DoD civilian position, or person with IA functions, regardless of OPM job series.

AP1.14. Information Assurance (IA). Per Reference (~~hc~~), measures that protect and defend information and ISs by ensuring their availability, integrity, authentication, confidentiality, and non-repudiation. These measures include providing for restoration of IS by incorporating protection, detection, and reaction capabilities.

AP1.15. Information Assurance Workforce. The IA workforce focuses on the operation and management of IA capabilities for DoD systems and networks. The workforce ensures adequate security measures and established IA policies and procedures are applied to all ISs and networks. The IA workforce includes anyone with privileged access and IA managers who perform any of the responsibilities or functions described in Chapters 3-5, 10 or 11. The DoD IA Workforce includes but is not limited to all individuals performing any of the IA functions described in this Manual. Additionally the IA workforce categories, specialties and their /functions will be expanded to include for example system architecture and engineering, and computer network defense, certification and accreditation, and vulnerability assessment as changes to this Manual. These individuals are considered to have significant “security responsibilities” and must receive specialized training and be reported per Reference (*ed*) and this Manual.

AP1.16. Information Assurance Vulnerability Alert (IAVA). The comprehensive distribution process for notifying the Components about vulnerability alerts and countermeasures information as established in Reference (*ih*).

AP1.17. Information Assurance Vulnerability Management (IAVM). The IAVM process provides positive control of the vulnerability notification process for DoD network assets. The IAVM requires Components receipt acknowledgement and provides specific time parameters for implementing appropriate countermeasures, depending on the criticality of the vulnerability.

AP1.18. Information Operations Condition (INFOCON). A comprehensive defense posture and response based on the status of ISs, military operations, and intelligence assessments of adversary capabilities and intent.

AP1.19. Local National Employee. Per Reference (*ab*) civilians or contractors, whether paid from appropriated or non-appropriated funds, employed or used by the U.S. Forces in a foreign country who are nationals or non-U.S. residents of that country.

AP1.20. Network Environment (Computer). The constituent element of an enclave responsible for connecting CE by providing short haul data transport capabilities, such as local or campus area networks, or long haul data transport capabilities, such as operational, metropolitan, or wide area and backbone networks that provides for the application of IA controls.

AP1.21. Network Operations. An organizational and procedural framework intended to provide DoD IS and computer network owners the means to manage their systems and networks. This framework allows IS and computer network owners to effectively execute their mission priorities, support DoD missions, and maintain the IS and computer networks. The framework integrates the mission areas of network management, information dissemination management, and information assurance.

AP1.22. Privileged Access. An authorized user who has access to system control, monitoring, administration, criminal investigation, or compliance functions. Privileged access typically provides access to the following system controls:

AP1.22.1. Access to the control functions of the information system/network, administration of user accounts, etc.

AP1.22.2. Access to change control parameters (e.g., routing tables, path priorities, addresses) of routers, multiplexers, and other key information system/network equipment or software.

AP1.22.3. Ability and authority to control and change program files, and other users' access to data.

AP1.22.4. Direct access to operating system level functions (also called unmediated access) that would permit system controls to be bypassed or changed.

AP1.22.5. Access and authority for installing, configuring, monitoring, or troubleshooting the security monitoring functions of information systems/networks (e.g., network/system analyzers; intrusion detection software; firewalls) or in performance of cyber/network defense operations.

AP1.23. Red Team. An independent and focused threat based effort by a multi-disciplinary, opposing force using active and passive capabilities; based on formal; time bounded tasking to expose and exploit information operations vulnerabilities of friendly forces as a means to improve readiness of U.S. units, organizations, and facilities.

AP1.24. Supporting IA Infrastructures. Collections of interrelated processes, systems, and networks providing a continuous flow of information assurance services throughout the Department of Defense (e.g., the key management infrastructure or the incident detection and response infrastructure).

AP1.25. Training.

AP1.25.1. Resident. Instructor led classroom instruction based on specific performance criteria.

AP1.25.2. Distributive. Computer based training (CBT) via website, computer disc, or other electronic media.

AP1.25.3. On the job training (OJT). Supervised hands on training, based on specific performance criteria that must be demonstrated to a qualified supervisor.

AP1.25.4. Blended: A combination of instructor led classroom training and distributed media. This may also include instructor led classroom training using distributed multi-media.

AP1.26. Waivers.

AP1.26.1. DAAs may waive the IAT or IAM certification requirement(s) under severe operational or personnel constraints. The waiver must be documented by the DAA using a memorandum for the record stating the reason for the waiver and the plan to rectify the constraint. Waivers must be time limited, not to exceed six months, and include an expiration date. Uncertified IAT Level Is are not authorized unsupervised privileged access until fully qualified per Chapter 3.

AP1.26.2. Waivers for IAT Level I certification requirements are not authorized for personnel deployed to a combat theatre of operations. The DAA may approve a waiver for certified IAT-Is to fill level IAT-II or IAT-III billets while deployed in a combat environment without attaining the appropriate certification. The DAA may grant an interim waiver limited to the period of the deployment. The interim waiver places an individual in a suspense status and must be time limited and include an expiration date not to exceed six months following date of return from combat status. The DAA may also authorize waivers for certified IAM-Is or IAM IIs to fill higher management positions in combat zones.

APPENDIX 2

AP2. IA WORKFORCE LEVELS, FUNCTIONS, AND CERTIFICATION APPROVAL PROCESS

AP2.1. CERTIFICATION CRITERIA

AP2.1.1. The list of certifications posted on the DISA IASE website (<http://iase.disa.mil/eta/iawip/>) is approved for the DoD IA workforce as of the publication date of Change 3 to this Manual.

AP2.1.2. The list of certifications map to the IA categories, specialties and levels to which they apply.

AP2.1.2.1. IA personnel must obtain and maintain a certification corresponding to the highest level function(s) they perform. Certifications held by an IA workforce member on the “change date” to this Manual remain valid for as long as member remains in that position and keeps their certification status up to date according to individual certification provider standards.

AP2.1.2.2. Individuals performing IAT functions must hold, at a minimum, an IAT Level I certification, before gaining privileged access to any DoD system.

AP2.1.2.3. Individuals performing functions in multiple categories or specialties must hold certifications appropriate to the functions performed in each category or specialty.

AP2.1.3. Commercial, vendor specific, or component developed equivalent certifications approved for the DoD IA workforce requirement must align to the IA category or specialty functional requirements. For validity, certifications must be accredited and maintain accreditation through the American National Standards Institute (ANSI) under the International Organization for Standardization/International Electrotechnical Commission (ISO/IEC) 17024, “Conformity Assessment - General Requirements for Bodies Operating Certification of Persons,” April 2003 ISO/IEC 17024 Standard, Reference (zy). ANSI is the only personnel certification accreditation body in the United States to meet ISO/IEC 17011:2004, “Conformity assessment - General requirements for accreditation bodies accrediting conformity assessment bodies” (Reference (zy)), which represents the highest nationally accepted practices for accreditation bodies. Certifications that receive ANSI accreditation also must be approved by the IA WIPAC for inclusion into this Manual as a baseline certification.

AP2.2. CERTIFICATION REVIEW PROCESS

AP2.2.1. The Office of the DoD CIO will charter and chair the IA WIPAC to maintain the workforce categories, levels, functions, and certifications. The IA WIPAC must meet periodically to approve, remove and assign certifications to the appropriate IA workforce levels.

All changes to the approved IA baseline certification list will be made or vetted by the IA WIPAC. The DISA IASE website will be updated to reflect the IA WIPAC's changes.

AP2.2.2. The list of approved IA baseline certifications must be reviewed at least annually to ensure continued applicability to the Department of Defense. Certifications may be government or commercially granted, but all IA baseline certifications must be accredited through ANSI to the requirements of Reference (zy) prior to being considered by the IA WIPAC for addition to the approved IA baseline certification list.

AP3. APPENDIX 3IA WORKFORCE REQUIREMENTS AND CERTIFICATIONS

AP3.1 Table AP3.T1 consolidates IA workforce requirements described in this Manual. Requirements for each category are discussed and described in more depth in the preceding chapters of this Manual.

Table AP3.T1 Summary of IA Workforce Requirements

	IAT I-III	IAM I-III	IASAE I-III	CND-A, CND-IS, CND-IR, CND-AU and CND-SPM
Initial Training	Yes*	Yes**	Yes**	Yes*
IA Baseline Certification (from approved list)	Yes (IA Certification) (within 6 months)	Yes (IA Certification) (within 6 months)	Yes (IA Certification) (within 6 months)	Yes (CND Certification) (within 6 months)
Initial OJT Evaluation	Yes (for initial position)	No	No	Yes (except CND-SPM)
CE/OS Certificate	Yes	No	No	Yes (except CND-SPM)
Maintain Certification Status	Yes (as required by certification)	Yes (as required by certification)	Yes (as required by certification)	Yes (as required by certification)
Continuous Education or Sustainment Training	Yes (as required by certification)	Yes (as required by certification)	Yes (as required by certification)	Yes (as required by certification)
Background Investigation	As required by IA level and Reference (bc)	As required by IA level and Reference (bc)	As required by IA level and Reference (bc)	As required by CND-SP level and Reference (bc)
Sign Privileged Access Statement	Yes	n/a	n/a	Yes
Experience	IAT I: Normally has 0 to 5 or more years of experience in IA technology or a related field.	IAM I: Usually an entry level management position with 0 to 5 or more years of management experience.	IASAE I: Usually an entry level IASAE position with 0 or more years of IASAE experience.	Recommended years of experience in CND technology or a related field: CND-A: at least 2 CND-IR: at least 5 CND-AU: at least 2
	IAT II: Normally has at least 3 years in IA technology or a related area.	IAM II: Usually has at least five years of management experience.	IASAE II: Usually has at least 5 years of IASAE experience.	CND-IS: Recommended at least 4 years of experience supporting CND and/or network systems and technology

	IAT III: Normally has at least seven years of experience in IA technology or a related area.	IAM III: Usually has at least 10 years of management experience.	IASAE III: Usually has at least 10 years of IASAE experience.	CND-SPM: Recommended at least 4 years of experience in CND management or a related field
*Classroom, distributive, blended, government or commercial provider				

AP3.2. The approved IA baseline certifications table on the DISA IASE website (<http://iase.disa.mil/eta/iawip/>) provides a list of DoD approved certifications aligned to each category and level of the IA Workforce. Personnel performing IA functions must obtain one of the certifications required for their positions category or specialty and level. DoD Components may choose any approved certification to meet the certification requirements for the associated level for which the certification has been approved.

AP3.2.1. The IASE website lists the names of the organizations that own each certification. These may be commercial, government, or other entities whose certification meets the requirements for the IA functional level(s) represented by the cell.

AP3.2.2. A certification may apply to more than one level.

AP3.2.3. Most IA levels within a category or specialty have more than one approved certification.

AP3.2.4. An individual needs to obtain only one of the “approved certifications” for his or her IA category or specialty and level to meet the minimum requirement. For example, an individual in an IAT Level II position could obtain any one of the four certifications listed in the corresponding cell.

AP3.2.4.1. Higher level IAT certifications satisfy lower level requirements. Certifications listed in Level II or III cells can be used to qualify for Level I. However, Level I certifications cannot be used for Level II or III unless the certification is also listed in the Level II or III cell. For example:

AP3.2.4.1.1. The A+ or Network+ certification qualify only for Technical Level I and cannot be used for Technical Level II positions.

AP3.2.4.1.2. The System Security Certified Practitioner (SSCP) certification qualifies for both Technical Level I and Technical Level II. If the individual holding this certification moved from an IAT Level I to an IAT Level II position, he or she would not have to take a new certification.

AP3.2.5. Higher-level IAM certifications satisfy lower level requirements. Certifications listed in Level II or III cells can be used to qualify for Level I. However, Level I certifications cannot be used for Level II or III unless the certification is also listed in the Level II or III cell.

AP3.2.6. Operating System Requirement. IATs and designated CND-SPs must also obtain certifications required to implement the IA requirements for their specific operating system environment (e.g., Microsoft Operating Systems Administrator Certification), unless the operating system certification is also on the list of approved DoD IA baseline certifications.

AP3.2.7. All IA workforce personnel must maintain their certifications as required by their certification providers to retain their DoD IA workforce position.

AP3.2.8. Changes to the approved IA baseline certification list will be made by the IA WIPAC in accordance with AP2.2.1. The DISA IASE website will be updated to reflect these changes.

AP3.3. The approved IA baseline certification table on the DISA IASE website (<http://iase.disa.mil/eta/iawip/>) provides a list of DoD approved certifications for personnel performing IA functions that meet baseline requirements. DoD Components may choose any of the approved certifications to meet the applicable certification requirements for each associated level.

APPENDIX 4

AP4. SAMPLE STATEMENT OF ACCEPTANCE OF RESPONSIBILITIES

<IS NAME>

INFORMATION SYSTEM PRIVILEGED ACCESS AGREEMENT AND
ACKNOWLEDGMENT OF RESPONSIBILITIES

Date: _____

1. I understand there are two DoD Information Systems (IS), classified (SIPRNET) and unclassified (NIPRNET), and that I have the necessary clearance for privileged access to <IS NAME> [specify which IS the privileges are for]. I will not introduce or process data or software for the IS that I have not been specifically authorized to handle.
2. I understand the need to protect all passwords and other authenticators at the highest level of data they secure. I will not share any password(s), account(s), or other authenticators with other coworkers or other personnel not authorized to access the < IS NAME>. As a privileged user, I understand the need to protect the root password and/or authenticators at the highest level of data it secures. I will NOT share the root password and/or authenticators with coworkers who are not authorized <IS NAME > access.
3. I understand that I am responsible for all actions taken under my account(s), root, or otherwise. I will not attempt to “hack” the network or any connected information systems, or gain access to data to which I do not have authorized access.
4. I understand my responsibility to appropriately protect and label all output generated under my account (including printed materials, magnetic tapes, floppy disks, and downloaded hard disk files).
5. I will immediately report any indication of computer network intrusion, unexplained degradation or interruption of network services, or the actual or possible compromise of data or file access controls to the appropriate <IS NAME > Information Assurance Management (IAM) or senior Information Assurance Technical (IAT) Level representatives. I will NOT install, modify, or remove any hardware or software (e.g., freeware/shareware and security tools) without written permission and approval from the <IS NAME > IAM-or senior IAT Level representatives.
6. I will not install any unauthorized software (e.g., games, entertainment software) or hardware (e.g., sniffers).
7. I will not add/remove any users’ names to the Domain Administrators, Local Administrator, or Power Users group without the prior approval and direction of the <IS NAME > IAM/or senior IAT Level representatives.

8. I will not introduce any unauthorized code, Trojan horse programs, malicious code, or viruses into the <IS NAME > local area networks.

9. I understand that I am prohibited from the following while using the DoD IS:

a. Introducing Classified and/or Controlled Unclassified Information (CUI) into a NIPRNet environment.

b. Accessing, storing, processing, displaying, distributing, transmitting, or viewing material that is abusive, harassing, defamatory, vulgar, pornographic, profane, or racist; that promotes hate crimes, or is subversive or objectionable by nature, including material encouraging criminal activity, or violation of local, state, federal, national, or international law.

c. Storing, accessing, processing, or distributing Classified, Proprietary, CUI, For Official Use Only (FOUO), or Privacy Act protected information in violation of established security and information release policies.

d. Obtaining, installing, copying, pasting, transferring, or using software or other materials obtained in violation of the appropriate vendor's patent, copyright, trade secret, or license agreement.

e. Knowingly writing, coding, compiling, storing, transmitting, or transferring malicious software code, to include viruses, logic bombs, worms, and macro viruses.

f. Engaging in prohibited political activity.

g. Using the system for personal financial gain such as advertising or solicitation of services or sale of personal property (e.g., eBay), or stock trading (i.e., issuing buy, hold, and/or sell directions to an online broker).

h. Fundraising activities, either for profit or non-profit, unless the activity is specifically approved by the organization (e.g., organization social event fund raisers and charitable fund raisers, without approval).

i. Gambling, wagering, or placing of any bets.

j. Writing, forwarding, or participating in chain letters.

k. Posting personal home pages.

l. Any other actions prohibited by DoD 5500.7-R (Reference (~~aa~~z)) or any other DoD issuances.

10. Personal encryption of electronic communications is strictly prohibited and can result in the immediate termination of access.

11. I understand that if I am in doubt as to any of my roles or responsibilities I will contact the <IS NAME > IAT Level III Supervisor for clarification.
12. I understand that all information processed on the <IS NAME> is subject to monitoring. This includes email and browsing the web.
13. I will not allow any user who is not cleared access to the network or any other connected system without prior approval or specific guidance from the <IS NAME> IAM.
14. I will use the special access or privileges granted to me ONLY to perform authorized tasks or mission related functions.
15. I will not use any <DOD/Components> owned information system to violate software copyright by making illegal copies of software.
16. I will ONLY use my PRIVILEGED USER account for official administrative actions. This account will NOT be used for day to day network communications.
17. I understand that failure to comply with the above requirements will be reported and may result in the following actions:
 - a. Revocation of IS privileged access.
 - b. Counseling.
 - c. Adverse actions pursuant to the Uniform Code of Military Justice and/or criminal prosecution.
 - d. Disciplinary action, discharge or loss of employment.
 - e. Revocation of Security Clearance.
18. I will obtain and maintain required certification(s), according to DoD 8570.01-M and the certification provider, to retain privileged system access.

YOUR IAT Level III Supervisor is _____

INFORMATION SYSTEM NAME _____

IAT/IASAE/CND's NAME _____

IAT/IASAE/CND's SIGNATURE _____

Date _____

IAM LEVEL I NAME _____

IAM LEVEL I SIGNATURE _____

Date _____

(Level I or II Managers with privileged access will have signatures of the IAM Level II or III responsible for their IS functions).