

**BY ORDER OF THE COMMANDER  
AIR COMBAT COMMAND**

**AIR COMBAT COMMAND MANUAL  
17-2TNO, VOLUME 1**



**24 MAY 2024**

**Cyberspace Operations**

**TELEPHONY NETWORK OPERATIONS  
(TNO) - CYBERCREW TRAINING**

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This publication implements Air Combat Command Instruction (ACCI) 17-202, Volume 1, *Cybercrew Training*. This publication establishes the minimum Air Force (AF) standards for training, qualifying, and certifying cybercrew members to conduct Telephony Network Operations (TNO), as defined by this Air Combat Command Manual (ACCMAN). This publication applies to all Air Combat Command (ACC), AF Reserve (AFR), Air National Guard (ANG), and third party governmental and contract support agencies serving as TNO cybercrew members and operating from United States Cyber Command (USCYBERCOM), Joint Mission, and Department of the Air Force (DAF) Offensive Cyberspace Infrastructure as well as crewmembers implementing TNO capabilities. For the purposes of this publication the National Guard Bureau (NGB) is treated as a Major Command (MAJCOM). This publication does not apply to the United States Space Force. ACC, as lead command for cyberspace, will conduct all lead command functions in accordance with DAFMAN 90-161, *Publishing Processes and Procedures*, and subsequent guidance. Vigilance must be taken to protect Personally Identifiable Information (PII) when submitting or sending nominations, applications, or other documents to Department of Defense (DoD) agencies through government internet, software applications, systems, e-mail, postal, faxing or scanning. Refer to the following directives for additional guidance: AFI33-332, *Air Force Privacy and Civil Liberties Program*, DoDI 5400.11, *DoD Privacy and Civil Liberties Programs*. Forms containing PII require Privacy Act Statements. Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication through the appropriate chain of command channels to Air Combat Command Information Warfare Division (ACC/A3/2/6K) using

the DAF Form 847, *Recommendation for Change of Publication*. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication for coordination prior to certification, approval, and implementation. The authorities to waive wing, group, and unit level requirements in this publication are identified with a Tier number (“T-0, T-1, T-2, T-3”) following the compliance statement. See DAFMAN 90-161 for a description of the authorities associated with each Tier number. Waiver authority for non-tiered paragraphs remains with ACC Director of Operations (ACC/A3). Submit requests for waivers in accordance with [paragraph 1.6](#). The use of any name or mark of a specific company, manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by DAF.

### ***SUMMARY OF CHANGES***

This document has been revised and should be completely reviewed. Changes include 1) standardize the format and layout across all three volumes for readability; 2) improve the organization of chapters and content within each chapter; 3) clarify waiver authorities; 4) update position descriptions and associated duties; 5) further clarify position qualification standards; 6) update operational requirements and activities; and 7) update organizational and individual roles and responsibilities. Additionally, this ACCMAN aligns USAF personnel with joint training requirements set forth in the United States Cyber Command (USCYBERCOM) Joint Cyber Tactics Manual (JCTM), *Joint Cyber Training and Certification Standards (JCT&CS)*, and other applicable standards and policies.

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## Chapter 1

### GENERAL INFORMATION

#### 1.1. General.

1.1.1. This ACCMAN implements ACCI 17-202V1, in conjunction with other governing directives, and prescribes procedures for the training management of TNO cybercrews to meet the minimum USAF, USCYBERCOM, and Joint Mission qualification and certification standards. [Note: Keywords and Definitions related to this document can be found under [Attachment 1](#) under *Terms*.]

1.1.2. The prescribed training is designed to progressively develop the combat readiness of each cybercrew member while maintaining previously acquired proficiency.

#### 1.2. Applicability.

1.2.1. This publication applies to all USAF personnel serving on a TNO crew as well as applicable support, gained, and attached personnel.

#### 1.3. Training Program.

1.3.1. Air Force Tactics Techniques and Procedures (AFTTP) 3-1 *Network Attack System (NAS) and the Joint Cyber Tactics Manual (JCTM)* are the primary sources of TNO fundamentals and Formal Training Unit (FTU) initial and mission qualification courseware and instruction. These documents provide classified and advanced combat and threat-driven tactics, techniques, and procedures (TTPs). The training program consists of the following components:

1.3.2. Initial Qualification Training (IQT) ([Chapter 2](#)). Basic weapon and mission system training designed to cover system- or positional-specific training. Qualifies cybercrew members in the TNO operator crew position at the Basic Cyber Qualified (BCQ) level.

1.3.3. Mission Qualification Training (MQT) ([Chapter 3](#)). A unit-developed training program that qualifies a cybercrew member as Combat Mission Ready (CMR) in the TNO operator crew position to accomplish the unit's Designed Operational Capability (DOC) statement mission.

1.3.4. Continuation Training (CT) ([Chapter 4](#)). Provides the capability for cybercrew members to reinforce and build upon previous training and conduct Air Force Task List (AFTL), USCYBERCOM Joint Mission Essential Task List (JMETL), and MAJCOM Mission Essential Task List (METL) based combat-oriented cybercrew training.

1.3.4.1. CT consists of two aspects. The first aspect involves the basic skills necessary to ensure the safe operation of the weapon or mission system. The second aspect consists of specific mission-related training required to accomplish the unit's assigned missions.

1.3.5. Upgrade Training (UT) and Special Mission Qualification/Certification (SMQ/C) ([Chapter 5](#)). Upgrade TNO Operators to Crew Commanders, certify Instructors and Evaluators and provide crewmembers training which leads to SMQ/C.

1.3.5.1. Requalification Training (RQT). Training designed to requalify a crewmember with an expired qualification evaluation or loss of currency exceeding six months.

#### 1.4. Roles and Responsibilities.

1.4.1. IAW DAFPD 17-2, Cyber Operations, ACC is designated as the USAF Lead Command for the cyber warfare operations mission area. Therefore, the Commander of ACC (COMACC) is responsible for the overall management of USAF cyberspace operations training programs for all assigned cyberspace forces.

1.4.2. ACC/A3 is the focal point for all formal cybercrew training management and is responsible for formal school training matters such as curriculum, standardization of training programs, and training range management.

1.4.2.1. ACC/A3 may issue updated mission continuation training guidance via Ready Cybercrew Program (RCP) Tasking Memorandums as necessary to Operations Group Commanders (OG/CC) for implementation.

1.4.3. The following organizations will coordinate their activities with ACC/A3 to ensure resources are available to support cybercrew training requirements.

1.4.3.1. Air Combat Command Manpower and Personnel Directorate (ACC/A1).

1.4.3.2. Air Combat Command Intelligence Directorate (ACC/A2).

1.4.3.3. Air Combat Command Logistics, Engineering and Force Protection Directorate (ACC/A4).

1.4.3.4. Air Combat Command Directorate of Plans Programs and Requirements (ACC/A5/8/9).

1.4.3.5. Air Combat Command Comptroller (ACC/FM).

1.4.4. Air Combat Command Information Warfare Division (ACC/A3/2/6K), and the Wing commander (WG/CC) are generally responsible for overseeing TNO formal training programs, including the development and execution of the standard school training syllabi. The WG's FTU is responsible for the initial qualification of all TNO cybercrew members per this manual and Education Training Course Announcements (ETCA).

1.4.5. ACC/A3/2/6K will:

1.4.5.1. Oversee all TNO formal training.

1.4.5.2. Monitor the quality of training for TNO students.

1.4.5.3. Coordinate prerequisite waivers for all TNO cybercrew training courses.

1.4.5.4. Determine the annual Trained Personnel Requirement (TPR) necessary to maintain adequate TNO cybercrew force levels.

1.4.5.5. Allocate and monitor student quotas for cybercrew training courses supporting TNO units.

1.4.5.6. Ensure Standardization/Evaluation (Stan/Eval) trend analysis data is incorporated into formal cybercrew training course reviews and the RTM.

1.4.5.7. Review and approve syllabi and Course Lesson Map (CLM) for all TNO formal cybercrew training courses.

1.4.5.8. Monitor graduate field evaluation programs per DAFI 36-2670, *Total Force Development*.

1.4.5.9. Manage TNO simulator certification.

1.4.5.10. Ensure TNO FTU school students meet appropriate formal school course prerequisites or possess an applicable waiver before attending.

1.4.5.11. Conduct formal course syllabi reviews at least biennially.

1.4.6. Air Combat Command Information Warfare Systems Division (ACC/A52K) will:

1.4.6.1. Manage the acquisition and modification of TNO cybercrew training devices in coordination with AFMC Air Force Life Cycle Management Center Cyber Warfare Mission Systems Branch (AFLCMC/HNCO).

1.4.6.2. Program sufficient funding to satisfy identified deficiencies in TNO crew training systems and ranges and maintain concurrency between mission, weapon, mission systems, and crewmember training devices, systems, and ranges if aligned with command priorities and available funding.

1.4.6.3. Coordinate with AFLCMC/HNCO to develop Type 1 training as a condition of fielding new TNO weapon systems, mission systems, and existing system upgrades and modifications.

1.4.7. Numbered Air Force (NAF) will:

1.4.7.1. Establish a cybercrew training office which is responsible for the overall management of the TNO cybercrew training program.

1.4.7.2. Maintain oversight of the TNO cybercrew training within its chain of command.

1.4.7.3. Convene conferences and working groups, as necessary, to review and improve training policies and procedures.

1.4.7.4. Validate, approve, and provide guidance on the implementation and use of formal operations training Master Training Task Lists (MTTLs) in coordination with affected MAJCOMs.

1.4.8. Wing (WG) will:

1.4.8.1. Via a letter of appointment, the WG/CC, or their designated representative, will assign at least one officer and one TNO instructor-qualified NCO to the training office.

1.4.8.1.1. The assigned officer will maintain, at a minimum, Basic Mission Capable (BMC) status in the Cybercrew Commander (CCC) position.

1.4.8.1.2. The NCO will maintain, at a minimum, BMC status in the operator position.

1.4.8.2. Additional crewmembers may be added when deemed necessary by unit and WG leadership.

1.4.8.3. Develop programs to effectively meet training objectives, provide necessary staff support, and assist subordinate units in managing training programs to meet unit needs.

1.4.8.4. Determine annual formal cybercrew training requirements and submit the requirements to ACC/A3/2/6K.

1.4.8.5. Ensure subordinate training offices are trained in regulations, procedures, and other facets of job performance.

1.4.8.6. Monitor resources required to meet TNO crew training requirements. Identify and report deficiencies in manpower, personnel, facilities, and training equipment to the NAF and MAJCOM Functional Area Managers (FAMs) each quarter.

1.4.8.7. Ensure contractor support for TNO cybercrew training devices and courseware is managed IAW ACCI 11-251, *ACC Operations Training Development Program*.

1.4.8.8. Provide effective range environments to maintain cybercrew readiness IAW the TNO RTM.

1.4.8.9. Review and approve TNO syllabi and training plans for all unit-developed cybercrew training courses and provide an information copy to ACC/A3/2/6K.

1.4.9. Operations Group (OG) will:

1.4.9.1. Direct MQT, CT, UT, and SMQ/C activities within units employing TNO capabilities.

1.4.9.2. Ensure RTM guidance implementation to include training profile updates and squadron (SQ) dissemination.

1.4.9.3. Ensure SQs establish annual training plans, conduct quarterly training review boards, and identify crewmembers for upgrade.

1.4.9.4. Ensure SQ Stan/Eval trend data and instructor feedback are reviewed at a group-wide level semi-annually. Disseminate pertinent information from the review to each SQ for incorporation into the SQ training plan.

1.4.9.5. Establish procedures for review and quality control of training documentation.

1.4.9.6. Monitor resources required to meet TNO cybercrew training requirements and identify and report deficiencies in manpower, personnel, facilities, or training equipment to NAF and MAJCOM FAMs.

1.4.9.7. Produce a simulator event certification letter to delineate training that may be accomplished in specific Cybercrew Training Devices (CTD).

1.4.9.8. Validate CTD suitability to count simulator time for upgrades and training levels.

1.4.9.9. Identify, develop, and implement difference training (DT) based on TNO mission system upgrades or modifications.

1.4.10. Squadron Commanders (SQ/CCs) will:

1.4.10.1. Ensure the operations training office is staffed by a Chief of Training and at least one instructor for each TNO cybercrew position. The SQ Chief of Training and all SQ instructors will maintain CMR status in at least one of the TNO cybercrew positions.

1.4.10.2. Ensure TNO cybercrew training is documented for MQT, RQT, CT, and UT. Process ACC Form 4419, *Record of Training* or its equivalent in Patriot Excalibur (PEX), or another approved tracking mechanism.

1.4.10.3. Ensure RTM guidance implementation and ensure crewmembers complete the in-unit mission and CT programs.

1.4.10.4. Register all in-bound personnel into the appropriate TNO IQT course based on the member's RNLTD to the unit. Review training records of newly assigned TNO crewmembers and those completing formal training to determine the amount and type of training required to achieve BMC or CMR status and to ensure the provisions of this volume are met.

1.4.10.5. Develop a unit training program IAW WG and OG guidance and design training to achieve the highest degree of readiness consistent with safety and resource availability. Training must balance the need for realism against the expected threat, cybercrew capabilities, and safety.

1.4.10.6. Ensure training is conducted IAW applicable USCYBERCOM Job Qualification Standard) JQS and ACC-approved Training Task Lists (TTLs) to conduct qualification and UT.

1.4.10.7. Establish, publish, and maintain an annual SQ training plan, and manage training allocations.

1.4.10.7.1. Conduct quarterly training review boards to monitor training, correct deficiencies, and identify crewmembers for upgrade.

1.4.10.7.2. Ensure Stan/Eval trend analysis data and instructor feedback are collected, analyzed, and incorporated into the SQ training plan.

1.4.10.8. Supplement this manual as required and forward the supplement to ACC/A3/2/6K for approval consideration.

1.4.10.9. Manage unit operations training programs to ensure compliance with this manual and applicable USAF guidance regarding the training of TNO cybercrew members.

1.4.10.10. Submit waivers IAW **Paragraph 1.6** and maintain a waiver tracking log.

1.4.10.11. Monitor the status of unit training. Ensure flight commanders, or the designated representative, monitors the quality of training and identifies training deficiencies within the training office.

1.4.10.12. Submit all unit developed TNO training programs to the Operations Support Squadron (OSS), or its equivalent office, for review and approval by the WG/CC.

1.4.10.13. Track CT and notify individuals when they are at risk of losing currency and when currency is lost.

1.4.10.14. Maintain training materials and equipment for recurring training events. Periodically review training materials, tests, and computer-based instruction utilized for currency. (Not required when maintained by WG/OG).

1.4.11. FTU will:

1.4.11.1. Oversee operations, logistics, and administration of TNO Cyberspace Operator (CO) IQT.

1.4.11.2. Conduct and monitor TNO CO IQT to meet all course objectives and standards. This includes monitoring and adjusting syllabi content and quality to produce crewmembers who are prepared to enter and complete MQT. ACC/A3/2/6K-led Training Planning Teams (TPT) are the primary conduit for significant changes.

1.4.11.3. Administer end-of-course critiques and graduate field evaluations. Forward a summary of all comments and evaluations to ACC/A3/2/6K for review. Coordinate with ACC/A3/2/6K to ensure formal school graduates effectively meet unit requirements.

1.4.11.4. Maintain a class roster of student entries and graduates for each formal course and award DAF Form 1256, *Certificate of Training*, to graduates per ETCA guidance. Maintain a record of certificates issued, including graduate's name, rank, course completed, course number, course entry and completion dates, and automated personnel data system (PDS) course code. Capture training performance on the ACC Form 4419.

1.4.11.5. Prepare a resource impact memo (manpower, funds, facilities, etc.) to ACC/A3/2/6K for coordination for all formal training course syllabus changes upon receipt of the updated syllabus for review.

1.4.11.6. Recommend required changes to ETCA through appropriate channels to ACC/A3/2/6K.

1.4.11.7. Notify ACC/A3/2/6K and the gaining units, in writing, when student graduation dates are extended 15 days past the scheduled date, or if students may graduate training without completing all syllabus-training requirements.

1.4.11.8. Forward all training records to the student's gaining unit, or units of assignment, within 30 days of graduation.

1.4.11.9. Prepare a biannual report of student training status and forward it through appropriate channels to ACC/A3/2/6K.

1.4.12. Instructors will:

1.4.12.1. Be a graduate of a USAF, partner-service, or approved equivalent instructor course. (e.g., Weapons Instructor Course (WIC), Advanced Instructor Course (AIC), Instructor Methodology Course (IMC)).

1.4.12.2. Be certified as a USAF K-Prefix instructor, complete an evaluation, and be certified for the appropriate position.

1.4.12.3. Be thoroughly familiar with all courseware and contents of the applicable attachments to this manual for qualification, upgrade, and specialized training which they must administer.

1.4.12.4. Review the student's training records before performing each mission, event, or training session.

1.4.12.5. Conduct a thorough pre-mission brief to ensure that the student understands the required tasks and the standards against which their performance will be measured.

1.4.12.6. Conduct a post-mission critique to ensure the student understands any deficiencies associated with their performance as measured against the established standards.

1.4.12.7. Ensure the student demonstrates the required level of knowledge and proficiency in all required training areas before signing the training completion documents.

1.4.12.8. Complete and sign all required training items prior to recommending the student for an evaluation or certification in a mission or procedure.

1.4.12.9. Instruct at all qualification levels for which they are qualified or certified and current, unless specifically restricted by USAF, HHQ, ACC, or other applicable guidance or directives.

### **1.5. Telephony Network Operations (TNO) Cybercrew Training Policy.**

1.5.1. The primary training method for TNO IQT is attendance at an ETCA formal school. The secondary method for IQT and primary methods for UT and RQT are in-unit training using applicable standard school courseware. Accomplish RQT IAW ACCI 17-202V1.

1.5.2. Secondary Method Training (SMT). SMT requires a waiver be submitted through appropriate channels IAW ACCI 17-202V1.

1.5.3. Any cybercrew member previously disenrolled from a formal ETCA course for substandard performance is ineligible for SMT. **(T-2)**

1.5.4. ACC-approved DT may be conducted in-unit without a waiver.

1.5.5. Training on Operational Events. Unless specifically prohibited or restricted by cyber capability or mission area, operating procedures, specific theater operations orders (OPORDs), or specific HHQ guidance, the SQ/CC may approve MQT, RQT, UT, or CT during operational events.

1.5.6. Training on Restricted Status. Cybercrew members on restricted status may log training events on training systems and ranges, if the condition of their restriction allows.

1.5.7. On-crew Supervision. Unless specifically directed, the unit CC will determine the level of supervision necessary for accomplishing required training. If the mission objectives include introduction to tasks or instructions to correct previous discrepancies, then an instructor is normally required.

1.5.8. The following personnel must be supervised by a qualified or certified and current instructor from a like cybercrew position when performing crew position duties:

1.5.8.1. Non-current cybercrew members.

1.5.8.2. Cybercrew members in initial training, DT, UT, or RQT.

1.5.8.3. Cybercrew members on restricted status.

1.5.8.4. Senior officers (deputy group CC or higher) who have not completed IQT.

### **1.6. Waivers.**

1.6.1. Approved waivers remain in effect for the requested timeframe, or ninety calendar days after the approving commander's tour length expires, IAW DAFMAN 90-161. OG/CCs are the delegated waiver authority for all RTM requirements, with the exception of Lookback requirements.

1.6.1.1. Waiver authority for supplemental guidance will be specified in the supplement and approved through the higher-level coordination authority.

1.6.2. Waivers to the requirements of this manual will be submitted via DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval*, IAW DAFMAN 90-161. Waivers will be routed through the WG or OG training office, to the

WG/CC or OG/CC. The respective commander will then route the waiver to the appropriate office IAW [Table 1.1](#).

1.6.3. Units will maintain waiver logs for one year.

**Table 1.1. Processing Waivers to ACCMAN 17-2TNOV1 Requirements.**

If a waiver is requested by:	Send waiver request to:	Waiver authority will send approval or disapproval to:	With information copies to:
Active Duty Wing or Group	ACC/A3/2/6K	OG/CC	WG/CC
ANG	ACC/A3/2/6K	OG/CC	WG/CC
AFRC	ACC/A3/2/6K	OG/CC	WG/CC
FTU	ACC/A3/2/6K	OG/CC	WG/CC
USAFWS	USAFWS Commandant (USAFWS/CO) to ACC/A3/2/6K	USAFWS/CO	WG/CC

### 1.7. Initial Cadre for New Capabilities or Changes in Capabilities.

1.7.1. Air Combat Command Standardization and Evaluation Branch (ACC/A3TV) is the approval authority for the formation of all initial cadre. Per ACCI 17-202, Volume 2, *Cybercrew Standardization/Evaluation Program*, paragraph 5.12, operational units will submit a proposed initial cadre appointment letter through ACC/A3TV for ACC/A3 approval for new capabilities and major changes to existing capabilities. An initial cadre is not required for minor capability modifications when the required training is provided by the contractor or can be easily accomplished in-unit. ACCI 17-202V2 provides further initial cadre requirements guidance.

1.7.2. Crewmembers will not perform crew duties with new or modified capabilities until training is accomplished. DT will be conducted for new equipment and new or modified capabilities. The crewmember's completed training will be logged on a letter of X's, or a Memorandum for Record (MFR), as well as on ACC Form 4419.

### **1.8. Unit Cybercrew Capability.**

1.8.1. Unit CCs will ensure crewmembers are trained to meet the requirements specified in their unit's DOC statement. Supervisory TNO crew and staff members assigned above the SQ level should maintain CMR or BMC status, as directed or as necessary.

### **1.9. Ready Cybercrew Program Tasking Memorandum (RTM).**

1.9.1. ACC/A3 will determine training requirements for subordinate units. Combatant Commander (CCMDR) requirements are dynamic and therefore training, requirements, and currencies may be updated or altered when necessary.

1.9.2. ACC/A3/2/6K is responsible for the publication and management of RTMs. The RCP training cycle is twelve months in duration, aligned with the fiscal year, and is executed IAW the RTM. Training and currency requirements may be adjusted during the RTM cycle through the publication of an out-of-cycle RTM. ACC/A3/2/6K will provide an information copy of the RTM to ACC/A3 when changes are made.

1.9.3. Each RCP CT status (e.g., CMR or BMC) is defined by the total number of RCP training events, and associated currencies, as determined by HHQ guidance and unit CCs. The total number of events for CMR or BMC is the primary factor for maintaining a member's status.

1.9.3.1. Failure to accomplish all training requirements may lead to a member's regression, at the discretion of the unit CC, or their designated representative. Additional information about regression is in the TNO RTM.

### **1.10. Public Administration.**

1.10.1. Distribution. Distribution of this ACCMAN is authorized to ACC, NGB, and AFRC units fielding TNO crewmembers, as well as the FTU. Distribution of this manual to all TNO crewmembers is authorized.

1.10.1.1. This manual may be disturbed to units, organizations, and individuals outside of these commands, or to members not associated with the TNO mission, only with approval from ACC/A3/2/6K. Requests for distribution, which must include a justification, will be submitted to ACC/A3/2/6K for approval consideration.

1.10.2. Supplements. Forward all supplements to this manual to ACC/A3/2/6KO. The supplements will then be forwarded to ACC/A3/2/6K for approval consideration. Supplements classified at Classified Unclassified Information (CUI) or higher will have the appropriate control measures applied.

## Chapter 2

### INITIAL QUALIFICATION TRAINING (IQT).

**2.1. Overview.** This chapter outlines the minimum requirements for BCQ training in the TNO operator crew position. BCQ is a prerequisite for MQT.

#### **2.2. General Requirements.**

2.2.1. The primary method for operator IQT is the appropriate formal training course listed in ETCA. Completing the ETCA course satisfies the requirements of this chapter. When IQT attendance is impractical or quotas are unavailable, units may request a waiver to conduct this training in-unit. Further guidance related to in-unit minimum requirements are found in ACCI 17-202V1.

2.2.2. In-unit IQT waivers will not be given for Airmen that previously failed to graduate the ETCA formal course. These Airmen are required to re-attempt the ETCA standard course to qualify.

**2.3. Training Prerequisites.** Course prerequisites are IAW the appropriate formal course syllabi, the ETCA, ACCI 17-202V1, and this manual.

#### **2.4. Training Requirements.**

2.4.1. Training sequence and prerequisites will be IAW the appropriate formal course syllabus.

2.4.2. Training will be completed within the time specified by the syllabus. Failure to complete training within the specified time requires notification and approval through the appropriate channels to the SQ/CC with the TNO crewmember's name, rank, reason for the delay, planned actions, and estimated completion date.

2.4.3. Members in IQT will not have AF supervisory responsibility or additional duties. **(T-2)**

2.4.4. Members in IQT will train under appropriate supervision as annotated in the formal course syllabus until accomplishing a QUAL evaluation.

2.4.5. Formal course syllabus mission objectives and tasks are the minimum requirements for IQT. Additional training events, based on student proficiency and background, may be incorporated into the IQT program. Additional training, due to a student's lack of progression, is available within the constraints of the formal course syllabus and may be added at the discretion of the unit CC, or their designated representative.

#### **2.5. Initial Qualification Training (IQT) for Senior Officers.**

2.5.1. Senior officers will complete IQT as prescribed above, unless waived IAW ACCI 17-202V1. [**Note:** Senior Officer is defined for the purposes of this ACCMAN as an officer serving as the deputy group commander, or in a higher position.]

2.5.2. Senior officers must meet course entry prerequisites and will complete all syllabus requirements unless waived IAW ACCI 17-202V1.

2.5.3. Senior officers who are trained at the base to which they are assigned will be considered in **formal training status** for the duration of IQT.

## Chapter 3

### MISSION QUALIFICATION TRAINING

#### 3.1. Overview.

3.1.1. This chapter establishes minimum requirements for completing MQT and RQT in the TNO operator crew position.

#### 3.2. General Requirements.

3.2.1. The primary TNO operator mission qualification method is through an operational unit developed MQT program that upgrades newly assigned BCQ operators to CMR in order to (IOT) accomplish the unit's mission. Applicable portions of MQT may be used to create a requalification program for TNO crewmembers who have regressed from CMR to address the deficiencies that caused the crewmember's regression.

3.2.2. Operators must complete MQT before capability employment in operational events.

3.2.3. Personnel in MQT should not be assigned supervisory responsibility or additional duties until training is completed.

3.2.4. TNO crewmembers will be BMC or CMR after completion of academic and operational training, review, completion of an evaluation, and received certification by the appropriate certifying official.

3.2.5. MQT should use profiles typical of SQ or Joint Task Force (JTF)-assigned missions and will qualify graduates at the CMR status. The unit CC, or their designated representative, will determine which capabilities will be covered in MQT.

3.2.6. Current and available reference materials, such as the JCTM, other applicable tactics publications (AFTTP 3-1s, 3-3s, etc.), unit guides, study guides, and other available training material and programs will be used as supporting materials to the maximum extent possible.

3.2.7. Training should include local area requirements and procedures.

3.2.8. TNO crewmembers in MQT will train under the supervision of qualified or certified and current instructors.

3.2.9. Each TNO crewmember must complete all applicable IQT requirements before entering MQT. (T-2)

3.2.10. MQT requirements may be completed during operational missions under the supervision of a qualified or certified and current instructor in the same position, with the unit CC's approval.

#### 3.3. Time Limits.

3.3.1. Newly assigned TNO crewmembers will be enrolled in MQT within 30 days (90 days for ANG/AFR) of arrival at their gaining unit and upon completion of IQT, security clearance, and indoctrination requirements, unless the unit CC grants an extension in writing.

**3.4. Mission Qualification Training (MQT) for Senior Officers.**

3.4.1. All senior officer MQT courses will be conducted in-unit. Senior officers must meet course entry prerequisites and will complete all syllabus requirements unless waived by ACC/A3.

## Chapter 4

### CONTINUATION TRAINING (CT)

#### 4.1. General.

4.1.1. This chapter establishes the minimum crewmember training requirements to maintain currency for CMR status in any crew positions which they are qualified or certified. Individual proficiency may require a more significant number of training events. Standardized training event identifiers, descriptions, and quantities needed for currency at the CMR rate are in the TNO RTM and may reside at a higher classification level.

4.1.2. Units will add unit-specific events, as required, to include a description in their local training documents. The SQ/CC, or their designated representative, will ensure each crewmember receives sufficient training to maintain individual currency and proficiency.

#### 4.2. Crew Status.

4.2.1. All Cybercrew Position Identifier (CPI)-1/-2/-A/-Z TNO crewmembers, found in [Table A2.1](#), must maintain CMR status.

4.2.2. CMR. For Resource Readiness, a crewmember who satisfactorily passed all qualification or UT for a given crew position and maintains currency IAW the TNO RTM in the command or unit's combat mission.

4.2.3. Non-Combat Mission Ready (N-CMR). A crewmember that is non-current in the unit or command's combat mission.

4.2.4. CT Requirements. Completion and tracking of CT is ultimately the responsibility of the individual crewmember. Crewmembers should actively work with their supervisors, unit schedulers, and training office to ensure accomplishment of their CT requirements.

4.2.5. Crewmembers attached to units with primary missions other than TNO, serving as augmentees, are responsible for deconflicting time to maintain currency as well as reporting accomplished training events to their attached unit.

#### 4.3. Cybercrew Training Levels (CTLs).

4.3.1. Experience-based training levels provide clear delineations of a crewmember's level of training and proficiency which allows the unit CC to effectively prioritize training resources and account for the overall experience level within the unit. IAW the TNO RTM, unit CCs have the authority to determine the numerical value of a "mission hour".

4.3.1.1. The valuation of a mission hour may be decided by several factors to include, task complexity, cybercrew compliment, objective, level of automation utilized, and other factors deemed relevant by the unit CC. Once the minimum requirements in [Table 4.1](#) and the TNO RTM requirements are accomplished, awarding a training level to a crewmember is at the sole discretion of the unit CC. [**Note:** Unit leadership will determine what is quality/meaningful experience when deciding to award a new CTL level.]

**Table 4.1. Cybercrew Training Level (CTL) Requirements.**

Crew Position	Experienced (CTL-B)	Inexperienced (CTL-A)
Crew Commander (CCC)	600 hours on crew as CCC	Completion of UT
Operator (CO)	600 hours on crew as CO	Completion of MQT

**4.4. Training Events.**

4.4.1. Unit-specific training events can include, but are not limited to, the following elements.

4.4.1.1. Applicable skills identified within the JCTM, AFTTP 3-1.NAS, *Network Attack System (NAS)*, and other relevant documents pertaining to the execution of the unit's mission.

4.4.1.2. Any specialized training to support specific weapons, tactics, mission capabilities, rules of engagement (ROE), and other mission-related activities.

4.4.1.3. Weapons and Tactics Academic Training. Units will establish a weapons and tactics academic training program to teach relevant skills published in the JCTM, AFTTP 3-1.NAS, or other appropriate tactics manuals. **(T-2)**

**4.5. Mission Training Events and Ready Cybercrew Program Training Memorandum (RTM) Requirements.**

4.5.1. Mission Training Events. Crewmembers will comply with the requirements of the TNO RTM for their respective cybercrew position. Total events are minimums, which ensure training continually meets all DOC tasked requirements and may not be reduced except in proration or through a waiver. Failure to accomplish events in the TNO RTM tables may lead to regression from the CMR status.

4.5.1.1. The TNO RTM defines currency requirements for CMR crewmembers and takes precedence over this volume where the RTM is more restrictive. Crewmembers may not instruct, evaluate, or perform any event in which they are not qualified or certified and current. Regression and lookback criteria are defined in [paragraph 4.5.2](#), and the immediate sub-paragraphs.

4.5.1.2. Currency may be established or updated by the following:

4.5.1.2.1. Accomplishing the event as a qualified or certified and current crewmember provided the member's currency has stayed the same.

4.5.1.2.2. Accomplishing the event as a qualified or certified crewmember, who is non-current, under direct supervision of a qualified or certified and current instructor in the same, or similar, cybercrew position.

4.5.1.2.3. Events satisfactorily performed on any evaluation may be used to establish or update currency in that event.

4.5.1.2.3.1. When a crewmember loses currency, the crewmember will be placed on restricted status. A crewmember on restricted status will only perform a mission or event for the purpose of regaining currency. The crewmember's duties must be performed under the direct supervision of a qualified or certified and current supervising crewmember.

4.5.1.2.3.2. Individuals qualified or certified in multiple cybercrew positions must meet currency requirements for each cybercrew position to maintain CMR. To the extent that the same tasks are required for multiple cybercrew positions in which a crewmember is qualified or certified, they only need to satisfactorily complete the task once to be credited to all applicable cybercrew position currency requirements.

4.5.1.3. Non-current events must be satisfied before the crewmember is considered qualified or certified to perform their respective tasks unsupervised. Loss of currency affecting CMR status will require regression to N-CMR.

4.5.1.4. Unit CCs may approve evaluations or training administered by an outside agency, mission partner, or designated organization as “equivalent” for the purpose of establishing or updating currency.

4.5.1.5. Unit CCs may waive currency requirements that are unique to an organization when accomplishment of the associated requirements is not practical. In such cases, CCs will ensure that the member is current and qualified or certified in all normal and emergency procedures (EPs) before performing their duties unsupervised.

4.5.1.6. Fulfilling Lookback requirements does not guarantee that the member will maintain currency. If a member loses currency refer to [paragraph 4.5.1.2](#) and the immediate subsequent sections of this manual for the requirements to regain currency and the respective timelines.

4.5.1.7. The TNO RTM defines currency requirements for CMR crewmembers and takes precedence over this volume where the RTM is more restrictive.

4.5.2. Regression. Individuals who fail to meet the minimum event requirements will regress in operational status and must perform recovery actions as identified below to recover their previous readiness status.

4.5.2.1. Failure to meet 1-month lookback (3-month Air Reserve Components). If a crewmember fails to meet the 1-month lookback, unit will review crewmember’s 3-month lookback for the applicable crew position. If 3-month lookback requirements are met, the crewmember may continue to perform crew duties in their assigned crew position at the SQ/CC’s discretion. If kept at CMR status, the crewmember must meet the next 1-month lookback or be regressed to N-CMR. **(T-2)**

4.5.2.2. Failure to meet 3-month lookback. The crewmember regresses from CMR to N-CMR. The crewmember regains currency by performing the necessary training events under instructor supervision. All deficient training events must be accomplished within 30 calendar days to regain previously held status, CMR, in a crew position. If the crewmember fails to make up the deficient training events within 30 days, they regress to be unqualified in the crew position in which they initially failed to meet the 3-month lookback. The crewmember can regain qualification through SQ/CC prescribed RQT.

4.5.2.3. If more than 180 days elapse since lookback requirements were last met, IOT requalify or recertify, the unqualified member must repeat MQT for the CO position or UT for the CCC position. **(T-2)**.

4.5.2.4. If more than 365 days have elapsed since successfully meeting lookback requirements, as defined in the TNO RTM, for a given crew position, the crewmember must accomplish IQT for the CO position or UT for the CCC position. (T-2)

4.5.2.5. Regression Due to Failed Evaluations. TNO crewmembers who fail a periodic evaluation will be deemed unqualified and will regress to N-CMR. Crewmembers will remain N-CMR until completing the required corrective action(s) and passing an evaluation. (T-2)

4.5.2.6. Failure to Maintain Standards. If a qualified crewmember demonstrates a lack of proficiency or knowledge, then the unit CC may elect to regress the crewmember to N-CMR. The crewmember will remain in N-CMR status until the completion of the corrective action(s), as determined by the unit CC. The crewmember must also complete a re-evaluation by a qualified or certified examiner IAW ACCMAN 17-2TNOV2, *Telephony Network Operations (TNO) - Standardization/Evaluation Program*.

4.5.2.7. Loss of Currency. Failure to accomplish the events listed in the TNO RTM training tables will result in loss of currency for that event. Crewmembers will become non-current on the date immediately after the event expires. A crewmember may still retain CMR status in specific events if they meet the overall Lookback mission requirements IAW the TNO RTM.

**4.6. Multiple Qualification/Currency.** Crewmembers who are qualified in multiple roles will maintain currency for their primary role at the CMR level. The crewmember(s) will maintain their additional role(s) at the CMR level or higher.

#### **4.7. Proration of Training.**

4.7.1. Prorate cybercrew training requirements when crewmembers are not available for cybercrew duty due to Permanent Change of Station (PCS), non-crew-duty Temporary Duty (TDY), emergency leave, or other unavoidable circumstances which prevent the member from meeting the TNO RTM requirements.

4.7.1.1. The SQ/CC or their designated representative should prorate any training requirements precluded by the following events: initial arrival date in Squadron, non-chargeable leave periods (e.g., parental, emergency, convalescent), non-mission TDY, PCS, or non-mission exercises or deployments. Other extenuating circumstances, as determined by the SQ/CC, that prevent the crewmember from mission duties for more than 15 consecutive days may be considered as non-availability for proration purposes. (T-3)  
The following guidelines apply:

4.7.2. Proration will not be used to mask training or planning deficiencies.

4.7.3. Proration is based on cumulative days of non-availability for mission duties in a training cycle. Use [Table 4.2](#) to determine the number of months to be prorated based on each period of cumulative non-mission duty calendar days.

4.7.4. If IQT or MQT is re-accomplished, a crewmember's training cycle will start over and the crewmember's cumulative non-availability days resets, following completion of IQT/MQT.

**Table 4.2. Proration Allowance.**

CUMULATIVE DAYS OF NON-MISSION ACTIVITY	PRORATION ALLOWED (Months)
0 – 15	0
16 – 45	1
46 – 75	2
76 – 105	3
106 – 135	4
136 – 165	5
166 – 195	6
196 – 225	7
226 – 255	8
256 – 285	9
286 – 315	10
316 – 345	11
Over 345	12

## Chapter 5

### UPGRADE AND SPECIALIZED TRAINING

#### 5.1. General.

5.1.1. This chapter outlines the prerequisites and training requirements for qualified TNO cybercrew members to upgrade to additional levels of qualification or earn SMQ/C.

5.1.2. CCs should consider experience, knowledge, and judgement when identifying candidates for upgrade for any cybercrew positions and roles. Upgrade programs may be taught at the in-unit, utilizing ACC approved TTLs, course syllabi, and courseware. The SQ develops, maintains, and distributes courseware for all TNO UT courses.

5.1.3. Crewmembers enrolled in any UT or SMQ/C will complete the training IAW applicable training syllabus or within 60 calendar days of enrollment unless an extension is granted by SQ/CC and documented on a MFR and filed in the member's Individual Training Folder.

#### 5.2. Crew Commander (CCC) Upgrade.

5.2.1. CCs may select members who are experienced CMR operators to be trained and qualified as a CCC. Nominees should have an in-depth knowledge of systems, TTPs, and instructions before entry into the upgrade program.

5.2.2. CCCs will maintain currency in the operator crew position at the experienced/CMR rate, as specified in the RTM, throughout training and for as long as they are qualified as an operator.

#### 5.3. Instructor Upgrade.

5.3.1. This section establishes the minimum time requirements for a TNO crewmember to upgrade to an instructor and evaluator. Unit CCs should personally review each instructor candidate's qualifications and select instructors based on their background, experience, maturity, and ability to instruct. Instructors may facilitate training for any crew position or event in which they are qualified/certified and current. The following characteristics must be considered:

5.3.2. Instructor Candidates. All instructor upgrade candidates must be CMR in their unit's mission for a minimum of six months, meet the CTL-B requirements for their cybercrew position, meet the crew hour requirements listed in [Table 5.1](#), and be nominated by the unit CC, or the CC's designated representative.

5.3.2.1. Instructor candidates should demonstrate skill and proficiency in TNO systems, TTPs, and the capabilities employed by their unit. The assessment and determination of the individual will be made by the unit CC, or the CC's designated representative.

5.3.2.2. The instructor candidates must be thoroughly familiar with TNO systems, equipment, and operating procedures for both normal and emergency operating conditions. All instructor candidates must be thoroughly familiar with crew-resource management, intelligence gain/loss considerations (ITL), technical gain/loss (TGL) considerations, cyberspace operations training, and cyberspace operations publications.

5.3.3. Instructional Ability. An instructor should understand the core concepts of the USAF Principles of Instruction (POI) course and demonstrate an ability to effectively implement all applicable course material. [Note: Graduation of POI, or an equivalent course as identified in [paragraph 1.4.12.1](#) of this ACCMAN is mandatory.]

5.3.4. Judgment. Instructors should possess the judgment necessary to meet unexpected or unplanned emergencies, and the ability to exercise sound judgment through mature realization of their own, their students, and the system's limitations.

5.3.5. Training. Instructor training will include methodology of instruction and ensure instructor candidates are proficient in evaluating, diagnosing and critiquing student performance, identifying learning objectives and difficulties, and prescribing and conducting remedial instructions. The instructor candidate must be able to conduct instruction in all training venues (e.g., classroom, training devices, and operations floor).

5.3.6. Demonstration. All instructor candidates will demonstrate to an examiner their ability to instruct and perform selected tasks and items IAW applicable directives. The unit CC, or their designated representative, will indicate instructor certification on a letter of X's forwarded to and maintained by the WG training office.

5.3.7. Instructors are denoted through use of the K-prefix with their duty AFSC IAW:

5.3.7.1. for officers the *USAF Officer Classification Directory (AFOCD)* found at: <https://www.recruiting.af.mil/Portals/78/Docs/Forms/AFOCD-%202030%20Apr%202023%20-v3.pdf?ver=zgRDkT74dIskDrpe9kWPvA%3D%3D>.

5.3.7.2. for enlisted the *Department of the Air Force Enlisted Classification Directory (DAFECD)* found at : <https://myfss.us.af.mil/USAFCommunity/s/view-file?id=06983000000QQfcAAG>

5.3.7.3. Document on ACC Form 4418, *Certificate of Cybercrew Certification*, or AF Form 8, *Certificate of Aircrew Qualification*, IAW ACCI 17-202V2.

5.3.8. Instructors may conduct training for any cybercrew position or event in which they are qualified or certified and current.

5.3.9. TNO Experience. Instructors should possess TNO experience to include desired standards in both skill and proficiency in all TNO systems employed by their unit. Crew hours alone will not be accepted as criteria for selection to instructor.

**Table 5.1. Instructor Upgrade Requirements.**

Position	Total Hours	Tasks/Events to Complete Upgrade	Notes
CCC	2,000 hours	Instructor Training Course	See Notes 1, 2, & 3
CO	1,000 hours	Instructor Training Course	See Notes 1, 2, & 3
<b>Notes:</b>			
1. Instructor training must meet all ACCI 17-202V1, and other HHQ guidance requirements.			
2. Award of the "K" prefix will be IAW AF Officer and Enlisted Classification Directories.			
3. Total hours represent the accumulation of CTL-A requirements and additional hours as identified for each crew position.			

#### **5.4. Evaluator Upgrade.**

5.4.1. TNO evaluators are selected from the most qualified and competent instructors. CCs will ensure evaluator candidates demonstrate satisfactory knowledge of command training and evaluation policies and procedures. In addition, they should demonstrate the ability to administer an evaluation IAW ACCMAN 17-2TNOV2.

5.4.2. A TNO crewmember must be CMR as an instructor in their crew position for six months before upgrading to be an evaluator for that crew position. Evaluators are denoted using the Q-prefix with their duty AFSC IAW the *USAF Officer and Enlisted Classification Directories* and be documented on ACC Form 4418, *Certificate of Cybercrew Qualification*.

#### **5.5. Loss of Instructor or Evaluator Certification.**

5.5.1. Instructors and evaluators serve solely at the discretion of the unit CC. Instructors and evaluators exhibiting substandard performance should be reviewed for suitability of continued instructor or examiner duty.

5.5.2. Instructors and evaluators who do not meet currency requirements will lose their instructor or evaluators status for the area in which they lost currency. The crewmember will not serve as an instructor or evaluator in the respective cybercrew position or mission area until currency and instructor qualification or evaluator status is regained.

5.5.3. Crewmembers who lose instructor or evaluators status may regain their status by correcting identified deficiencies through completion of remedial training as specified by the unit commander, or their designated representative.

#### **5.6. Special Mission Qualification/Certification Training (SMQ/C).**

5.6.1. SMQ/C is training in any special skill which is necessary to carry out the unit's assigned mission that is not required by every crewmember. SMQ/C training may consist of special tactics, cyber capabilities, responsibilities, specific mission areas, etc. to maintain proficiency in unit-tasked special capabilities and missions.

5.6.2. The unit CC, or their designated representative, will select crewmembers who are qualified in the unit's mission to attain and maintain SMQ/C status. An evaluation is necessary for events requiring qualification. For events requiring certification, evaluators will utilize ACC Form 4418 or AF Form 8, IAW ACCI 17-202V2, to document completed crewmember certifications.

5.6.3. The Stan/Eval Flight will track crewmember's SMQ/C qualifications and certifications on the SQ's Letter of X's and provide a copy to the WG and OG training office.

## Chapter 6

### CYBERCREW TRAINING DOCUMENTATION

**6.1. Crewmember Records.** Establish and maintain crewmember records for individual training IAW:

6.1.1. ACCI 17-202, Volume 1, *Cybercrew Training*

6.1.2. ACCI 17-202, Volume 2, *Cybercrew Standardization/Evaluation Program*

6.1.3. Additional HHQ supplements to the above-mentioned volumes.

6.1.4. Use ACC Form 4419 and ACC Form 4420, *Individual's Record of Duties and Qualifications*, to document non-specific cybercrew training associated with mission qualification and to document any instructor training as well as *one-time* and *one-off* training events.

6.1.4.1. ACC Forms 4419 and 4420 which are used to record training will be maintained in the individual's cyber training folder per ACCI 17-202V1.

6.1.5. All records will be included in the crewmember's USCYBERCOM positional Joint Qualification Requirements (JQR), when applicable.

**6.2. Crewmember Tracking.** Track the following information for all crewmembers, as applicable.

6.2.1. Mission-related training (e.g., tactics, resource management, troubleshooting).

6.2.2. Requirements and accomplishment of individual training events, and mission types cumulatively for the training cycle.

6.2.3. RCP training events, requirements, and accomplishment using 1-month and 3-month running totals for Lookback requirements commensurate with CT status (CMR).

DAVID G. SHOEMAKER, Major General, USAF  
Director of Operations

**Attachment 1****GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION*****References***

ACCI 11-251, *ACC Operations Training Development Program*, 23 November 2021

ACCI 17-202V1, *Cybercrew Training*, 12 January 2021

ACCI 17-202V2, *Cybercrew Standardization/Evaluation Program*, 12 January 2021

ACCMAN 17-2TNOV2, *Telephony Network Operations (TNO) - Standardization/Evaluation Program*, 24 May 2024

AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020

AFI 33-332, *Air Force Privacy and Civil Liberties Program*, 10 March 2020

AFTTP 3-1.NAS, *Network Attack System (NAS)*, 24 August 2015

*Air Force Officer Classification Directory (AFOCD)*, 30 April 2023

DAFI 36-2670, *Total Force Development*, 25 June 2020

DAFMAN 90-161, *Publishing Processes and Procedures*, 18 October 2023

*Department of the Air Force Enlisted Classification Directory (DAFECD)*, 30 April 2024

DoDI 5400.11, *DoD Privacy and Civil Liberties Programs*, 29 January 2019

***Prescribed Forms***

None

***Adopted Forms***

ACC Form 4418, *Certificate of Cybercrew Qualification*

ACC Form 4419, *Record of Training*

ACC Form 4420, *Individual's Record of Duties and Qualifications*

AF Form 8, *Certificate of Aircrew Qualification*

DAF Form 1256, *Certificate of Training (LRA)*

DAF Form 679, *Department of the Air Force Publication Compliance Item Waiver Request/Approval*

DAF Form 847, *Recommendation for Change of Publication*

***Abbreviations and Acronyms***

**ACC**—Air Combat Command

**ACCI**—Air Combat Command Instruction

**ACCMAN**—Air Combat Command Manual

**AFMC**—Air Force Materiel Command

**AFOCD**—Air Force Officer Classification Directory  
**AFPD**—Air Force Policy Directive  
**AFRC**—Air Force Reserve Command  
**AFTL**—Air Force Task List  
**AFTTP**—Air Force Tactics, Techniques, and Procedures  
**AIC**—Advanced Instructor Course  
**ANG**—Air National Guard  
**ARC**—Air Reserve Component  
**BCQ**—Basic Cyber Qualified  
**BMC**—Basic Mission Capable  
**CC**—Commander  
**CCC**—Crew Commander  
**CCMDR**—Combatant Commander  
**CLM**—Course Lesson Map  
**CMR**—Combat Mission Ready  
**CO**—Cyber Operator  
**CPI**—Cybercrew Position Indicator  
**CT**—Continuation Training  
**CTD**—Cybercrew Training Device  
**CTL**—Cybercrew Training Level  
**DAFECD**—Department of the Air Force Enlisted Classification Directory  
**DOC**—Designed Operational Capability  
**DOT**—Director of Operational Training/Squadron Training Function  
**DT**—Difference Training  
**EP**—Emergency Procedure  
**ETCA**—Education Training Course Announcements  
**FAM**—Functional Area Manager  
**FTU**—Formal Training Unit  
**HAF**—Headquarters Air Force  
**HQ**—Headquarters  
**HHQ**—Higher Headquarters  
**IAW**—In Accordance With

**IMC**—Instructor Methodology Course  
**IOT**—In Order To  
**IQT**—Initial Qualification Training  
**ITL**—Intelligence Gain/Loss Considerations  
**JCTM**—Joint Cyber Tactics Manual  
**JMETL**—Joint Mission Essential Task List  
**JQR**—Joint Qualification Requirements  
**JQS**—Job Qualification Standard  
**JTF**—Joint Task Force  
**MAJCOM**—Major Command  
**METL**—Mission Essential Task List  
**MFR**—Memorandum for Record  
**MQT**—Mission Qualification Training  
**MTTL**—Master Training Task Lists  
**N-CMR**—Non-Combat Mission Ready  
**NAF**—Numbered Air Force  
**NAS**—Network Attack System  
**NCO**—Non-Commissioned Officer  
**NGB**—National Guard Bureau  
**OG**—Operations Group  
**OPORD**—Operations Order  
**OSS**—Operations Support Squadron  
**PBED**—Planning, Briefing, Execution, and Debriefing  
**PCS**—Permanent Change of Station  
**PEX**—Patriot Excalibur  
**POI**—Principles of Instruction  
**RCP**—Ready Cybercrew Program  
**RNLTD**—Report No Later Than Date  
**ROE**—Roles of Engagement  
**RQT**—Requalification Training  
**RTM**—RCP Tasking Memorandum  
**SMQ/C**—Special Mission Qualification/Certification

**SMT**—Secondary Method Training  
**SQ**—Squadron  
**Stan/Eval**—Standardization/Evaluation  
**TDY**—Temporary Duty  
**TGL**—Technical Gain/Loss  
**TNO**—Telephony Network Operations  
**TPR**—Trained Personnel Requirement  
**TPT**—Training Planning Teams  
**TTL**—Training Task List  
**TTP**—Tactics Techniques and Procedures  
**USAF**—United States Air Force  
**USAFWS**—United States Air Force Weapons School  
**USCYBERCOM**—United States Cyber Command  
**UT**—Upgrade Training  
**WG**—Wing  
**WIC**—Weapons Instructor Course

*Office Symbols*

**16 AF/CC**—16th Air Force Commander  
**ACC/A1**—Air Combat Command Manpower and Personnel Directorate  
**ACC/A2**—Air Combat Command Intelligence Directorate  
**ACC/A3/2/6K**—Air Combat Command Information Warfare Division  
**ACC/A3/2/6KO**—Air Combat Command Offensive Cyber Operations and Effects Branch  
**ACC/A3**—Air Combat Command Director of Operations  
**ACC/A3TV**—Air Combat Command Standardization and Evaluation Branch  
**ACC/A4**—Air Combat Command Logistics, Engineering and Force Protection Directorate  
**ACC/A5/8/9**—Air Combat Command Directorate of Plans Programs and Requirements  
**ACC/A52K**—Air Combat Command Information Warfare Systems Division  
**ACC/FM**—Air Combat Command Comptroller  
**AFLCMC/HNCO**—Air Force Life Cycle Management Center Cyber Warfare Mission Systems Branch  
**COMACC**—Commander, Air Combat Command  
**USAFWS/CO**—United States Air Force Weapons School Commandant

### *Terms*

**Additional Training**—Training recommended to remedy deficiencies identified during an evaluation that must be completed by a specific due date. This training may include self-study or simulator. Additional training must include demonstration of satisfactory knowledge or proficiency to examiner, supervisor, or instructor (as stipulated in the Additional Training description) to qualify as completed.

**Attached Personnel**—Anyone not assigned to the unit but maintains qualification through that unit. Headquarters Air Force (HAF) augmented personnel are an example of attached personnel.

**Basic Cyber Qualified (BCQ)**—A crewmember who has satisfactorily completed IQT. The crewmember will carry BCQ only until completion of MQT. BCQ crewmembers will not perform RCP-tasked missions or events.

**Basic Mission Capable (BMC)**—A cybercrew member who has satisfactorily completed IQT, MQT, and a full Stan/Eval evaluation, and maintains certification and proficiency in the command or unit operational mission, is BMC. The cybercrew member must be able to attain Combat Mission Ready (CMR) status to meet operational taskings as specified in the applicable weapon system volumes. Persons filling a BMC position must be able to meet CMR status within 30 days (90 days for ARC).

**Capability**—A device or computer program, including any combination of software, firmware, or hardware, designed to create an effect in or through cyberspace.

**Certification**—Act of certifying official or designated representative designating an individual as having completed required training and evaluation and being capable of performing a specific duty.

**Certifying Official**—Normally, the unit CC or a designated representative.

**Combat Mission Ready (CMR)**—A crewmember who has satisfactorily completed IQT, MQT, completed a full Stan/Eval evaluation and maintains certification, currency, and proficiency in the command or unit combat mission.

**Compliance Language**—Terminology defined as follows:

- Will—Indicate a mandatory requirement.
- Should—Indicates a preferred, but not mandatory, method of accomplishment.
- May—Indicates acceptable or suggested means of accomplishment.
- Normally—Indicates under normal or usual conditions, as a rule.
- Note:—Indicates operations procedures, techniques, etc., considered essential to emphasize.

**Continuation Training (CT)**—Training which provides crewmembers with the volume, frequency, and mix of training necessary to maintain currency and proficiency in the assigned qualification level.

**Currency**—A measure of how frequently and/or recently a task is completed. Currency requirements should ensure the average cybercrew member maintains a minimum level of proficiency in a specific event or mission area.

**Cybercrew**—The total complement of crew personnel responsible for the safe operation of the cyber weapon systems, or for duties essential to the accomplishment of the weapon system's mission.

**Crew Commander**—Leads a cybercrew through the entire lifecycle (PBED) of a tasked mission. Supervises and manages the TNO mission set, to include communications with mission related external agencies, C2 and reporting authorities. Performs direct mission oversight to ensure effective and timely execution and reporting.

**Crewmember**—A member who conducts cyberspace operations and are typically assigned to a specific weapon system.

**Crew Position Indicator (CPI)**—Codes used to manage crew positions to ensure a high state of readiness is maintained with available resources.

**Cyberspace Operator (CO)**—A qualified individual who employs a wide range of capabilities and TTPs, as necessary, to accomplish a tasked Cyberspace or Information Operations missions.

**Deviation**—Performing action(s) not in sequence with current procedures, directives, or regulations. Performing action(s) out of sequence due to unusual or extenuating circumstances is not considered a deviation.

**Event**—The actions of individual cyberspace forces to accomplish a tasked mission. The base unit for an event is a single tactical mission conducted by a single tasked cyberspace force. Cyberspace forces begin a single event when they begin execution and complete a single event when the operator(s) complete execution for that day.

**Initial Qualification Training (IQT)**—Cyber capability and mission area-specific training designed to cover system specific and/or positional specific training leading to declaration of BCQ as a prerequisite to MQT.

**Instructor**—An operator who has completed Instructor Methodology Course (IMC), or approved equivalent, and is qualified to instruct other individuals in mission area academics and positional duties. Instructors are appointed by the Certifying Official.

**Instructor Event**—An event logged by an instructor when performing instructor duties during the mission, or a portion thereof. Instructor qualification required and used for the mission or a mission element. Examples include upgrade missions/events, updating lost currencies, etc. Instructors will log this event on applicable documents.

**Lookback**—A management tool used to determine and monitor CMR crewmember proficiency during the training cycle. A crewmember's Lookback requirements are based on the crewmember's experience status.

**Mission**—The task, together with the purpose, that clearly indicates the actions taken and the reason, therefore. In common usage, a duty assigned to an individual or unit. The base mechanism used to achieve mission objectives is events. Missions may require multiple events from multiple units to accomplish the mission's objectives.

**Mission Qualification Training (MQT)**—Following IQT, MQT is a formal training program used to prepare individuals for qualification in a specific crew position. This training is required to achieve a basic level of competence in unit's primary tasked missions and is a prerequisite for CMR or BMC declaration.

**Non-Combat Mission Ready (N-CMR)**—A crewmember that is non-current in the unit or command combat mission.

**Non-Effective Mission**—A mission in which 50% of planned RCP events were not accomplished.

**Planning, Briefing, Execution, and Debriefing (PBED)**—Tactical framework utilized in both civilian business and military operations. Synchronizes all elements involved in a mission and gives operators from all communities - air, land, sea, space, and cyberspace - a chance to integrate their capabilities to achieve the objective.

**Principles of Instruction**—Commonly accepted techniques in the field of education including but not limited to daily reviews, presenting materials using small steps, asking questions, providing models, guiding student practice, check for student understanding with the goal of achieving a high success rate.

**Proficiency**—A measure of how well a task is completed. A crewmember is considered proficient when they can perform tasks at the minimum acceptable levels of speed, accuracy, and safety.

**Qualification (QUAL)**—Designation of an individual by the unit CC as having completed required training, evaluation, and being capable of performing a specific duty.

**Ready Cybercrew Program (RCP)**—Annual mission/event training requirements for crews to maintain combat mission ready (CMR) status.

**Requalification Training (RQT)**—Training required to recertify a crewmember with an expired qualification evaluation or loss of currency exceeding six months.

**Restricted Status**—The status of a crewmember who must perform mission duties under the direct supervision of a qualified, or certified, and current instructor.

**Specialized Mission Qualification/Certification (SMQ/C) Training**—SMQ/C is an additional qualification added to a crew position Mission Design Series (MDS) that accounts for specific aspects of unique missions or one-off tasks that are not widely performed. SMQ/C training is accomplished via on-the-job training and/or a course. See [paragraph 5.6](#) and its sub-paragraphs for more details.

**Supervisory Crew or Staff Member**—Personnel in supervisory or staff positions (CPI- 6/8/B/D) who actively conduct cyberspace operations.

**Task**—A clearly defined action or activity specifically assigned to an individual or organization by an appropriate authority.

**Training Level**—Assigned to individuals based on the continuation training status (basic cyber qualification, basic mission capable, or mission ready/combat mission ready) they are required to maintain.

**Training Period**—Any training period determined by the Wing in which training requirements are performed.

**Type 1 Training**—Special Contract Training. One-time or limited nature; contracted with civilian industrial or educational institutions; includes commercial off-the-shelf courses; normally used to train selected personnel to operate and maintain new systems.

**Unqualified**—A member who has not completed required training, evaluation(s), or has been deemed incapable of performing a specific duty.

**Upgrade Training**—Required to prepare for a crew position of additional responsibility for a specific cyber capability or mission area (e.g., SMQ/C).

## Attachment 2

## CREW RESOURCE MANAGEMENT

**A2.1. Crew Inventory.** Crew inventory requires close management at all levels to maintain a high state of readiness with available resources. To manage crew inventory, CPI codes are assigned to identify these positions.

**Table A2.1. Crew Position Indicator (CPI) Codes.**

CPI Codes	Explanation	Remarks
1	Crew position used primarily for weapon and mission system operations (Officer).	See Note 1
2	The crew position is primarily used for weapon and mission system operations (Government Civilians).	See Note 1
3	Staff or supervisory positions at the Wing level and below have responsibilities and duties that require cyberspace operations expertise but do not require the incumbents to operate the weapon and mission system.	See Note 2
4	Staff or supervisory positions above the wing level have responsibilities and duties that require cyberspace operations expertise but do not require the incumbents to operate the weapon and mission system.	See Note 2
6	Staff or supervisory positions at wing level and below have responsibilities and duties requiring the incumbents to actively perform cyberspace operational duties on the weapon and/or mission system.	See Note 2
8	Staff or supervisory positions above the wing level that have responsibilities and duties that require the incumbent to conduct cyberspace operations on the weapon and/or actively	See Note 2
A	Crew positions are used primarily for weapon and/or mission system operations (Enlisted).	See Note 1
B	Staff or supervisory positions at wing level and below have responsibilities and duties requiring the incumbents to actively perform cyberspace operational duties on the weapon and/or mission system.	See Note 2
C	Staff or supervisory positions at wing level and below have responsibilities and duties that require cyberspace operations expertise but do not require incumbents to operate the weapon and/or mission system actively.	See Note 2
D	Staff or supervisory positions above the wing level that have responsibilities and duties that require the incumbent to conduct cyberspace operations on a weapon and/or actively	See Note 2

E	Staff or supervisory positions above the wing level have responsibilities and duties that require cyberspace operations expertise but do not require the incumbents to operate the weapon and/or mission system actively.	See Note 2
CPI Codes	Explanation.	Remarks
Z	Crew positions are used primarily for weapon and/or mission system operations (Contractor).	See Note 1

**Notes:**

1. CPI-1, 2, A, and Z are for officers, enlisted, government civilian, and contractor personnel assigned to operational squadrons or formal training programs. The primary duty of these personnel is to operate the weapon and/or mission system to conduct cyberspace operations.
2. CPI-3, 4, 6, 8, B, C, D, and E identify crewmembers assigned to supervisory or staff positions. These positions require cyberspace operations experience, with some requiring weapon and/or mission system operation (CPI-6, 8, B, and D).