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Flying Operations

E-4B AIRCREW EVALUATION CRITERIA

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

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This manual implements Air Force instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure* and Air Force policy directive (AFPD) 11-4, *Aviation Service.* It is used in conjunction with Air Force manual (AFMAN) 11-202V2, *Aircrew Standardization and Evaluation Program*, and AFMAN 11-202V2 Air Force Global Strike Command (AFGSC) Supplement, *Aircrew Standardization and Evaluation Program*. This manual applies to all Department of the Air Force (DAF) civilian employees and uniformed members of the Regular Air Force. This publication does not apply to the United States Space Force, the Air Force Reserve, or the Air National Guard. This publication may be supplemented at any level, but all supplements must be routed to the office of primary responsibility (OPR) of this publication for coordination prior to certification and approval. This publication requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by Department of Defense Instruction (DoDI) 5400.11, *DoD Privacy and Civil Liberties Program*. The applicable System of Records Notice, F011 AF XOA, Aviation Resource Management System (ARMS) available at: **https://dpcld.defense.gov/privacy/SORNS.aspx**. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction 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 to the OPR using the DAF Form 847, *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate chain of command. The authorities to waive wing/unit level requirements in this

publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See Department of the Air Force manual (DAFMAN) 90-161, *Publishing Process and Procedures,* for a description of the authorities associated with the tier numbers. Submit requests for waivers through the chain of command to the appropriate tier waiver approval authority as detailed in **paragraph 1.2**.

SUMMARY OF CHANGES

This document is substantially revised and must be completely reviewed. Evaluation requirements have been revised to reflect new aircrew training device (ATD) capabilities, crew position training requirements have been updated, and previous airborne mission system operator (AMSO) evaluations have been broken out into individual crew positions.

Chapter 1

GENERAL INFORMATION

1.1. *General.* This manual outlines procedures and criteria specific for E-4B aircrew evaluations and ensures standardized assessment of the proficiency and capabilities of aircrew members. The manual is structured to provide a separate chapter containing unique guidance and grading criteria for each crew specialty. Guidance on conducting aircrew evaluations is provided in AFMAN 11-202V2, this manual, and 595th Command and Control Group (C2G) evaluation profile letter (EPL).

1.2. *Waivers.* Requirements within this manual are tiered IAW DAFMAN 90-161 to indicate waiver authority. Waiver authority for any non-tiered compliance items is the AFGSC/Operations and Communications Directorate (AFGSC/A3/6). Waivers will be requested from AFGSC/Standardization and Evaluation Branch (AFGSC/A3TV) through appropriate channels.

1.2.1. Waiver Requests. Submit requests for waivers through the 1st Airborne Command Control Squadron (1 ACCS) and 595 C2G chain of commands to the appropriate Tier waiver approval authority. All waiver requests should be submitted on the DAF Form 679, *Publication Compliance Item Waiver Request/Approval*.

1.3. *Roles and Responsibilities.* Roles and responsibilities are defined in AFMAN 11-202V2.

1.3.1. Air Force Global Strike Command (AFGSC).

1.3.1.1. Develops this manual consistent with the USAF Standardization and Evaluation Program and unique requirements, according to AFPD 11-2, *Aircrew Operations*. AFGSC will coordinate operational procedures, evaluation criteria and guidance published in this manual with user major command (MAJCOM).

1.3.1.2. Convene conferences and working groups, as necessary to review and improve E-4B standardization/evaluation procedures.

1.3.1.3. Develops, in coordination with user MAJCOMs, and publishes E-4B Master Question Files (MQFs).

1.4. Flight Examiner Procedures.

1.4.1. Flight examiners will use the standards and performance parameters contained in AFMAN 11-202V2, this manual, and 595 C2G EPL to conduct all flight, ground, emergency procedures evaluations (EPEs) and ATD evaluations. (**T-2**) To ensure standard and objective evaluations, flight examiners will be thoroughly familiar with the prescribed evaluation criteria.

1.4.2. New aircraft equipment and system modifications not found within this publication will only be evaluated IAW the 595 C2G EPL (**T-3**). Grading criteria found within this publication for systems and equipment that have been completely removed from all E-4B aircraft will not be evaluated. Flight examiners will annotate in the remarks section of the AF Form 8 on areas that were not evaluated when systems have been removed. (**T-3**)

1.4.3. Flight examiners may require the examinee to demonstrate/instruct and/or present verbal explanation of performance computations, system operation, or procedures and techniques. Flight examiners should exercise sound judgment to ensure oral questions are

comprehensive and pertinent to the crewmember's duties and responsibilities and will not interfere with normal mission accomplishment.

1.4.4. Flight examiners observing unsatisfactory performance by an aircrew member other than the examinee (including one in a different crew position) will comply with the requirements in AFMAN 11-202V2. (**T-2**)

1.4.5. When in-flight evaluations of a required area are not possible, that area may be verbally evaluated or evaluated in an ATD at flight examiner discretion. Flight examiners should make every effort to evaluate all required areas in-flight before resorting to this provision.

1.4.6. Deliberately misleading questions and compound emergency procedures will not be used. (**T-2**)

1.4.7. If an actual emergency occurs, only the initial reaction will be evaluated. (**T-2**) Flight examiner discretion is used to determine when to terminate an evaluation.

1.4.8. Evaluations are to be documented on the AF Form 8, *Certificate of Aircrew Qualification*. Reference AFMAN 11-202V2 and local procedures for completing this form.

1.5. *Aircrew Evaluation Requirements.* E-4B aircrew members and civilian contractors associated with the E-4B mission/aircraft will be evaluated IAW categories established in AFMAN 11-202V2. (**T-2**) When practical, evaluations should be accomplished concurrently. Specific requirements for each category are as follows:

1.5.1. **Qualification (QUAL) Evaluation.** All E-4B aircrew members and civilian contractors will successfully complete a periodic QUAL evaluation including the requisite open-book, closed-book, boldface written examinations and EPEs. (**T-2**) Civilian contractors will follow and receive QUAL evaluation in their contracted position. (**T-2**)

1.5.2. **Instrument (INSTM) Evaluation.** All E-4B pilots and navigators will successfully complete a periodic INSTM evaluation including the requisite instrument refresher course (IRC) open-book written examination according to AFMAN 11-210, *Instrument Refresher Program (IRP).* (**T-2**)

1.5.3. **Mission (MSN) Evaluations.** All E-4B aircrew members will successfully complete a MSN evaluation. (**T-2**) MSN evaluations may be combined into the QUAL evaluation. The requirements for qualification in this volume ensures that all necessary tasks required to perform operational, test, and training sorties on this platform are accomplished during instrument and/or QUAL evaluations. This evaluation will be combined with INSTM evaluations, as applicable for the crew position. (**T-2**) Qualified contractors will be authorized to perform test and training sorties on the E-4B. (**T-2**) They will not be evaluated on emergency action message (EAM) procedures and will only be evaluated on the operational execution items as directed in this manual and the 595 C2G EPL. (**T-2**)

1.5.4. **Mission Crew Evaluation Scenarios.** Evaluation scenarios should reflect the aircraft and system requirements for alert. Flight examiners should ensure evaluation profiles include demonstration of adequate events to measure proficiency as described in the evaluation requirements in this publication.

1.5.5. **Instructor (INSTR) Evaluations.** All instructor aircrew members will be evaluated on their ability as an instructor during their initial instructor upgrade evaluation and on all periodic evaluations. (**T-2**) The Flight examiner may require the instructor examinee to

demonstrate and/or present verbal explanations on air refueling, emergency procedures/equipment, aircraft systems (location, configuration, operation, procedures, and techniques), mission knowledge or any other operating procedures and techniques. Demonstrations will be pre-briefed to the examinee and will be accomplished at an appropriate time so as not to interfere with the examinee's crew duties and pacing. (**T-2**)

1.5.5.1. Instructors on recurring evaluations should instruct based on the needs of the student (actual or simulated).

1.5.5.2. Aircrew members may use the initial INSTR evaluation to satisfy the requirements of the periodic QUAL and MSN evaluations. Refer to the specific aircrew chapter for additional requirements.

1.5.5.3. A "U" in critical INSTR area will result in a "Q3" for the INSTR portion of the evaluation. Examinees may maintain overall qualification in the "QUAL/MSN" evaluation. (**T-2**)

1.5.6. **Instructor Requalification Evaluations.** Former instructors who meet AFMAN 11-2E-4BV1, *E-4B Aircrew Training*, criteria to re-qualify as instructors may receive a combined instructor/qualification flight evaluation consisting of a student pre-briefing, in-flight instruction based on student (real or simulated) needs, and a post-flight critique training accomplishment progress report (TAPR). In-flight instruction will include the areas listed in applicable table, under INSTR, but no other specific in-flight events are required. (**T-2**)

1.5.7. **SPOT Evaluations – Flight or Ground (Optional).** A SPOT evaluation is used to evaluate a specific event or requirement not intended to satisfy the requirements of a periodic (i.e., INSTM, QUAL, MSN, or INSTR) evaluation. SPOT evaluations have no specific requisites or requirements unless specified in MAJCOM supplements or this manual. See AFMAN 11-202V2 for options available to convert a SPOT evaluation to meet requirements of a periodic evaluation.

1.5.8. **Emergency Procedures Evaluation (EPE).** The EPE scenario must accurately evaluate the required areas. Qualification EPEs must cover applicable boldface and emergency procedures, and systems operation. (**T-2**)

1.5.9. **Multiple Qualification Evaluations.** When authorized in accordance with AFMANs 11-202V1, *Aircrew Training*, as supplemented, and AFMAN 11-2E-4BV1, to establish or maintain qualification in two different crew positions on the same mission design series (MDS), use the following guidance. Evaluations may be combined provided all requirements are covered for both positions and there are enough primary crewmembers present to meet the minimum crew requirements in the event of unqualified performance. If the examiner is not qualified in both crew positions, a second examiner is authorized to utilize a static aircraft, flight, or generation to complete the position-specific items not already covered by the first flight evaluation. The examinee must be current and qualified/certified in both positions in order to combine these evaluations. (**T-3**)

1.6. *Aircrew Examinations***.** Examinations are part of each evaluation. The requirements for each exam are outlined as follows:

1.6.1. **Closed Book Exams.**

1.6.1.1. **General Knowledge.** This exam will include at least 25 questions and cover a cross-section of aircraft limitations (as applicable to aircrew position), normal and emergency procedures, and cautions and warnings. (**T-2**)

1.6.1.2. **Boldface.** This exam will require a written boldface response for each critical action procedure. (**T-2**) A correct response will include proper order and intent; correct spelling is not graded. (**T-3**)

1.6.2. **Open Book Exam.** This exam should consist of a minimum of 50 questions derived from all flight manuals and governing command directives. Squadron Stan/Eval may increase the number of questions to provide an in-depth evaluation of the examinee's knowledge.

1.6.3. **Instrument Exams.** Required for pilot INSTM and for navigators QUAL evaluations. This examination will consist of at least 50 questions drawn from the instrument examination standard question bank (SQB) published by the Air Force Flight Standards Agency (AFFSA) and locally developed MDS-specific instrument questions. (**T-2**)

Chapter 2

GENERAL EVALUATION REQUIREMENTS

2.1. *General.* The evaluation grading criteria contained in this chapter are applicable to all crew positions. There are specific evaluation grading criteria for each crew position found in subsequent chapters of this publication. These criteria were established by experience, policies, and procedures set forth in flight manuals and other directives. Flight examiners need to realize that grading criteria contained herein cannot cover every situation. Written parameters need to be tempered with mission objectives and, more importantly, mission/task accomplishment in the determination of overall aircrew performance.

2.2. *Qualification Evaluations.*

2.2.1. **Ground Requisites.** The following elements of the evaluation should be completed prior to the flight phase: open book exam, closed book exams, written boldface, EPE and publications check.

2.2.2. **Flight Phase.** All areas required in **Table 2.1** and the table found in each applicable crew position chapter within this publication under QUAL will be evaluated. (**T-2**) Other guidance (as applicable) can be found in specific crew position chapters within this publication.

2.2.2.1. Equipment/systems knowledge and use of diagrams for areas listed in the specific crew position chapters may be evaluated on the ground the duty day prior, during, and/or after the flight.

2.2.2.2. Mission crew should make every effort to complete the evaluation on one flight or ground event. **Exception:** Communication control officers (CCOs) should make every effort to complete the evaluation during one alert period. Evaluators will annotate static or aircraft generation evaluations in the remarks section of the AF Form 8.

2.2.2.3. If evaluating using a static aircraft or generation, all necessary crew members will be present in order to evaluate cockpit/crew resource management (CRM)/crew coordination grading criteria. **(T-3)**.

2.2.2.4. While performing flight evaluations on primary alert crewmembers, the flight examiner to examinee ratio will be 1:1. **(T-3)**.

2.3. *Instrument Evaluations.*

2.3.1. **Ground Requisites.** The instrument exam should be completed prior to the flight phase. The examinee will be current with the instrument refresher course. **(T-1)** See AFMAN 11-210 for currency requirements.

2.3.2. **Flight Phase.** All areas required in **Table 3.1** (if applicable) under INSTM will be evaluated. **(T-2)** The instrument flight phase will normally be combined with the qualification flight phase. **(T-2)** **Note**: Pilots with an expired instrument check must fly under the direct supervision of an instructor pilot (IP). **(T-2)**

2.4. *Instructor Evaluations.* All areas in **Table 2.1** under INSTR will be evaluated for initial INSTR and all periodic QUAL/MSN evaluations. **(T-2)** Other guidance (as applicable) can be found in specific crew position chapters within this publication.

2.5. *Instructor Requalification Evaluations.* In-flight instruction will include the areas listed in **Table 2.1** (and **Table 3.1** for pilots), under INSTR, but no other specific in-flight events are required. (**T-2**)

2.6. *Emergency Procedures Evaluation (EPE).* Evaluate an aircrew member's knowledge of emergency procedures and emergency equipment. Use the emergency procedures boldface criteria for boldface and the emergency procedures criteria for all other emergency scenarios evaluated. The EPE satisfies the in-flight requirements if no actual emergency procedure is experienced during the evaluation. Use Systems Knowledge/Operation criteria to evaluate general systems operation. Other guidance (as applicable) can be found in specific crew position chapters within this publication. Pilot and flight engineer EPE should take place in the ATD to the maximum extent possible.

2.7. *Evaluation Requirements.* **Table 2.1** lists areas for qualification and instructor evaluations (as applicable). An "R" indicates a requirement for that evaluation. A "P" indicates a requirement for pilot evaluations only. An "X" in the note column refers to a general note in the associated grading criteria paragraph. Specific evaluation requirements and grading criteria for each crew position is listed in subsequent chapters.

Table 2.1. General Evaluation Requirements.

AREA/TITLE	QUAL	INSTR	NOTE
1. Personal/Professional Equipment	R	P	X
2. Mission Planning	R	P	X
3. Checklist Procedures	R	P	
4. Emergency Procedures (General)	R	P	X
5. Emergency Procedures (Boldface) (Critical)	R	P	X
6. Safety (Critical)	R	P	
7. Airmanship/Aircrew Discipline (Critical)	R	P	
8. Crew Resource Management/Threat & Error Management	R	P	X
8.1. Mission Analysis	R	P	
8.2. Situational Awareness	R	P	
8.3. Communication	R	P	
8.4. Risk Management/Decision Making	R	P	
8.5. Task Management	R	P	
8.6 Crew/Flight Coordination	R	P	
9. Communications/Logs/Reports	R	P	
10. Post Flight/Debrief	R	P	
11. Instructional Ability (Critical)		R	
12. Briefings/Critique (Critical)		R	
13. Demonstration and Performance (Critical)		R	
14. – 20. Reserved for future use.			

2.8. *General Grading Criteria.* Standards and performance parameters are contained in AFMAN 11-202V2 and this manual.

2.8.1. **AREA 1 – PERSONAL/PROFESSIONAL EQUIPMENT: Note:** Electronic media publications may be checked in lieu of paper publications.

2.8.1.1. **Q.** Possessed all personal/professional equipment and publications IAW AFMAN 11-2E-4BV3, *E-4B Operations Procedures*. Possessed an appropriate level of knowledge of all applicable aircraft publications and procedures and understood how to apply both to enhance mission accomplishment. Maintained equipment in serviceable condition. Posted publications according to directives.

2.8.1.2. **Q-.** Possessed personal/professional equipment and publications IAW AFMAN 11-2E-4BV3 with minor omissions. Unsure of some directives but could locate information in appropriate publications. Maintained equipment in serviceable condition. Posted publications with omissions, deviations or errors that detracted from sortie execution. Did not jeopardize sortie success.

2.8.1.3. **U.** Failed to possess personal/professional equipment and publications IAW 11-2E-4BV3 or failed to maintain equipment in serviceable condition. Unaware of established procedures and/or could not locate them in the appropriate publication in a timely manner. Posted publications with major omissions, deviations or errors which could jeopardize sortie success.

2.8.2. **AREA 2 – MISSION PLANNING: Note:** If Patriot Excalibur (PEX) is unavailable, section heads may brief crewmembers on applicable items and may obtain hardcopy flight crew information files (FCIFs) from the mission planning room.

2.8.2.1. **Q.** Developed a sound plan to accomplish the mission. Checked all factors applicable to mission success as prescribed by the flight manual and other applicable directives. Reviewed FCIF Volume. 1 and Part B and signed electronic FCIFs in PEX. Complied with local directives and participated in all required briefings. Aware of alternatives available if flight cannot be completed as planned. Effectively coordinated with other aircrew members. Mission planning was adequate with no more than minor omissions, deviations or errors which did not impact planned sortie success.

2.8.2.2. **Q-.** Same as above, except minor errors or omissions that could detract from mission effectiveness. Knowledge of performance capabilities or approved operating procedures/rules marginal in some areas. Did not fully comply with local directives. Omissions, deviations or errors detracted from planned sortie execution. Did not jeopardize planned sortie success.

2.8.2.3. **U.** Major errors or omissions that would preclude safe/effective mission accomplishment. Faulty knowledge of operating data or procedures. Failed to check and sign FCIF Vol. 1 and Part B. Failed to comply with local directives or participate in all required briefings. Mission planning was inadequate and/or jeopardized planned sortie success.

2.8.3. **AREA 3 – CHECKLIST PROCEDURES:**

2.8.3.1. **Q.** Thoroughly familiar with expanded checklist items. Items required by the flight manual and applicable directives were accomplished in a proficient manner with no more than minor omissions, deviations or errors which did not impact sortie success.

2.8.3.2. **Q-.** Checklist items and procedures required by the flight manual and applicable directives were accomplished with some omissions, deviations, or errors which detracted from sortie execution. Did not jeopardize sortie success.

2.8.3.3. **U.** Checklist items and procedures required by the flight manual and applicable directives were accomplished with major omissions, deviations or errors. Jeopardized sortie success.

2.8.4. **AREA 4 – EMERGENCY PROCEDURES (GENERAL): Note:** May be evaluated orally.

2.8.4.1. **Q.** Recognized actual/simulated malfunctions. Applied proper corrective actions. Effectively used checklist/flight manual. Thoroughly familiar with additional emergency procedures. Properly coordinated emergency procedures with other aircrew members without delay or confusion.

2.8.4.2. **Q-.** Recognized actual/simulated malfunctions. Slow response to non-boldface situations or additional emergency procedures. Procedures were correct, but examinee was slow to locate required checklist/flight manual data. Slow or hesitant to coordinate emergency procedures with other aircrew members.

2.8.4.3. **U.** Unsatisfactory knowledge of emergency procedures/equipment. Misunderstood or unaware of additional emergency procedures. Improperly coordinated emergency procedures with other aircrew members causing delay or confusion.

2.8.5. **AREA 5 – EMERGENCY PROCEDURES (BOLDFACE) (CRITICAL): Note:** May be evaluated orally.

2.8.5.1. **Q.** Made correct and timely responses. Coordinated proper actions.

2.8.5.2. **U.** Incorrect sequence, unsatisfactory response and/or unsatisfactory performance of corrective action.

2.8.6. **AREA 6 – SAFETY (CRITICAL):**

2.8.6.1. **Q.** Aware of and complied with all safety factors required for safe operation and mission accomplishment.

2.8.6.2. **U.** Was not aware of or did not comply with all safety factors required for safe operation or mission accomplishment.

2.8.7. **AREA 7 – AIRMANSHIP/AIRCREW DISCIPLINE (CRITICAL):**

2.8.7.1. **Q.** Demonstrated professional discipline, effective situational awareness, and sound judgment. Recognized and corrected task saturation or channelized attention. Decisions were timely and logical and did not jeopardize sortie success.

2.8.7.2. **U.** Demonstrated less than professional discipline, poor judgement or a lack of situational awareness. Failed to recognize or correct task saturation or channelized attention. Decisions or a lack thereof, jeopardized sortie success or were not timely or logical. Violated or ignored directives.

2.8.8. **AREA 8 – CREW RESOURCE MANAGEMENT/THREAT & ERROR MANAGEMENT (CRM/TEM): Note:** The following criteria evaluates the individual CRM/TEM skills IAW AFMAN 11-290 AFGSC Sup **para. 5.3.1.1** and **Table 1**.

2.8.8.1. **AREA 8.1 - MISSION ANALYSIS**

2.8.8.1.1. **Q.** Demonstrated satisfactory mission analysis throughout the pre-mission planning, briefing, ongoing mission evaluation, and post mission debrief. Clearly defined mission overview/goals and existing/potential threats or anticipated errors that might adversely affect mission success, along with relevant threat/error mitigation strategies.

2.8.8.1.2. **Q-** . Limited ability to conduct effective mission analysis throughout mission stages.

2.8.8.1.3. **U** . Failed to perform mission analysis throughout mission stages. Failed to define mission goals, neglected possible threats and errors, and ignored mitigation strategies.

2.8.8.2. **AREA 8.2 - SITUATIONAL AWARENESS (SA)**

2.8.8.2.1. **Q** . Demonstrated satisfactory knowledge and skills for identifying errors, preventing the loss of SA, recognizing the loss of SA, and techniques for recovering from the loss of SA. Recognize the need for action and verbalize/act on unexpected events.

2.8.8.2.2. **Q-** . Limited knowledge of skills to prevent the loss of SA. Able to accept input from crew/flight members and take actions to regain SA.

2.8.8.2.3. **U** . Lacked knowledge of skills to prevent the loss of SA. Became disoriented, lost, confused, or fixated. Failed to take any action to regain SA.

2.8.8.3. **AREA 8.3 - COMMUNICATION**

2.8.8.3.1. **Q** . Demonstrated satisfactory knowledge of common communication errors, cultural influences, and barriers. Skills encompass listening, feedback, precision, and efficiency of communication with all crew/flight members. Use precise terminology, acknowledge all communications, and ask questions/provide clarification.

2.8.8.3.2. **Q-** . Limited knowledge of communication errors and skills. Slow to acknowledge crew/flight communications, ask for feedback or ask for clarification.

2.8.8.3.3. **U.** Lacked ability to effectively communicate with crew/flight members. Failed to acknowledge communications or withheld information from crew/flight members. Mumbled and used ambiguous terminology.

2.8.8.4. **AREA 8.4 - RISK MANAGEMENT(RM)/DECISION MAKING**

2.8.8.4.1. **Q** . Demonstrated satisfactory knowledge of RM processes & tools, breakdowns in judgment and flight discipline, problem-solving, evaluation of hazards, and control measures. Able to mitigate threats and trap errors. Identified contingencies and alternatives options by gathering all available data, and clearly stated decisions.

2.8.8.4.2. **Q-** . Limited knowledge of RM processes & tools. Slow to mitigate threats but able to correct and trap errors. Slowly gathered data to and cross check decision options with crew/flight members.

2.8.8.4.3. **U.** Lacked knowledge of RM processes & tools. Failed to mitigate threats, avoided input from crew/flight members, or considered consequences prior to deciding.

2.8.8.5. **AREA 8.5 - TASK MANAGEMENT**

2.8.8.5.1. **Q.** Demonstrated the ability to establish priorities, using available resources to manage workload (overload/under-load), complacency, management of automation, checklist discipline, standard operating procedure (SOP), the verbalization of concerns relating to tasks, and the proposal of solutions to known task issues.

2.8.8.5.2. **Q-** . Limited ability to prioritize tasks based on mission requirements. Slow to ask for assistance when under high workloads. Delayed verbalization of task concerns to crew/flight members.

2.8.8.5.3. **U.** Displayed improper task prioritization. Failed to manage workload, demonstrated complacent behavior, failed to verbalize concerns, or proposed solutions to task issues.

2.8.8.6. **AREA 8.6 - CREW/FLIGHT COORDINATION**

2.8.8.6.1. **Q.** Demonstrated satisfactory knowledge and skills required to conduct internal & external communication with crew/flight members for mission coordination, flight/mission integrity contracts, team building, leadership, command authority, responsibility, behavioral styles, assertiveness, persistence, conflict resolution, hazardous attitudes, legitimate avenues/methods of dissent, and solution driven statements. Adapted to situational demands, focus attention on task, and ask for inputs.

2.8.8.6.2. **Q-** . Limited ability and knowledge to conduct internal & external communications with crew/flight members. Slow to adapt to situational demands, required input from crew/flight members to refocus on tasks.

2.8.8.6.3. **U.** Failed to conduct internal & external crew coordination with crew/flight members throughout the stages of the mission. Failed to adapt, was unfocused and did not ask for or accept inputs from other crew/flight members.

2.8.9. **AREA 9 – COMMUNICATIONS/LOGS/REPORTS:**

2.8.9.1. **Q.** Communicated required mission information within the aircraft and with external agencies. Communications were clear, concise, timely, and used standard terminology/format. All logs, reports, media and forms required for the mission were completed in accordance with applicable directives, tasking and policy. Information was provided in sufficient detail to allow accurate and timely analysis of associated mission data. Complied with security procedures.

2.8.9.2. **Q-.** As above but with minor deviations, omissions or errors which did not significantly impact the planned mission. Complied with security procedures.

2.8.9.3. **U.** Major deviations, omissions or errors which significantly impacted the planned mission. Communications caused confusion or delay. Logs, reports, media or forms required for the mission contained errors or omissions precluding analysis of mission data. Failed to comply with security procedures.

2.8.10. **AREA 10 – POSTFLIGHT/DEBRIEF:**

2.8.10.1. **Q.** Satisfactory knowledge and performance of required post flight activities. Attended/participated in required debrief(s). Ensured applicable AFTO Form 781 series was completed and satisfactorily debriefed required personnel. Completed all required forms accurately.

2.8.10.2. **Q-.** Incomplete knowledge of required procedures. Attended/participated in required debrief(s), but hesitant to make appropriate inputs. Applicable AFTO Form 781 series entries and required debriefing(s) were not complete or thorough. Required forms completed with minor inaccuracies.

2.8.10.3. **U.** Unsatisfactory knowledge of required procedures. Major deviations in procedures. Failed to attend or participate in required debrief(s). Failed to complete or ensure completion of applicable AFTO Form 781 series and required debrief(s). Data recorded inaccurately or omitted.

2.9. *Instructor Criteria.*

2.9.1. **AREA 11 – INSTRUCTIONAL ABILITY (CRITICAL).**

2.9.1.1. **Q.** Demonstrated ability to communicate effectively. Provided appropriate corrective guidance when necessary. Planned ahead and made timely decisions. Correctly analyzed student errors.

2.9.1.2. **U.** Unable to effectively communicate with the student. Did not provide corrective action where necessary. Did not plan ahead or anticipate student problems. Incorrectly analyzed student errors. Adversely impacted student progress. **Note:** See **paragraph 1.5.5.3** regarding a "U" in a critical INSTR area.

2.9.2. **AREA 12 – BRIEFINGS/CRITIQUE (CRITICAL).**

2.9.2.1. **Q.** Briefings were well organized, accurate, and thorough. Reviewed student's present level of training and defined mission events to be performed. Demonstrated ability during critique to reconstruct the flight, offer mission analysis, and provide corrective guidance where appropriate. Completed all training documents according to prescribed directives. Correct grades awarded.

2.9.2.2. **U.** Briefings were marginal or nonexistent. Did not review student's training folder or past performance. Failed to adequately critique student or conducted an incomplete mission analysis which compromised learning. Student strengths or weaknesses were not adequately identified. Adversely impacted student progress. Inappropriate grades awarded. Overlooked or omitted major discrepancies. **Note:** See **paragraph 1.5.5.3** regarding a "U" in a critical INSTR area.

2.9.3. **AREA 13 – DEMONSTRATION AND PERFORMANCE (CRITCAL).**

2.9.3.1. **Q.** Effectively demonstrated procedures and techniques on the ground and inflight. Demonstrated thorough knowledge of aircraft systems, procedures and all applicable publications and regulations.

2.9.3.2. **U.** Did not demonstrate correct procedure or technique. Insufficient depth of knowledge about aircraft systems, procedures, or proper source material. Adversely impacted student progress. **Note:** See **paragraph 1.5.5.3** regarding a "U" in a critical INSTR area.

2.9.4. **AREAS 14 – 20 – RESERVED FOR FUTURE USE.**

Chapter 3

PILOT EVALUATIONS

3.1. *General.* General evaluations requirements are defined in **Chapter 2**. Specific pilot evaluation requirements are found in **Table 3.1**.

3.2. *Instructor Evaluations.* Evaluate all areas as defined in **paragraph 2.4** and in **Table 3.1**. Pilots receiving initial INSTR evaluations should occupy the right seat during the evaluation. An IP or flight examiner should occupy the left seat. On periodic evaluations, instructors may occupy either seat to accomplish required items. A student, pilot, IP or flight examiner may occupy the other seat.

3.3. *Emergency Procedures Evaluation (EPE).* Evaluate all areas as defined in **paragraph 2.6**. EPEs will evaluate the pilot's performance of all boldface, a cross-section of noncritical emergency procedures, knowledge and performance of general systems operation, and unusual attitude recoveries. (**T-2**) Pilot EPE should be conducted in the ATD to the maximum extent possible.

Table 3.1. Pilot Evaluation Requirements.

AREA/TITLE	QUAL	INSTM	INSTR	NOTE
21. Pre-Takeoff	R			
22. Takeoff	R			
23. Departure	R			X
24. Cruise/Navigation	R			
25. Air Traffic Control (ATC) Communications/Identification Friend or Foe (IFF)/Selective Identification Feature (SIF)	R		R	
26. Unusual Attitudes	R			X
27. Holding		R		X
28. Air Refueling	R		R	X
29. Descent	R			X
30. Instrumental Flight Rules (IFR) Traffic Pattern		R		
31. Precision Approach (PA) or Approach With Vertical Guidance (APV)		R		X
32. Non-Precision Approach		R		

33. Category (CAT) II/IIIa Instrument Landing System (ILS) Procedures		R		X
34. Missed Approach		R		X
35. Go Around	R			X
36. Visual Flight Rules (VFR) Pattern	R			X
37. Landings	R		R	X
38. Touch and Go Landings	R		R	X
39. Simulated Outboard Engine Out Approach and Missed Approach	R		R	X
40. Systems Knowledge/Operation	R			X
41. After Landing	R			
42. Operational Execution	R			X
43 – 50. Reserved for future use				

3.4. *Pilot Grading Criteria.* Standards and performance parameters are contained in AFMAN 11-202V2 and this manual. For all evaluations, the flight examiner will disregard minor deviations from tolerances for the purpose of clearing conflicting traffic provided the examinee initiates timely corrective action. (**T-2**) When conditions are Visual Meteorological Conditions (VMC), see and avoid responsibilities are paramount.

3.4.1. **AREA 21 – PRE-TAKEOFF:**

3.4.1.1. **Q.** Established and adhered to engine start, taxi, and takeoff times as required to assure thorough preflight. Performed all checks and procedures prior to takeoff according to approved checklists and applicable directives. Was knowledgeable of applicable sections and checked Air Force technical order (AFTO) Form 781 series. Accurately determined aircraft's readiness for flight. Taxi speeds appropriate for conditions. Visually cleared area.

3.4.1.2. **Q-.** Same as above except for minor procedural deviations which would not detract from mission effectiveness. Displayed limited knowledge of applicable sections of AFTO Form 781 series. Accurately determined aircraft's readiness for flight. Taxi speeds appropriate for conditions. Visually cleared area.

3.4.1.3. **U.** Did not use checklist or omitted major item(s). Major deviation in procedures which would preclude safe mission accomplishment. Failed to accurately determine aircraft's readiness for flight. Taxi speeds unsafe for conditions. Did not adequately clear area.

3.4.2. **AREA 22 – TAKEOFF:**

3.4.2.1. **Q.** Smooth, positive aircraft control throughout takeoff. Performed according to flight manual procedures and techniques.

3.4.2.2. **Q-.** Minor deviations from published procedures not affecting safety of flight. Control rough or erratic. Hesitant in application of corrections.

3.4.2.3. **U.** Liftoff potentially dangerous. Exceeded aircraft limitations. Failed to establish proper climb attitude. Marginal control of the aircraft. Violated flight manual procedures.

3.4.3. **AREA 23 – DEPARTURE: Note:** Airspeed "+" tolerance does not apply unless assigned/restricted by ATC/tech data. Must not exceed placard speeds.

3.4.3.1. **Q.** Performed departure as published/directed and complied with all restrictions. Applied heading/course correction promptly. Smooth, positive aircraft control throughout.

3.4.3.1.1. Altitude +/- 200 ft. (intermediate level off)

3.4.3.1.2. Airspeed +/- 10 kts/.03 Mach

3.4.3.1.3. Heading/Course +/- 10 degrees (when assigned or specified)

3.4.3.1.4. Lateral Course Deviation +/- 2 miles

3.4.3.2. **Q-.** Performed departure as published/directed and complied with all restrictions. Slow to apply course/heading corrections. Minor deviations from published procedures not affecting safety of flight. Control rough or erratic. Hesitant in application of corrections.

3.4.3.2.1. Altitude +/- 300 ft. (intermediate level off)

3.4.3.2.2. Airspeed +/- 15 kts/.04 Mach

3.4.3.2.3. Heading/Course +/- 15 degrees (when assigned or specified)

3.4.3.2.4. Lateral Course Deviation +/- 3 miles

3.4.3.3. **U.** Failed to comply with published/directed departure instructions or exceeded Q- criteria. Failed to maintain positive rate of climb.

3.4.4. **AREA 24 – CRUISE/NAVIGATION:**

3.4.4.1. **Q.** Leveled off smoothly at specified altitude within +/- 200 ft. Established proper cruise airspeed promptly. Properly used appropriate navigation equipment/procedures. Ensured navaids were properly tuned, identified and monitored. Aware of position at all times. Visually cleared the area. Maintained/adjusted speeds as required to meet mission timing.

3.4.4.2. **Q-.** Level off erratic, maintained altitude within +/- 300 ft. Slow in establishing proper cruise airspeed. Minor errors in procedure/use of navigation equipment. Some deviations in turning, identifying and monitoring navaids. Slow to comply with clearance instructions. Had some difficulty in establishing exact position and maintaining/adjusting speed to meet mission requirements. Visually cleared the area.

3.4.4.3. **U.** Level off erratic, exceeded Q- criteria. Excessive delay or failed to establish proper cruise airspeed. Major errors in procedures/use of navigation equipment to the

extent that position was unreliable. Did not maintain/adjust speed to meet mission requirements. Did not visually clear the area.

3.4.5. **AREA 25 – ATC COMMUNICATIONS/IDENTIFICATION, FRIEND OR FOE (IFF)/SELECTIVE IDENTIFICATION FEATURE (SIF):**

3.4.5.1. **Q.** Complete knowledge of and compliance with correct procedures. Transmissions concise with proper terminology utilized. Complied with and acknowledged all required instructions. Understood clearances and complied with controlling agency instructions. Made required radio calls. Correctly operated equipment.

3.4.5.2. **Q-.** Occasional deviations from correct procedures that required retransmissions. Slow in initiating required actions. Transmissions contained extraneous information, were not in proper sequence and non-standard terminology. Understood clearances and complied with controlling agency instructions with minor errors or omissions not affecting mission safety. Slow to comply with controlling agency instructions. Missed several radio calls from ATC. Minor errors, deviations, or omissions in operating equipment were observed.

3.4.5.3. **U.** Incorrect procedures or poor performance caused confusion and reduced mission effectiveness. Omitted required checks or procedures. Erroneous IFF/SIF codes used. Did not understand clearance or accepted clearance that could not be complied with. Did not read back clearance accurately (when required). Did not comply with clearance. Did not make required reports. Major errors, deviations, or omissions in operating equipment.

3.4.6. **AREA 26 – UNUSUAL ATTITUDES: Note:** Unusual attitudes will be accomplished in the ATD to the maximum extent possible as part of the EPE. (**T-3**)

3.4.6.1. **Q.** Smooth positive recovery to level flight and correct recovery procedures used or demonstrated satisfactory knowledge of correct procedures.

3.4.6.2. **Q-.** Slow to analyze attitude or erratic in recovery to level flight, correct recovery procedures followed.

3.4.6.3. **U.** Unable to determine attitude or improper recovery procedures.

3.4.7. **AREA 27 – HOLDING: Note:** A full-procedure approach may be flown in lieu of holding.

3.4.7.1. **Q.** Entry and holding procedures according to applicable directives.

3.4.7.1.1. Altitude +/- 200 ft.

3.4.7.1.2. Airspeed +/- 15 kts

3.4.7.2. **Q-.** Inappropriate entry and holding procedures but remained within airspace limits.

3.4.7.2.1. Altitudes +/- 300 ft.

3.4.7.2.2. Airspeed +/- 20 kts

3.4.7.3. **U.** Exceeded holding airspace limits or exceeded Q- criteria.

3.4.8. **AREA 28 – AIR REFUELING: Note 1:** Pilots should perform a rendezvous and a practice emergency separation. Not required for instructor pilots. **Note 2:** An autopilot-off air refueling contact may be required at the discretion of the flight examiner. **Note 3:** Instructor pilots will perform and instruct an air refueling boom envelope limits demonstration. Inadvertent disconnects are permissible during demonstration. (**T-3**) Instructor pilot continuous contact time may be reduced to 5 minutes.

3.4.8.1. **Q.** Established a smooth approach and maintained proper refueling position. Aircraft control was positive and smooth. Satisfactorily followed procedures and techniques outlined in the flight manual, checklist and local directives. Continuous contact for 15 minutes for initial qualification, with no more than 3 inadvertent disconnects. Continuous contact for 10 minutes with no more than 3 inadvertent disconnects for recurring evaluations. Used or described correct procedures for emergency separation.

3.4.8.2. **Q-.** Slow to recognize and apply needed corrections to establish a smooth approach and maintain proper refueling position. Aircraft control not always positive and smooth, but adequate. Accomplished procedures required by the flight manual and local directives with minor errors, deviations, and/or omissions that did not affect safety of flight or the successful completion of the air refueling. Exceeded the Q criteria. Minor errors deviations, and/or omissions in emergency separation procedures.

3.4.8.3. **U.** Erratic or dangerous during approach and in the refueling position. Errors/deviations/omissions that affected flight safety and/or the successful completion of air refueling. Exceeded the Q- criteria. Major errors/deviations/omissions in emergency separation procedures.

3.4.9. **AREA 29 – DESCENT: Note:** Airspeed "+" tolerance does not apply unless assigned/restricted by ATC/tech data. Must not exceed placard speeds.

3.4.9.1. **Q.** Performed descent as directed. Complied with all restrictions. Visually cleared the area. Accomplished required checks in accordance with flight manual.

3.4.9.1.1. Altitude +/- 200 ft. (level off)

3.4.9.1.2. Airspeed +/- 10 kts

3.4.9.1.3. Heading/Course +/- 10 degrees (when assigned or specified)

3.4.9.1.4. Lateral Course Deviation +/- 2 miles

3.4.9.2. **Q-.** Performed descent as directed with minor deviations. Visually cleared the area. Slow to accomplish required checks in accordance with the flight manual.

3.4.9.2.1. Altitude +/- 300 ft. (level off)

3.4.9.2.2. Airspeed +/- 15 kts

3.4.9.2.3. Heading/Course +/- 15 degrees (when assigned or specified)

3.4.9.2.4. Lateral Course Deviation +/- 3 miles

3.4.9.3. **U.** Performed descent with major deviations. Did not accomplish required checks. Failed to visually clear the area adequately. Exceeded Q- criteria.

3.4.10. **AREA 30 – INSTRUMENT FLIGHT RULES (IFR) TRAFFIC PATTERN:**

3.4.10.1. **Q.** Procedures and checklist items required by the flight manual and applicable directives were accomplished. Followed controller's instructions and complied with all restrictions. Made corrections smoothly and timely.

3.4.10.1.1. Altitude +/- 200 ft.

3.4.10.1.2. Airspeed + 20/-5 kts (did not exceed placard speeds)

3.4.10.1.3. Heading/Course +/- 15 degrees

3.4.10.1.4. Lateral Course Deviation +/- 2 miles

3.4.10.2. **Q-.** Procedures and checklist items required by the flight manual and applicable directives were accomplished with omissions or deviations. Slow or hesitant in following controller's instructions. Over-controlled slightly or occasionally and/or slow in making corrections.

3.4.10.2.1. Altitude +/- 300 ft.

3.4.10.2.2. Airspeed + 30/-10 kts (did not exceed placard speeds)

3.4.10.2.3. Heading/Course +/- 20 degrees

3.4.10.2.4. Lateral Course Deviation +/- 3 miles

3.4.10.3. **U.** Made major deviations or omissions in procedures and checklist items required by the flight manual and applicable directives. Failed to comply with controller's instructions. Exceeded Q- criteria.

3.4.11. **AREA 31 – PRECISION APPROACH (PA) OR APPROACH WITH VERTICAL GUIDANCE (APV): Note:** A single PA or APV is required. (**T-3**)

3.4.11.1. **Q.** Performed procedures as directed and according to applicable flight manual. Smooth and timely corrections to azimuth and glide slope. Established initial glide path and adjusted for deviations throughout the approach. Complied with decision height. Position would have permitted a safe landing.

3.4.11.1.1. Glide slope: Did not exceed slightly above or below precision approach radar (PAR) or +/- 1 dot (ILS)

3.4.11.1.2. Airspeed +10/-5 kts

3.4.11.1.3. Heading/Course +/- 5 degrees of controller's instructions (PAR) or +/- 1 dot (ILS)

3.4.11.1.4. Decision height (DH) +50/ -25 ft. (ILS) or prompt response to DH (PAR)

3.4.11.2. **Q-.** Performed procedures with minor deviations. Slow to respond to controller's instructions/make corrections. Slow to establish initial glide path and adjust for deviations throughout the approach. Complied with decision height. Position would have permitted a safe landing.

3.4.11.2.1. Glideslope within PAR safety limits or 2 dots above, 1 dot below (ILS)

3.4.11.2.2. Airspeed +15/-5 kts

3.4.11.2.3. Heading/Course +/-15 degrees of controller instructions (PAR) or +/- 2 dots (ILS)

3.4.11.2.4. DH +75/-50 ft.

3.4.11.3. **U.** Performed procedures with major deviations. Erratic corrections. Did not respond to controller's instructions and/or exceeded Q- criteria. Did not comply with decision height and/or position would not have permitted a safe landing. Too high above or too low below glide path for safe approach.

3.4.12. **AREA 32 – NON-PRECISION APPROACH:**

3.4.12.1. **Q.** Performed procedures as published/directed and according to applicable flight manual. Made smooth and timely corrections. Arrived at minimum descent altitude (MDA) prior to or at visual descent point (VDP). Position would have permitted safe landing.

3.4.12.1.1. Airspeed: 10/-5 kts

3.4.12.1.2. Altitude: +100/-50 ft. (after reaching MDA and prior to missed approach point (MAP))

3.4.12.1.3. Heading/Course: +/- 10 degrees or within one dot

3.4.12.1.4. Timing computed to within 10% of actual timing (when applicable)

3.4.12.2. **Q-.** Performed procedures with minor deviations. Slow to make corrections. Arrived at MDA prior to or at missed approach point. Position would have allowed safe landing.

3.4.12.2.1. Airspeed: +15/-5 kts

3.4.12.2.2. Altitude: 125/-50 ft. (after reaching MDA and prior to MAP)

3.4.12.2.3. Heading/Course: +/- 15 degrees or within two dots

3.4.12.2.4. Timing computed to within 20% of actual timing (when applicable)

3.4.12.3. **U.** Performed procedures with major deviations. Erratic corrections. Exceeded Q- criteria. Did not arrive at MDA prior to or at missed approach point. Position would not have permitted safe landing. Failed to compute or adjust timing to determine MAP (when applicable).

3.4.13. **AREA 33 – CAT II/IIIA ILS PROCEDURES: Note:** A coupled approach to an auto-go, an auto-land, and a 3-engine manual ILS to CAT II minimums followed by a 3-engine missed approach will be accomplished in order to satisfy CAT II/IIIa certification requirements. (**T-3**) These events should be evaluated in the ATD to the maximum extent possible.

3.4.13.1. **Q.** Performed procedures as published and according to flight manual and applicable directives. Ensured the aircraft systems were configured correctly at the proper time. Monitored the aircraft and systems throughout the maneuver and took corrective action for any malfunctions or deviations. Proper landing/go-around procedures were applied.

3.4.13.2. **Q-.** Performed procedures with minor deviations. Slow to configure aircraft systems. Slow to recognize and correct aircraft/system deviations. Slow to take correct actions at alert/decision height.

3.4.13.3. **U.** Performed procedures with major deviations. Did not recognize aircraft/system deviations or take corrective action. Exceeded Q- criteria.

3.4.14. **AREA 34 – MISSED APPROACH: Note 1:** Missed approach must be initiated from an instrument approach. (**T-3**) **Note 2:** Airspeed "+" tolerances do not apply unless assigned/restricted by ATC/tech data. Must not exceed placard speeds.

3.4.14.1. **Q.** Executed missed approach as published or directed. Completed all procedures according to applicable flight manual and directives.

3.4.14.1.1. Level off altitude: +/- 200 ft.

3.4.14.1.2. Airspeed: +/- 10 kts

3.4.14.1.3. Heading/Course: +/- 10 degrees

3.4.14.1.4. Lateral Course Deviation: +/- 2 miles

3.4.14.2. **Q-.** Executed missed approach with minor deviations. Slow to comply with published procedures, controller's instructions, flight manual procedures or directives.

3.4.14.2.1. Level off altitude: +/- 300 ft.

3.4.14.2.2. Airspeed: +15/-10 kts

3.4.14.2.3. Course/Heading: +/- 15 degrees

3.4.14.2.4. Lateral Course Deviation: +/- 3 miles

3.4.14.3. **U.** Executed missed approach with major deviations. Failed to comply with published procedure, controller's instructions, flight manual procedures, or directives. Exceeded Q- criteria.

3.4.15. **AREA 35 – GO-AROUND: Note 1:** May be flown from any type of approach, IFR or VFR. Flight examiner may direct a go-around at any point in an approach or landing to evaluate go-around procedures. **Note 2:** May be graded during a missed approach.

3.4.15.1. **Q.** Aircraft control was smooth and positive. Promptly established appropriate go- around pitch and power settings. Performed procedures IAW the flight manual. Complied with pattern/maneuver and flap retraction speed limitations.

3.4.15.2. **Q-.** Slow to establish appropriate go around pitch and power settings. Minor errors/deviations/omissions in flight manual procedures. Complied with pattern/maneuver and flap retraction speed limitations.

3.4.15.3. **U.** Rough or erratic aircraft control. Pitch and power settings were inappropriate. Major errors/deviations/omissions in flight manual procedures. Failed to comply with pattern/maneuver and/or flap retraction speed limitations.

3.4.16. **AREA 36 – VFR PATTERN: Note:** If weather conditions and/or airport traffic flow permit.

3.4.16.1. **Q.** Performed traffic patterns according to the flight manual, operational procedures manual and directives. Aircraft control was positive and smooth. Effectively cleared ahead of flight path.

3.4.16.1.1. Pattern altitude: +/- 200 ft.

3.4.16.1.2. Airspeed (Pattern): +20/-5 kts (did not exceed flap placard)

3.4.16.1.3. Airspeed (Final): +10/-5 kts

3.4.16.2. **Q-.** Performed traffic patterns with minor deviations to procedures outlined in the flight manual, operational procedures manual, and local directives. Aircraft control was not consistently positive and smooth, but safe. Adequately cleared area of intended flight.

3.4.16.2.1. Altitude: +/- 300 ft.

3.4.16.2.2. Airspeed (Pattern): +30/-5 kts (did not exceed flap placard)

3.4.16.2.3. Airspeed (Final): +15/-5 kts

3.4.16.3. **U.** Traffic patterns not performed according to procedures outlined in the flight manual, operational procedures manual, or local directives. Erratic aircraft control. Did not clear area of intended flight. Exceeded Q- criteria. Significant over/under shoot of final.

3.4.17. **AREA 37 – LANDINGS: Note 1:** Perform an outboard engine out reverse thrust landing. This maneuver should be evaluated in the ATD in conjunction with the EPE. **Note 2:** Perform both a right and left seat landing in the aircraft, ATD, or a combination of the two. Not required for instructor pilots.

3.4.17.1. **Q.** Performed landings according to procedures outlined in the flight manual, operational procedures manual and local directives. Correct reverse thrust procedures.

3.4.17.1.1. Threshold speed: +10/-5 kts

3.4.17.1.2. Touchdown point: +/- 1000 ft as compared to computed flare distance and within stopping distance for runway available.

3.4.17.2. **Q-.** Landings performed according to flight manual procedures but outside the tolerances in Q criteria. Touchdown within stopping distance for runway available, and within the first 3000 ft of runway available. Slow reverse thrust procedures or minor deviations.

3.4.17.3. **U.** Landings not performed according to procedures outlined in the flight manual, operational procedures manual and local directives. Improper reverse thrust procedures. Exceeded Q- criteria.

3.4.18. **AREA 38 – TOUCH AND GO LANDINGS: Note 1:** Instructor pilots will demonstrate and instruct a 3-engine touch (outboard engine out)/4-engine go. (**T-3**) Instructor pilots may be evaluated on this area in the ATD. **Note 2:** Initial INSTR evaluations will include a touch and go landing performed as pilot flying from the right seat (may be performed in the ATD). These requirements can be performed concurrently.

3.4.18.1. **Q.** Complied with flight manual procedures, operational restrictions, and local directives. Ensured adequate runway length to permit a safe stop. Corrected to centerline prior to rotation. Smooth, positive aircraft control throughout takeoff phase.

3.4.18.2. **Q-.** Minor errors/deviations/omissions in the flight manual procedures, operational restrictions, or local directives. Ensured adequate runway length to permit a

safe stop. Slow to correct to centerline. Control rough, erratic or hesitant during takeoff phase.

3.4.18.3. **U.** Major errors/deviations/omissions in the flight manual procedures, operational restrictions or local directives. Failed to ensure adequate runway length available to permit a safe stop. Did not correct to centerline. Lift off potentially dangerous. Over controlled aircraft.

3.4.19. **AREA 39 – SIMULATED OUTBOARD ENGINE OUT APPROACH AND MISSED APPROACH: Note 1:** This area should be evaluated in the ATD in conjunction with the EPE. **Note 2:** Instructor pilots will demonstrate and instruct this area. (**T-3**)

3.4.19.1. **Q.** Accomplished emergency procedure checklist and reviewed considerations. Performed applicable approach procedures outlined in the flight manual and other directives. Smooth aircraft response to applicable controller instructions. Complied with MDA/DH and initiated missed approach instructions. Maintained stable aircraft control and established positive climb when able. Aircraft control was positive and smooth.

3.4.19.2. **Q-.** Performed procedures with minor deviations. Slow to review considerations. Aircraft control somewhat erratic but safe. Complied with MDA/DH. Slow to establish the missed approach attitude but maintained positive climb when able.

3.4.19.3. **U.** Did not perform applicable emergency procedures or performed applicable emergency procedure with major deviations. Erratic aircraft control compromising safety. Did not adhere to MDA/DH. Poor asymmetric control on missed approach. Did not establish/maintain positive climb when able. Failed to recognize and apply corrections to avoid over/undershoots, did not comply with procedures outlined in the flight manual/other directives.

3.4.20. **AREA 40 – SYSTEMS KNOWLEDGE/OPERATION: Note:** A sampling of the following areas should be discussed/evaluated: Electrical, Hydraulic, Air Conditioning/Heating/Ventilation, Pressurization, Fuel/Oil, Anti-ice, Engines, Oxygen System.

3.4.20.1. **Q.** Satisfactory knowledge of systems ensuring effective operation within prescribed limits and diagnosis of problems. Explained proper corrective action for each type of malfunction. Effectively utilized checklist and/or available aids.

3.4.20.2. **Q-.** Incomplete knowledge of system operating limits. Slow to analyze problems or take proper corrective action. Did not effectively use checklist and/or available aids.

3.4.20.3. **U.** Unsatisfactory knowledge of systems. Unable to analyze problems or take corrective action. Did not use checklist and/or available aids.

3.4.21. **AREA 41 – AFTER LANDING:**

3.4.21.1. **Q.** Appropriate after landing checks and aircraft taxi procedures accomplished in accordance with the flight manual and applicable directives. Taxi speeds appropriate for conditions. Visually cleared area. Safely followed marshaling instructions.

3.4.21.2. **Q-.** Same as Q except minor errors, deviations or omissions were noted in performance of after landing check and/or aircraft taxi procedures in which safety was not

jeopardized. Taxi speeds appropriate for conditions. Visually cleared area. Some confusion over marshaller's instructions.

3.4.21.3. **U.** Major errors, deviations or omissions were made in performance of after landing check or aircraft taxi procedures, which could have jeopardized safety. Taxi speeds inappropriate for conditions. Failed to clear. Disregarded marshaller's instructions or allowed marshaller to direct an unsafe situation.

3.4.22. **AREA 42 – OPERATIONAL EXECUTION: Note 1:** Alert procedures (as a minimum: Alert Cocking, Alert Engine Start, Alert Before Takeoff, and Self-Sustained Alert Shutdown/Cocking Checklists) should be accomplished on initial QUAL evaluations. **Note 2:** A sampling of alert procedures should be evaluated on recurring QUAL evaluations. **Note 3:** Aircraft commanders should occupy the right seat, alert aircraft commanders should occupy the left seat and instructor pilots may occupy either seat.

3.4.22.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives and applicable flight manuals. Aircraft/equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations.

3.4.22.2. **Q-.** As above but with minor deviations, omissions or errors, which did not prevent accomplishment of mission goals. Slow to adapt to changing situations.

3.4.22.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistent with objectives and current directives. Aircraft/equipment was not properly configured, affecting mission success. Failed to adapt to changing situations.

3.4.23. **AREA** S **43 – 50 – RESERVED FOR FUTURE USE.**

Chapter 4

NAVIGATOR EVALUATIONS

4.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific navigator evaluation requirements are found in **Table 4.1**.

Table 4.1. Navigator Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
51. Flight Plan/Charts	R	
52. Pre-Takeoff	R	
53. Departure	R	
54. Instrument Checks	R	
55. Dead Reckoning	R	X
56. Pacing	R	
57. System Knowledge/Operation	R	X
58. Rendezvous/Air Refueling	R	X
59. Descent/Approach/Landing	R	
60. Operational Execution	R	X
61 – 70. Reserved for future use		

4.2. *Navigator Grading Criteria.*

4.2.1. **AREA 51 – FLIGHT PLAN/CHARTS:**

4.2.1.1. **Q.** Selected current navigation charts of proper scale and type for the mission. Charts and flight plan were prepared in accordance with the flight manual and governing directives. Route was plotted with errors not to exceed 5 nautical miles (NMs). Flight plan was complete with no more than minor errors or omissions. No error exceeded:

4.2.1.1.1. Heading: +/-5 degrees

4.2.1.1.2. Time: +/-2 minutes

4.2.1.2. **Q-.** No more than one error made in transcribing coordinates. Route plotting errors did not exceed 10 NM. No more than four errors exceeded Q tolerances and no error exceeded:

4.2.1.2.1. Heading: +/-10 degrees

4.2.1.2.2. Time: +/-4 minutes

4.2.1.3. **U.** Flight plan or chart was not completed, or contained major errors or omissions, which would affect mission accomplishment. Selected improper or obsolete charts. Exceeded Q- criteria.

4.2.2. **AREA 52 – PRE-TAKEOFF:**

4.2.2.1. **Q.** Completed all required checks. Recognized evidence of malfunctions and took proper corrective actions. Was knowledgeable of applicable sections and checked AFTO Form 781 series. Monitored and copied clearance. Coordinated with the pilots on the procedures to be followed. If required, gave precise countdown for start engines, taxi and takeoff. Cross-checked instruments and navigation aids.

4.2.2.2. **Q-.** Same as Q except for minor procedural deviations which did not result in delay or misunderstanding of departure procedures.

4.2.2.3. **U.** Did not accomplish all required checklist items. Was not prepared for takeoff. When required, did not accomplish countdown for engine start, taxi and takeoff. Was not aware of ATC clearance.

4.2.3. **AREA 53 – DEPARTURE:**

4.2.3.1. **Q.** Monitored headings, altitudes and aircraft position throughout the departure. Provided headings, estimated time of arrival (ETA) and other required information in a timely manner. Ensured adequate terrain clearance by monitoring the departure on airborne radar and followed through on a standard instrument departure (SID), if applicable.

4.2.3.2. **Q-.** Monitored headings, altitudes, position and terrain clearance. Was slow to provide headings, ETAs or other appropriate information. Performance did not degrade mission accomplishment nor compromise flight safety. Procedures to monitor the departure/SID were minimally acceptable.

4.2.3.3. **U.** Did not monitor headings, altitude or terrain clearance during the departure. Was not aware of aircraft position and was unable to provide updated information when required. Did not use a SID or appropriate local area chart.

4.2.4. **AREA 54 – INSTRUMENT CHECKS:**

4.2.4.1. **Q.** Correctly computed deviation checks when required by the flight manual or mission requirements. Correctly computed true airspeed (TAS) check when a known or suspected TAS instrument failure occurs. Errors did not exceed 1 degree or 4 knots. Compass cross checks were made periodically and other instruments were monitored as applicable.

4.2.4.2. **Q-.** Same as for Q except minor errors in readings or computations were made not affecting accuracy of checks by more than 2 degrees or 8 knots.

4.2.4.3. **U.** Did not accomplish deviation or TAS checks when required. Computation errors exceeded Q- criteria. Did not monitor other instruments as applicable.

4.2.5. **AREA 55 – DEAD RECKONING (DR): Note 1:** Navigators must demonstrate procedures and techniques of inertial navigation system (INS)/flight management system (FMS) navigation as the primary means of navigation (aid to DR) for the entire mission. (**T-3**)

Note 2: General navigation for the navigator commences upon level off and ceases when the pilot or air traffic controller assumes navigation to the terminal facility.

4.2.5.1. **Q.** During general navigation, did not allow the airplane to deviate outside the ATC allowable airspace and in no case was the deviation more than 10 NM (4 NM or as specified for operations below flight level (FL) 180) from the course. Did not deviate outside the ATC assigned/protected lateral airspace. Met/attempted to meet planned air refueling mission timing using all reasonable effort. If unable to make the refueling time, coordinated a revised air refueling control time (ARCT). No training was lost by the tanker or receiver which could be attributed to the navigator's error. Navigation leg departure position was accurate within 5 NM.

4.2.5.2. **Q-.** During general navigation, did not allow the plane to deviate outside the ATC allowable airspace and in no case was the deviation more than 15 NM (10 NM or as specified for operations below FL 180) from the course. Ineffective timing control resulted in unnecessarily delaying the air refueling rendezvous; however, no significant training was lost by either tanker or receiver. Navigation leg departure position was accurate within 10 NM.

4.2.5.3. **U.** Exceeded Q- standards. Allowed the aircraft to deviate outside ATC assigned/protected lateral airspace. Significant training was lost by tanker/receiver.

4.2.6. **AREA 56 – PACING:**

4.2.6.1. **Q.** Held an even workflow achieving maximum use of available time. Stayed ahead of flight progress. Ensured accurate and timely position reports. Expeditiously dealt with deviations from original flight plan.

4.2.6.2. **Q-.** Pacing was adequate, but occasionally worked behind aircraft. Position reports not over 5 minutes late and turn points not over flown by more than 2 minutes.

4.2.6.3. **U.** Overall pacing and fixing schedule were unsatisfactory. Worked behind aircraft throughout most of flight. Position reports were late by more than 5 minutes and turn points were over flown by more than 2 minutes.

4.2.7. **AREA 57 – SYSTEM KNOWLEDGE/OPERATION: Note:** The extent of inflight corrective action required of the navigator to overcome a search radar malfunction should be determined by the mission requirements and the criticality of the malfunctioning radar.

4.2.7.1. **Q.** Navigation equipment was operated IAW prescribed procedures with no more than minor deviations or omissions that could not cause damage to equipment or significantly degrade system performance. Equipment malfunctions were correctly analyzed and corrected when possible for satisfactory equipment capability. INS/FMS coordinates were never more than 5 NM in error provided there were no equipment malfunctions. Radar positioning accuracy did not exceed 10 NM (using 50 NM or less range).

4.2.7.2. **Q-.** Navigation equipment was not operated IAW prescribed procedures. Equipment malfunctions were incorrectly analyzed, or corrective actions were incomplete or incorrect. Variations or omissions in prescribed procedures, erroneous data insertion or faulty techniques caused a significant degradation of equipment performance. In any case, actions could not have damaged equipment or jeopardized mission objectives. INS/FMS

coordinates were never more than 10 NM in error provided there were no equipment malfunctions. Radar positioning accuracy did not exceed 15 NM (using 50 NM or less range).

4.2.7.3. **U.** Exceeded Q- criteria.

4.2.8. **AREA 58 – RENDEZVOUS/AIR REFUELING:** **Note 1:** Navigators must demonstrate proficiency in receiver air refueling tactics IAW TO 1E-4B(II)-1, *Flight Manual E-4B*, and allied technical publication (ATP)-3.3.4.2, *Air-to-Air Refueling*. (**T-3**) **Note 2:** Air refueling includes rendezvous (point parallel or enroute), inter-plane communications, breakaway and post-refueling. **Note 3:** Every effort should be made to evaluate air refueling procedures in-flight. However, if a tanker rendezvous cancels on the same day of the planned sortie, air refueling procedures may be accomplished verbally for recurring evaluations and at the discretion of the flight examiner for requalification evaluations. For initial QUAL evaluations, air refueling rendezvous procedures must be evaluated in-flight with a tanker. (**T-3**)

4.2.8.1. **Q.** Rendezvous and air refueling procedures were in accordance with prescribed directives and all checklists were accomplished with no more than minor discrepancies. Every reasonable effort was made to make rendezvous initial point (RVIP) timing within +/- 1 minute, or the ARCT within +/- 2 minutes of scheduled time. Positive identification of the tanker radar return was made. Turn range and offset were computed, cross-checked and correctly used within 2 NM.

4.2.8.2. **Q-.** Displayed lack of knowledge and familiarity with the checklists and/or rendezvous and air refueling procedures. However, knowledge was sufficient to ensure rendezvous and air refueling with minimal loss of training time/activity. Computations were in error by more than 2 NM, but did not exceed 5 NM in error. Arrival at ARCT greater than 2 minutes, but less than 4 minutes. RVIP timing was greater than 1 minute but did not exceed 2 minutes.

4.2.8.3. **U.** Displayed lack of knowledge and familiarity with the checklists and/or rendezvous and air refueling procedures to the extent that the rendezvous or air refueling was jeopardized or precluded or significant training time/activity was lost. Effort to make timing good was possible to within 2 minutes but failed to attempt. Failure to accomplish positive aircraft identification resulted in an actual or attempted rendezvous with the wrong aircraft. Timing and computations exceeded Q- criteria.

4.2.9. **AREA 59 – DESCENT/APPROACH/LANDING:**

4.2.9.1. **Q.** Monitored aircraft position and approach instructions. Furnished the pilot with headings, ETAs, and other information when required. Thoroughly understood approach and/or missed approach instructions and procedures. Monitored appropriate flight information publication (FLIP) terminal approach plate. Ensured terrain clearance.

4.2.9.2. **Q-.** Monitored aircraft position but did not monitor or understand approach and/or missed approach instructions/procedures. Slow in providing headings, ETAs, and other information when required.

4.2.9.3. **U.** Failed to monitor aircraft position. Did not ensure terrain clearance during approach. Exceeded Q- criteria.

4.2.10. **AREA 60 – OPERATIONAL EXECUTION: Note 1:** The flight examiner may award credit for a block time control exercise (BTCE) when BTCE procedures are used to compute a touchdown time for the first approach/low approach or subsequent approaches when transition is scheduled for the remainder of the sortie. **Note 2:** Do not penalize the navigator if they have made every reasonable effort to make the block time and unforeseen events such as ATC sequencing, weather, etc., prevent accomplishment within specified timing criteria.

4.2.10.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives and applicable flight manuals. Aircraft/equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations. Accomplished either a BTCE or low pass visual rendezvous (LPVR) maneuver to within +/-2 minutes of established time.

4.2.10.2. **Q-.** As above but with minor deviations, omissions or errors, which did not prevent accomplishment of mission goals. Slow to adapt to changing situations. Accomplished either BTCE or LPVR to within +/-4 minutes of established time.

4.2.10.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistently with objectives and current directives. Aircraft/equipment was not properly configured, affecting mission success. Failed to adapt to changing situations.

4.2.11. **AREA** S **61 – 70 – RESERVED FOR FUTURE USE**.

Chapter 5

FLIGHT ENGINEER EVALUATIONS

5.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific flight engineer evaluation requirements are found in **Table 5.1**.

5.2. *Instructor Evaluations.* Evaluate all areas as defined in **paragraph 2.4**. Initial INSTR evaluations should be administered with the examinee performing instructor duties to a student occupying the flight engineer position. If a student flight engineer is not available, flight examiners (or another qualified flight engineer) may act as student for the purpose of evaluating instructor ability. Flight engineers desiring to realign their QUAL/MSN evaluation during their initial INSTR evaluation must complete it on two separate sorties, to ensure all primary and instructor duties are comprehensively evaluated. (**T-3**)

5.3. *Emergency Procedures Evaluation (EPE).* Evaluate all areas as defined in **paragraph 2.6**. EPEs will evaluate the flight engineer's performance of all boldface/critical action procedures (CAPs), a cross-section of noncritical emergency procedures, and knowledge and performance of general systems operation. **(T-2)** Evaluate emergency procedures knowledge of at least one major aircraft system, listed in **Table 5.3**, to a logical conclusion. Additional emergency/abnormal situations given do not have to be complete. Emphasis should be on recognition and analysis of the problem, associated systems knowledge, and performance of appropriate procedures. Flight engineer EPE will be conducted in the ATD to the maximum extent possible.

Table 5.1. Flight Engineer Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
71. Weight and Balance	R	
72. Takeoff and Landing Data	R	
73. Pre-Takeoff	R	X
74. Takeoff/Climb	R	
75. Cruise	R	
76. Air Refueling	R	X
77. System Knowledge/Operation	R	X
78. Descent/Landing	R	
79. After Landing/Engine Shutdown	R	
80. Operational Execution	R	X
81 – 90. Reserved for future use		

5.4. Flight Engineer Grading Criteria.

5.4.1. AREA 71 – WEIGHT AND BALANCE:

5.4.1.1. **Q.** Had satisfactory knowledge of aircraft weight and balance directives. Was able to complete DD Form 365-4, *Weight and Balance Clearance Form F-Transport/Tactical*, accurately and legibly; errors were within the tolerances listed in **Table 5.2** not to exceed aircraft limits.

5.4.1.2. **Q-.** Same as Q, but completed DD Form 365-4 with minor errors or omissions not affecting safety. Limited knowledge of weight and balance directives. Errors exceeded Q tolerances, but were within the tolerances listed in **Table 5.2** not to exceed aircraft limits.

5.4.1.3. **U.** Unable to complete DD Form 365-4. Errors exceeded Q- tolerances in **Table 5.2** and/or aircraft limitations. Inadequate knowledge of weight and balance directives.

5.4.2. AREA 72 – TAKE OFF AND LANDING DATA (TOLD):

5.4.2.1. **Q.** Completed TOLD in accordance with existing directives. Fully knowledgeable of performance data and all factors which affect performance data. Computed data within the tolerances listed in **Table 5.2**.

5.4.2.2. **Q-.** Completed TOLD in accordance with existing directives with minor deviations which would not detract from mission effectiveness. Adequate knowledge of performance data and most factors which affect performance data. Computed data outside of Q criteria (column A), but within the tolerances in column B of **Table 5.2**.

5.4.2.3. **U.** Unable to complete TOLD. Computations exceeded criteria in column B of **Table 5.2**. Inadequate knowledge of performance data.

Table 5.2. Performance Criteria.

ITEM	COLUMN A (Q)	COLUMN B (Q-)
Aircraft gross weight	+/- 2000 lbs	+/- 7000 lbs
Take off (T/O) gross weight	+/- 4000 lbs	+/- 7000 lbs
Landing gross weight	+/- 7000 lbs	+/- 10000 lbs
% of Mean Aerodynamic Chord (MAC)	+/- 1.0%	+/- 1.5%
Airspeeds	+/- 2 kts	+/- 4 kts
Critical field length (CFL)/Takeoff dist.	+/- 200 ft.	+/- 400 ft.
Landing distance	+/- 400 ft.	+/- 600 ft.
Assumed temperature	+/- 2 degrees C	+/- 5 degrees C
N1	+/- 0.3%	+/- 0.6%
Stabilizer trim	+/- 0.2 degree	+/- 0.4 degree

5.4.3. **AREA 73 – PRE-TAKEOFF: Note:** Equipment/system discussions may be accomplished at any time prior to the critique. Flight examiners should ensure discussions do not interfere with the examinee's crew duties.

5.4.3.1. **Q.** Accomplished required inspections in a thorough and proficient manner as outlined in applicable manuals, checklists or directives. Properly checked warning/emergency systems; displayed complete knowledge of information contained in applicable AFTO Form 781 series. Correctly determined aircraft status.

5.4.3.2. **Q-.** Minor deviation in accomplishment of required inspections as outlined in applicable manuals, checklists or directives. Checked warning/emergency systems. Incomplete knowledge of information contained in the applicable AFTO Form 781 series. Able to determine aircraft status.

5.4.3.3. **U.** Accomplished inspections, but not in a thorough or proficient manner. Omitted or improperly checked warning/emergency systems. Little or no knowledge of information in applicable AFTO Form 781 series. Could not determine correct status of aircraft.

5.4.4. **AREA 74 – TAKEOFF/CLIMB:**

5.4.4.1. **Q.** Monitored engine/aircraft system indicators; complied with the aircraft commander's briefing; accomplished required procedures as outlined in the applicable flight manual.

5.4.4.2. **Q-.** Minor deviations in accomplishing required procedures as outlined in applicable manuals, checklists and directives; monitored engine/aircraft system indicators. Minor exceptions when complying with the aircraft commander's instructions.

5.4.4.3. **U.** Did not monitor engine/aircraft systems indicators; did not comply with aircraft commander's instructions; did not accomplish required procedures as outlined in applicable flight manual.

5.4.5. **AREA 75 – CRUISE:**

5.4.5.1. **Q.** Satisfactory knowledge in the use of required cruise control/range prediction procedures. Accomplished inflight data logs and proper fuel management procedures. Accomplished checks/procedures as outlined in applicable directives.

5.4.5.2. **Q-.** Incomplete but adequate knowledge of cruise control/range prediction procedures, inflight data logs, and fuel management procedures. Accomplished checks/procedures as outlined in applicable directives with minor deviations. Logs contained errors or omissions.

5.4.5.3. **U.** Inadequate knowledge of cruise control/range prediction procedures, inflight data logs, and fuel management procedures. Required checks/procedures were inadequate or not accomplished at all.

5.4.6. **AREA 76 – AIR REFUELING: Note:** May be evaluated in the ATD or orally for all evaluations other than initial QUAL.

5.4.6.1. **Q.** Accomplished appropriate checklists/flight manual procedures and adhered to other governing directives. Accomplished fuel management as outlined in the applicable flight manual with only minor deviations that did not detract from mission success.

5.4.6.2. **Q-.** Accomplished appropriate flight manual procedures with minor deviations or omissions which detracted from, but did not jeopardize, mission accomplishment. Unsure of proper fuel management procedures. Failed to demonstrate complete familiarity with the fuel system.

5.4.6.3. **U.** Inadequate knowledge of air refueling procedures/directives. Unacceptable procedures for fuel management.

5.4.7. **AREA 77 – SYSTEM KNOWLEDGE/OPERATION: Note:** System discussion may be accomplished before, during or after the flight prior to critique. **Table 5.3** contains systems/areas that should be discussed/evaluated.

5.4.7.1. **Q.** Satisfactory knowledge of system components, functions and limitations; demonstrated proper management and operation of system; analyzed simulated or actual malfunctions and applied proper corrective action; fully determined status of related systems.

5.4.7.2. **Q-.** Incomplete knowledge of system components, functions and limitations; minor deviations in management or operation of systems when analyzing simulated or actual malfunctions and applying corrective action; adequately determined status of related systems.

5.4.7.3. **U.** Inadequate knowledge of system components, functions and limitations; improper management or operation of systems; unable to analyze simulated or actual malfunctions or apply corrective action; could not determine status of related systems.

Table 5.3. Aircraft Systems.

Electrical	Flight Controls/Flaps
Hydraulic	Landing Gear/Brakes/Steering
Air Conditioning/Heating/ Ventilation	Doors/Hatches
Pressurization	Lighting
Fuel/Oil	Fire Detection
Anti-ice/De-icing	Radio/Navigation Equipment
Engines	Communication/IFF
Oxygen System	Mission Equipment

5.4.8. **AREA 78 – DESCENT/LANDING:**

5.4.8.1. **Q.** Satisfactorily monitored engine/aircraft system indicators; complied with aircraft commander's briefing. Accomplished required checks and procedures as outlined in applicable flight manual.

5.4.8.2. **Q-.** Minor deviations in accomplishing required procedures as outlined in applicable manuals, checklists and directives. Monitored engine/aircraft systems indicators; minor exceptions when complying with aircraft commander's briefing.

5.4.8.3. **U.** Did not monitor engine/system indicators; did not accomplish required checks or procedures as outlined in applicable flight manual. Did not comply with the aircraft commander's briefing.

5.4.9. **AREA 79 – AFTER LANDING/ENGINE SHUTDOWN:**

5.4.9.1. **Q.** Satisfactory knowledge of required procedures as outlined in applicable manuals. Complied with instruction and directives in a satisfactory and timely manner.

5.4.9.2. **Q-.** Incomplete knowledge of required procedures as outlined in applicable manuals. Slow to accomplish, or minor deviations in complying with instructions and directives.

5.4.9.3. **U.** Inadequate knowledge as outlined in applicable manuals or did not comply with instructions or directives.

5.4.10. **AREA 80 – OPERATIONAL EXECUTION: Note:** Alert procedures (Alert Cocking, Alert Engine Start, Alert Before Takeoff, and Alert Shutdown/Re-cocking checklists) should be accomplished. Additionally, for initial QUAL evaluations the Self-Sustained Alert Shutdown/Re-cocking Checklist, a rendezvous procedures exercise (including the use of the Taxi Back checklist) will be accomplished. These items may be evaluated orally or in the ATD for all evaluations other than initial QUAL.

5.4.10.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives and applicable flight manuals. Aircraft/equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations.

5.4.10.2. **Q-.** As above but with minor deviations, omissions or errors, which did not prevent accomplishment of mission goals. Slow to adapt to changing situations.

5.4.10.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistent with objectives and current directives. Aircraft/equipment was not properly configured, affecting mission success. Failed to adapt to changing situations.

5.4.11. **AREA** S **81 – 90 – RESERVED FOR FUTURE USE.**

Chapter 6

FLIGHT ATTENDANT EVALUATIONS

6.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific flight attendant evaluation requirements are found in **Table 6.1**.

Table 6.1. Flight Attendant Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
91. Emergency Equipment	R	
92. Doors/Exits	R	
93. Preflight	R	
94. Pre-Takeoff	R	
95. Airstair Operation	R	
96. In-Flight Duties	R	
97. Aircraft Systems/Personal Accommodations	R	
98. Air Refueling	R	
99. Descent/Before Landing	R	
100. After Landing	R	
101. Postflight/Debrief and Mission Paperwork/Forms	R	
102. – 110. Reserved for future use		

6.2. *Flight Attendant Grading Criteria.*

6.2.1. **AREA 91 – EMERGENCY EQUIPMENT:**

6.2.1.1. **Q.** Demonstrated knowledge of use and location of all emergency equipment. Demonstrated ability or knowledge of how to remove all equipment from securing brackets.

6.2.1.2. **Q-.** Limited knowledge of use and location of all emergency equipment. Unsure of some operating procedures.

6.2.1.3. **U.** Unsatisfactory knowledge of equipment and equipment location that jeopardizes safety of passengers and crew.

6.2.2. **AREA 92 – DOORS/EXITS:**

6.2.2.1. **Q.** Demonstrated/explained the operation and emergency use of all doors and exits. Was able to explain flight attendant's responsibilities for normal and emergency operations. Able to open and close correctly.

6.2.2.2. **Q-.** Limited operational knowledge of doors and exits. Difficulty opening or closing doors and exits or explain emergency use of exits in emergency situations.

6.2.2.3. **U.** Unsatisfactory knowledge of operation on doors and exits. Unsatisfactory knowledge of associated warning and cautions with each door.

6.2.3. **AREA 93 – PREFLIGHT:**

6.2.3.1. **Q.** Thoroughly accomplished all preflight/through flight interior inspection and equipment check procedures as prescribed in applicable directives and checklists. Checked applicable AFTO Form 781 series and determined flight attendant equipment status. Demonstrated a thorough knowledge of expanded procedures. No deviations/omissions noted.

6.2.3.2. **Q-.** Minor deviations/omissions in above and/or incomplete knowledge of expanded procedures, but did not delay aircraft or compromise safety.

6.2.3.3. **U.** Major deviations/omissions. Did not demonstrate adequate knowledge of expanded procedures. Did not accomplish required items in a timely manner.

6.2.4. **AREA 94 – PRE-TAKEOFF:**

6.2.4.1. **Q.** Accomplished pre-takeoff procedures in accordance with local directives/checklists. Completed applicable briefings in a clear manner using the flight attendant in-flight guide. Demonstrated proper stowing of seats/tables/equipment for takeoff and ensured cabin/galley secured. Relayed crew/passenger count, door mode selector lever positions and cabin/galley secure to flight deck.

6.2.4.2. **Q-.** Minor deviations/omissions in above that did not cause undue delay of flight or jeopardize safety. Some difficulty communicating thoughts clearly. Did not make effective use the flight attendant in-flight guide.

6.2.4.3. **U.** Failed to accomplish after loading and before cruise procedures in accordance with local directives/applicable regulations. Did not complete appropriate briefings. Failed to stow seats/tables/equipment. Failed to ensure cabin/galley secure. Did not relay required information to flight deck or presented erroneous information which could affect safe/effective mission accomplishment.

6.2.5. **AREA 95 – AIRSTAIR OPERATION:**

6.2.5.1. **Q.** Accomplished procedures/operation as prescribed in flight manual/applicable directives. Demonstrated a thorough knowledge of procedures.

6.2.5.2. **Q-.** Same as above, however not fully knowledgeable of procedures. Hesitant to perform required operations.

6.2.5.3. **U.** Deviations/omissions from established procedures which jeopardized personnel or damaged aircraft equipment.

6.2.6. **AREA 96 – INFLIGHT DUTIES:**

6.2.6.1. **Q.** Accomplished all cruise checklist items as necessary. All phases of passenger comfort and food handling were carried out in accordance with mission requirements. Safety considerations and sanitation were observed through all phases of food storage, preparation, service, and cleanup.

6.2.6.2. **Q-.** Minor errors/omissions in above which did not detract from mission effectiveness or success.

6.2.6.3. **U.** Major errors/omissions, which detracted from passenger comfort and mission effectiveness or compromised safety.

6.2.7. **AREA 97 – AIRCRAFT SYSTEMS/PERSONNEL ACCOMMODATIONS:**

6.2.7.1. **Q.** Satisfactory knowledge of procedures and limitations of oxygen, water, communications and emergency lighting/electrical systems. Satisfactory knowledge of galley equipment to include master power location, associated circuit breakers. Satisfactory knowledge and limitations of aircraft lavatories.

6.2.7.2. **Q-.** Minor errors/omissions in above or incomplete knowledge. Did not compromise safety.

6.2.7.3. **U.** Major errors/omissions or inadequate knowledge or compromised safety.

6.2.8. **AREA 98 – AIR REFUELING:**

6.2.8.1. **Q.** Accomplished all checklist items and procedures as prescribed in applicable directives/flight manuals. Ensured passengers complied with seat belt signs.

6.2.8.2. **Q-.** Minor errors/omission in above that did not compromise safety. Limited knowledge of associated warning with air refueling

6.2.8.3. **U.** Major errors/omissions that compromised safety. Did not follow established procedures. Failed to ensure passengers complied with seat belt signs and/or make required checks for fuel fumes/leakage. Unsatisfactory knowledge of associated warning with air refueling.

6.2.9. **AREA 99 – DESCENT/BEFORE LANDING:**

6.2.9.1. **Q.** Accomplished all checklist items and procedures as prescribed in applicable directives/regulations as required for mission accomplishment. Ensured passenger compliance with descent/landing requirements and ensured cabin/galley securing.

6.2.9.2. **Q-.** Minor errors/omissions in the above that did not compromise safety.

6.2.9.3. **U.** Major errors/omissions that compromised safety. Did not follow established procedures.

6.2.10. **AREA 100 – AFTER LANDING:**

6.2.10.1. **Q.** Accomplished after landing/engine shutdown and post-mission procedures as prescribed in applicable directives and checklists.

6.2.10.2. **Q-.** Minor errors/omissions in above that did not detract from mission effectiveness or compromise safety.

6.2.10.3. **U.** Major errors/omissions that detracted from mission effectiveness or compromised safety.

6.2.11. **AREA 101 – POSTFLIGHT/DEBRIEF AND MISSION PAPERWORK/FORMS:**

6.2.11.1. **Q.** Satisfactory knowledge and performance of required post flight activities. Attended debrief(s) as required. Ensured aircraft forms were turned in and equipment status debriefed to appropriate personnel. Forms, customs, and other applicable paperwork was completed as required.

6.2.11.2. **Q-.** Minor errors/omissions in above that did not detract from mission effectiveness or compromise safety.

6.2.11.3. **U.** Unsatisfactory knowledge/major deviations in required procedures. Failed to attend or participate in required debrief(s). Failed to complete aircraft forms and debrief equipment status to required personnel.

6.2.12. **AREA** S **102 – 110 – RESERVED FOR FUTURE USE.**

Chapter 7

SUPER HIGH FREQUENCY TECHNICIAN (SHF) EVALUATIONS

7.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific SHF evaluation requirements are found in **Table 7.1**.

Table 7.1. SHF Technician Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
111. Automatic Patch and Test System (APTS)	R	X
112. Computerized Antenna Pointing System (CAPS)	R	
113. AN/USC-28 Modem Group	R	
114. SHF Console	R	X
115. Cryptographic Devices	R	
116. Receiver/Transmitter (R/T) Group	R	
117. High Capacity Backbone (HCB) Satellite Communications (SATCOM)	R	
118. Antenna Pointing Group (APG)	R	X
119. High Power Amplifier (HPA)	R	X
120. Operational Execution		X
121. – 130. Reserved for future use		

7.2. *SHF Grading Criteria.*

7.2.1. **AREA 111 –AUTOMATIC PATCH AND TEST SYSTEM (APTS): Note:** Not required to be evaluated if area 118 (APG) was evaluated.

7.2.1.1. **Q.** Demonstrated satisfactory knowledge of APTS connections pertaining to SHF; demonstrated proper management of communication system; adequately determined status of all related systems.

7.2.1.2. **Q-.** Demonstrated incomplete knowledge of APTS connections pertaining to SHF. Performed minor deviations in management of APTS. Adequately determined status of related systems.

7.2.1.3. **U.** Demonstrated unsatisfactory knowledge of APTS and related communications systems, equipment limitations, and functions.

7.2.2. **AREA 112 – COMPUTERIZED ANTENNA POINTING SYSTEM (CAPS):**

7.2.2.1. **Q.** Demonstrated satisfactory knowledge of CAPS (SHF black terminal, SHF control panel, and black processor) functions, and limitations; demonstrated proper

management and operation of communication system; adequately determined status of all related systems.

7.2.2.2. **Q-.** Demonstrated incomplete knowledge of CAPS functions and limitations. Performed minor deviations in management or operation of CAPS. Adequately determined status of related systems.

7.2.2.3. **U.** Demonstrated unsatisfactory knowledge of CAPS and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for CAPS.

7.2.3. **AREA 113 – AN/USC-28 MODEM GROUP:**

7.2.3.1. **Q.** Demonstrated satisfactory knowledge of AN/USC-28 modem group (red terminal and AN/USC-28) functions, and limitations; demonstrated proper management and operation of communication system; adequately determined status of all related systems.

7.2.3.2. **Q-.** Demonstrated incomplete knowledge of AN/USC-28 modem group functions and limitations. Performed minor deviations in management or operation of AN/USC-28. Adequately determined status of related systems.

7.2.3.3. **U.** Demonstrated unsatisfactory knowledge of AN/USC-28 modem group and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for AN/USC-28.

7.2.4. **AREA 114 – SHF CONSOLE: Note:** This includes any equipment located at position 8.17, to include removable equipment such as a spectrum analyzer.

7.2.4.1. **Q.** Demonstrated satisfactory knowledge of SHF console functions, and limitations; demonstrated proper management and operation of communication system; adequately determined status of all related systems.

7.2.4.2. **Q-.** Demonstrated incomplete knowledge of SHF console functions and limitations. Performed minor deviations in management or operation of SHF console. Adequately determined status of related systems.

7.2.4.3. **U.** Demonstrated unsatisfactory knowledge of SHF console and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for SHF console.

7.2.5. **AREA 115 – CRYPTOGRAPHIC DEVICES:**

7.2.5.1. **Q.** Demonstrated satisfactory knowledge of cryptographic devices (KIV-7M, KGV-9, Simple Key Loader (SKL)) functions, and limitations; demonstrated proper management and operation of communication systems; adequately determined status of all related systems.

7.2.5.2. **Q-.** Demonstrated incomplete knowledge of cryptographic devices functions and limitations. Performed minor deviations in management or operation of cryptographic devices. Adequately determined status of related systems.

7.2.5.3. **U.** Demonstrated unsatisfactory knowledge of cryptographic devices (KIV-7M, KGV-9, SKL) and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for cryptographic devices.

7.2.6. **AREA 116 – RECEIVER/TRANSMITTER (R/T) GROUP:**

7.2.6.1. **Q.** Demonstrated satisfactory knowledge of receiver/transmitter group (low level rack) functions, and limitations; demonstrated proper management and operation of communication system; adequately determined status of all related systems.

7.2.6.2. **Q-.** Demonstrated incomplete knowledge of receiver/transmitter group (low level rack) functions and limitations. Performed minor deviations in management or operation of receiver/transmitter group (low level rack). Adequately determined status of related systems.

7.2.6.3. **U.** Demonstrated unsatisfactory knowledge of receiver/transmitter group (low level rack) and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for receiver/transmitter group (low level rack).

7.2.7. **AREA 117 – HCB SATCOM:**

7.2.7.1. **Q.** Demonstrated satisfactory knowledge of HCB SATCOM (control network, modem group, R/T group, HPA group, power group, and miscellaneous equipment) functions, and limitations; demonstrated proper management and operation of communication system; adequately determined status of all related systems.

7.2.7.2. **Q-.** Demonstrated incomplete knowledge of HCB SATCOM functions and limitations. Performed minor deviations in management or operation of HCB SATCOM. Adequately determined status of related systems.

7.2.7.3. **U.** Demonstrated unsatisfactory knowledge of HCB SATCOM and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for HCB SATCOM.

7.2.8. **AREA 118 – ANTENNA POINTING GROUP (APG): Note:** Not required to be evaluated if area 111 (APTS) was evaluated.

7.2.8.1. **Q.** Demonstrated satisfactory knowledge of APG (antenna power group, servo control unit, acquisition scan generator, and beacon detector) functions, and limitations; demonstrated proper management and operation of communication system; adequately determined status of all related systems.

7.2.8.2. **Q-.** Demonstrated incomplete knowledge of APG functions and limitations. Performed minor deviations in management or operation of APG. Adequately determined status of related systems.

7.2.8.3. **U.** Demonstrated unsatisfactory knowledge of APG and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for APG.

7.2.9. **AREA 119 – HIGH POWER AMPLIFIER (HPA): Note:** The traveling wave tube amplifier and klystron tube HPAs are required for all evaluations, until they are no longer being utilized. One of these HPAs may be orally evaluated if mission requirements dictate.

7.2.9.1. **Q.** Demonstrated satisfactory knowledge of applicable HPA functions, and limitations; demonstrated proper management and operation of communication system; adequately determined status of all related systems.

7.2.9.2. **Q-.** Demonstrated incomplete knowledge of applicable HPA functions and limitations. Performed minor deviations in management or operation of HPA. Adequately determined status of related systems.

7.2.9.3. **U.** Demonstrated unsatisfactory knowledge of applicable HPA and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for HPA.

7.2.10. **AREA 120 – OPERATIONAL EXECUTION: Note:** Required only for mission evaluations. Evaluate AFMAN 11-2E-4BV3 alert procedures, equipment requirements, and challenge/response authentication. This may be verbally evaluated.

7.2.10.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives and applicable flight manuals. Aircraft/equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations.

7.2.10.2. **Q-.** As above but with minor deviations, omissions or errors, which did not prevent accomplishment of mission goals. Slow to adapt to changing situations.

7.2.10.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistent with objectives and current directives. Aircraft/equipment was not properly configured, affecting mission success. Failed to adapt to changing situations.

7.2.11. **AREAS 121 – 130 – RESERVED FOR FUTURE USE.**

Chapter 8

TECHNICAL CONTROLLER 1 (TC1) EVALUATIONS

8.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific TC1 evaluation requirements are found in **Table 8.1**.

Table 8.1. TC1 Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
131. Air Cooling Systems	R	X
132. Liquid Cooling Systems (LCS)	R	X
133. Alternating Current (AC) Power System	R	X
134. Direct Current (DC) Power System	R	X
135. Alarm Central & Associated Panels	R	X
136. Uninterruptable Power Supply (UPS)	R	X
137. Internal Communications Systems	R	X
138. Equipment Troubleshooting		X
139. Operational Execution		X
140 – 150. Reserved for future use		

8.2. *TC1 Grading Criteria.*

8.2.1. **AREA 131 – AIR COOLING SYSTEMS: Note:** This must be evaluated on the aircraft. (**T-3**)

8.2.1.1. **Q.** Demonstrated satisfactory knowledge of air-cooling systems components and limitations. Knows the types of cooling on the aircraft and how air is provided to the aircraft. Operated and monitored rack cooling control panel and associated panels effectively. Able to configure aircraft to provide adequate air cooling to mission systems. Documented temperatures on the TC1 shift check log.

8.2.1.2. **Q-.** Limited knowledge of air-cooling systems components and limitations. Had trouble with the types of cooling on the aircraft and how air is provided to the aircraft. Operated and monitored rack cooling control panel and associated panels with difficulty. Required extra time to configure aircraft to provide adequate air cooling to mission systems. Delayed documentation of temperatures on the TC1 shift check log.

8.2.1.3. **U.** Lacked knowledge of air-cooling systems components and limitations. Did not know the types of cooling on the aircraft and how air is provided to the aircraft. Failed to operate and monitor rack cooling control panel and associated panels. Unable to configure aircraft to provide adequate air cooling to mission systems. Failed to document temperatures on the TC1 shift check log.

8.2.2. **AREA 132 – LCS: Note:** This must be evaluated on the aircraft. (**T-3**)

8.2.2.1. **Q.** Demonstrated satisfactory knowledge of the LCS operating limitations, ground and flight cooling operations, and the three modes of operation. Operated the liquid cooling control panels efficiently. Able to configure aircraft to provide adequate liquid cooling to mission systems. Accomplished temperature and resistivity checks and verified operating limits. Documented on the TC1 shift check log in a timely manner.

8.2.2.2. **Q-.** Limited knowledge of the LCS operating limitations, ground and flight cooling operations, and the three modes of operation. Operated the liquid cooling control panels with difficulty. Required extra time to configure aircraft to provide adequate liquid cooling to mission systems. Delayed accomplishment of temperature, resistivity, and operating limit checks. Delayed documentation on the TC1 shift check log.

8.2.2.3. **U.** Lacked knowledge of the LCS operating limitations, ground and flight cooling operations, and the three modes of operation. Failed to operate the liquid cooling control panels efficiently. Unable to configure aircraft to provide adequate liquid cooling to mission systems. Did not accomplish temperature and resistivity checks and verified operating limits. Did not document on the TC1 shift check log in a timely manner.

8.2.3. **AREA 133 – AC POWER SYSTEM: Note:** This must be evaluated on the aircraft. (**T-3**)

8.2.3.1. **Q.** Satisfactory knowledge of the AC power system and operating limitations. Knows the ways AC power can be provided to the aircraft systems and the flow it takes knowledge of the split system breaker and types of load sheds. Can effectively use/read the load summary chart. Can properly operate the AC power control panel.

8.2.3.2. **Q-.** Limited knowledge of the AC power system and operating limitations. Difficulty knowing the ways AC power can be provided to the aircraft systems and the flow it takes Limited knowledge of the split system breaker and types of load sheds. Demonstrated difficulty with the load summary chart. Can properly operate the AC power control panel.

8.2.3.3. **U.** Lacked knowledge of the AC power system and operating limitations. Did not know the ways AC power can be provided to the aircraft systems and its flow. Lacked knowledge of the split system breaker and types of load sheds. Could not use/read the load summary chart. Failed to operate the AC power control panel.

8.2.4. **AREA 134 – DC POWER SYSTEM: Note:** This must be evaluated on the aircraft. **(T-3)**

8.2.4.1. **Q.** Satisfactory knowledge of the DC power system and operating limitations. Knowledge of transformer rectifier unit (TRU) functions, DC power flow, and tech control console (TCC) 10V power supplies. Can operate the DC power control panel effectively.

8.2.4.2. **Q-.** Limited knowledge of the DC power system and operating limitations. Limited knowledge of TRU functions, DC power flow, and TCC 10V power supplies. Difficulty operating the DC power control panel.

8.2.4.3. **U.** Lacked knowledge of the DC power system and operating limitations. Did not have knowledge of TRU functions, DC power flow, and TCC 10V power supplies. Failed to operate the DC power control panel effectively.

8.2.5. **AREA 135 – ALARM CENTRAL & ASSOCIATED PANELS: Note:** This must be evaluated on the aircraft. (**T-3**)

8.2.5.1. **Q.** Satisfactory knowledge of alarm central and associated indicators on the secondary alarm panel, UPS alarm panel, equipment cooling panel, smoke detection panel, AC & DC power control panels, liquid cooling panels, and rack cooling control panel. Knows proper indications displayed during the logic test.

8.2.5.2. **Q-.** Limited knowledge of alarm central and associated indicators on the secondary alarm panel, UPS alarm panel, equipment cooling panel, smoke detection panel, AC & DC power control panels, liquid cooling panels, and rack cooling control panel. Limited knowledge of indications displayed during the logic test.

8.2.5.3. **U.** Lacked knowledge of alarm central and associated indicators on the secondary alarm panel, UPS alarm panel, equipment cooling panel, smoke detection panel, AC & DC power control panels, liquid cooling panels, and rack cooling control panel. Lacks knowledge of proper indications displayed during the logic test.

8.2.6. **AREA 136 – UPS: Note:** May be orally evaluated.

8.2.6.1. **Q.** Satisfactory knowledge of the UPS alarm panel and built-in test (BIT) procedures. Demonstrated satisfactory knowledge and operation of the emergency power-off panel.

8.2.6.2. **Q-.** Limited knowledge of the UPS alarm panel and BIT test procedures. Limited knowledge and operation of the emergency power-off panel.

8.2.6.3. **U.** Lacked knowledge of the UPS alarm panel and BIT test procedures. Lacked knowledge and operation of the emergency power-off panel.

8.2.7. **AREA 137 – INTERNAL COMMUNICATIONS SYSTEMS: Note:** This must be evaluated on the aircraft. (**T-3**)

8.2.7.1. **Q.** Satisfactory knowledge of the interphone equipment. Effectively monitored and operated crew and operator interphone, either with touchscreen executive phone-airborne (TXP-A) or legacy panels. Effectively made calls with the TXP-A using the programmable line buttons (PLBs) or dialing functions found in the directory.

8.2.7.2. **Q-.** Limited knowledge of the interphone equipment. Difficulty with monitoring and operating crew and operator interphone, either with TXP-A or legacy panels. Difficulty making calls with the TXP-A using the PLBs or dialing functions found in the directory.

8.2.7.3. **U.** Lacked knowledge of the interphone equipment. Failed to monitor and operate crew and operator interphone, either with TXP-A or legacy panels. Could not make calls with the TXP-A using the PLBs or dialing functions found in the directory.

8.2.8. **AREA 138 – EQUIPMENT TROUBLESHOOTING: Note:** Required only for mission evaluations. This must be evaluated on the aircraft. (**T-3**)

8.2.8.1. **Q.** Able to analyze and isolate malfunctions, identify work-around solutions and/or troubleshoot and repair/swap malfunctioning system equipment.

8.2.8.2. **Q-.** Had difficulty analyzing and isolating malfunctions, identifying work-around solutions and/or troubleshooting and repairing/swapping malfunctioning system equipment.

8.2.8.3. **U.** Failed to identify malfunctioning equipment, troubleshoot and/or repair/swap malfunctioning system equipment.

8.2.9. **AREA 139 – OPERATIONAL EXECUTION: Note:** Required only for mission evaluations. Evaluate AFMAN 11-2E-4BV3 alert procedures, equipment requirements, and challenge/response authentication IAW mission directives. This may be verbally evaluated.

8.2.9.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives and applicable flight manuals. Aircraft/equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations. Completed daily checks/log entries in a timely manner.

8.2.9.2. **Q-.** As above but with minor deviations, omissions or errors, which did not prevent accomplishment of mission goals. Slow to adapt to changing situations. Did not complete daily checks/log entries in a timely manner.

8.2.9.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistent with objectives and current directives. Aircraft/equipment was not properly configured, affecting mission success. Failed to adapt to changing situations. Did not complete daily checks/log entries.

8.2.10. **AREAS 140 – 150 – RESERVED FOR FUTURE USE.**

Chapter 9

TECHNICAL CONTROLLER 2 (TC2) EVALUATIONS

9.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific TC2 evaluation requirements are found in **Table 9.1**.

Table 9.1. TC2 Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
151. Enhanced Command Console (ECC)/Aircraft Computing System (ACS)	R	X
152. Ground Entry Point & Circuit Configuration		X
153. Ultra-High Frequency (UHF) Command, Control, & Communications (C3)/Multiplexer (MUX)/ Airborne Performance Monitor (APM)	R	X
154. Mission Communications Switching System (MCSS) Network	R	X
155. Digital Voice System (DVS)	R	X
156. Internal Communications Systems (ICS)	R	X
157. Automatic Patch and Test System (APTS)	R	X
158. Master Timing Source (MTS)	R	X
159. Uninterruptible Power Supply (UPS)	R	X
160. Digital Voice Recorder (DVR) System	R	X
161. Equipment Troubleshooting		X
162. Operational Execution		X
163 – 170. Reserved for future use		

9.2. *TC2 Grading Criteria.*

9.2.1. **AREA 151 – ECC/ACS: Note:** This must be evaluated on the aircraft. (**T-3**)

9.2.1.1. **Q.** Demonstrated satisfactory knowledge of ECC/ACS equipment and programs used to monitor/configure equipment. Can follow checklist procedures to operate ECC/ACS equipment and run all required programs.

9.2.1.2. **Q-.** Limited knowledge of ECC/ACS equipment and programs used to monitor/configure equipment. Difficulty following checklist procedures to operate ECC/ACS equipment and run all required programs.

9.2.1.3. **U.** Lacked knowledge of ECC/ACS equipment and programs used to monitor/configure equipment. Failed to follow checklist procedures to operate ECC/ACS equipment and run all required programs.

9.2.2. **AREA 152 – GROUND ENTRY POINT & CIRCUIT CONFIGURATION: Note:** May be orally evaluated.

9.2.2.1. **Q.** Demonstrated satisfactory knowledge of the NORTHSTAR Network. Can locate the list of frequencies, individual circuits and circuit packages. Can effectively use the call sign matrix to establish an active circuit package. Knowledge of ground sites capabilities.

9.2.2.2. **Q-.** Limited knowledge of the NORTHSTAR Network. Difficulty locating the list of frequencies, individual circuits, and circuit packages. Difficulty using the call sign matrix to establish an active circuit package. Limited knowledge of ground sites capabilities.

9.2.2.3. **U.** Lacked knowledge of the NORTHSTAR Network. Could not locate the list of frequencies, individual circuits and circuit packages. Failed to establish an active circuit package. Lacked knowledge of ground sites capabilities.

9.2.3. **AREA 153 – UHF C3/MUX/APM: Note:** This must be evaluated on the aircraft. (**T-3**)

9.2.3.1. **Q.** Demonstrated satisfactory knowledge of the UHF C3 system components, operating functions and system BIT faults. Satisfactory knowledge of transmit (TX)/receive (RX) signal flow, secure UHF internet protocol-gate (IP-gate) configuration, and KY-100Ms. satisfactory knowledge of the MUX cabinet and how it interacts with the UHF C3 system. Satisfactory knowledge of the APM and the conditions displayed on the squelch alarm panel.

9.2.3.2. **Q-.** Limited knowledge of the UHF C3 system components, operating functions and system BIT faults. Limited knowledge of TX/RX signal flow, secure UHF internet-protocol-gate (IP-gate) configuration, and KY-100Ms. Limited knowledge of the MUX cabinet and how it interacts with the UHF C3 system. Limited knowledge of the APM and the conditions displayed on the squelch alarm panel.

9.2.3.3. **U.** Lacked knowledge of the UHF C3 system components, operating functions and system BIT faults. Lacked knowledge of TX/RX signal flow, secure UHF IP-gate configuration, and KY-100Ms. Lacked knowledge of the MUX cabinet and how it interacts with the UHF C3 system. Lacked knowledge of the APM and the conditions displayed on the squelch alarm panel.

9.2.4. **AREA 154 – MCSS NETWORK: Note:** May be orally evaluated.

9.2.4.1. **Q.** Demonstrated satisfactory knowledge of the sub-networks that make up the MCSS Network. Has knowledge of sub-network functions and interactions between one another.

9.2.4.2. **Q-.** Limited knowledge of the sub-networks that make up the MCSS Network. Has limited knowledge of sub-network functions and interactions between one another.

9.2.4.3. **U.** Lacked knowledge of the sub-networks that make up the MCSS Network. Lacked knowledge of sub-network functions and interactions between one another.

9.2.5. **AREA 155 – DVS: Note:** This must be evaluated on the aircraft. (**T-3**)

9.2.5.1. **Q.** Demonstrated satisfactory knowledge of the DVS components and equipment functions. Can follow checklist procedures to monitor equipment on the secure and non-

secure switches from the TC2 console. Has knowledge of the TXP-A, associated equipment, DVS signal flow and programs that manage TXP-A profiles.

9.2.5.2. **Q-.** Limited knowledge of the DVS components and equipment functions. Difficulty following checklist procedures to monitor equipment on the secure and non-secure switches from the TC2 console. Limited knowledge of the TXP-A, associated equipment, DVS signal flow and programs that manage TXP-A profiles.

9.2.5.3. **U.** Lacked knowledge of the DVS components and equipment functions. Failed to monitor equipment on the secure and non-secure switches from the TC2 console. Lacked knowledge of the TXP-A, associated equipment, DVS signal flow and programs that manage TXP-A profiles.

9.2.6. **AREA 156 – ICS: Note:** This must be evaluated on the aircraft. (**T-3**)

9.2.6.1. **Q.** Satisfactory knowledge of the interphone equipment. Effectively monitored and operated crew and operator interphone, either with TXP-A or legacy panels. Effectively made calls with the TXP-A using the PLBs or dialing functions found in the directory.

9.2.6.2. **Q-.** Limited knowledge of the interphone equipment. Difficulty with monitoring and operating crew and operator interphone, either with TXP-A or legacy panels. Difficulty making calls with the TXP-A using the PLBs or dialing functions found in the directory.

9.2.6.3. **U.** Lacked knowledge of the interphone equipment. Failed to monitor and operate crew and operator interphone, either with TXP-A or legacy panels. Could not make calls with the TXP-A using the PLBs or dialing functions found in the directory.

9.2.7. **AREA 157 – APTS: Note:** This must be evaluated on the aircraft. (**T-3**)

9.2.7.1. **Q.** Demonstrated satisfactory knowledge of APTS components and functions. Can effectively operate patching software to monitor and connect/disconnect patches.

9.2.7.2. **Q-.** Limited knowledge of APTS components and functions. Difficulty operating patching software to monitor and connect/disconnect patches.

9.2.7.3. **U.** Lacked knowledge of APTS components and functions. Failed to operate patching software to monitor and connect/disconnect patches.

9.2.8. **AREA 158 – MTS: Note:** This must be evaluated on the aircraft. (**T-3**)

9.2.8.1. **Q.** Demonstrated satisfactory knowledge of the MTS. Can list the systems that MTS provides timing to and where it receives timing from.

9.2.8.2. **Q-.** Limited knowledge of the MTS. Difficulty listing the systems that MTS provides timing to and where it receives timing from.

9.2.8.3. **U.** Lacked knowledge of the MTS. Failed to list the systems that MTS provides timing to and where it receives timing from.

9.2.9. **AREA 159 – UPS: Note:** May be orally evaluated.

9.2.9.1. **Q.** Demonstrated satisfactory knowledge of the DVS, TXP-A, and switch network control (SNC) UPS functions. Follows checklist procedures for turning UPS systems on and off, as required.

9.2.9.2. **Q-.** Limited knowledge of the DVS, TXP-A, and SNC UPS functions. Deviated from checklist procedures for turning UPS systems on and off, as required.

9.2.9.3. **U.** Lacked knowledge of the DVS, TXP-A, and SNC UPS functions. Failed to follow checklist procedures for turning UPS systems on and off, as required**.**

9.2.10. **AREA 160 – DVR SYSTEM: Note:** May be orally evaluated.

9.2.10.1. **Q.** Demonstrated satisfactory knowledge of the DVR system function. Monitors system recording status. Knowledge on how to configure DVR for playback on the TXP-A.

9.2.10.2. **Q-.** Limited knowledge of the DVR system function. Difficulty monitoring system recording status. Limited knowledge on how to configure DVR for playback on the TXP-A.

9.2.10.3. **U.** Lacked knowledge of the DVR system function. Difficulty monitoring system recording status. Limited knowledge on how to configure DVR for playback on the TXP-A.

9.2.11. **AREA 161 – EQUIPMENT TROUBLESHOOTING: Note:** Required only for mission evaluations. This must be evaluated on the aircraft. (**T-3**)

9.2.11.1. **Q.** Able to analyze and isolate malfunctions, identify work-around solutions and/or troubleshoot and repair/swap malfunctioning system equipment.

9.2.11.2. **Q-.** Had difficulty analyzing and isolating malfunctions, identify work-around solutions and/or troubleshooting and repairing/swapping malfunctioning system equipment.

9.2.11.3. **U.** Failed to identify malfunctioning equipment, troubleshoot and/or repair/swap malfunctioning system equipment.

9.2.12. **AREA 162 – OPERATIONAL EXECUTION: Note:** Required only for mission evaluations. Evaluate AFMAN 11-2E-4BV3 alert procedures, equipment requirements, and challenge/response authentication IAW mission directives. This may be verbally evaluated.

9.2.12.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives and applicable flight manuals. Aircraft/equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations. Completed daily log entries, tool inventory, connection requests and monitored system status effectively.

9.2.12.2. **Q-.** Examinee accomplished mission tasks with difficulty. Difficulty applying operational procedures consistent with objectives, current directives and applicable flight manuals. Delayed aircraft/equipment configuration IAW mission priorities. Slow to adapt to changing situations. Difficulty completing daily log entries, tool inventory, connection requests and monitoring system status.

9.2.12.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistent with objectives and current directives. Aircraft/equipment was not properly configured, affecting mission success. Failed to adapt to changing situations. Failed to complete daily log entries, tool inventory, and connection requests and monitor system status.

9.2.13. **AREAS 163 – 170 – RESERVED FOR FUTURE USE.**

Chapter 10

SENIOR LEADER COMMUNICATIONS SYSTEM OPERATOR (SLCS) EVALUATIONS

10.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific SLCS evaluation requirements are found in **Table 10.1**.

Table 10.1. SLCS Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
171. Equipment/Systems Knowledge	R	X
172. Data Links	R	X
173. Troubleshooting and Corrective Actions	R	
174. Network Cryptographic Devices	R	
175. Operational Execution		X
176. – 180. Reserved for future use		

10.2. *SLCS Grading Criteria.*

10.2.1. **AREA 171 – EQUIPMENT/SYSTEMS KNOWLEDGE: Note:** This must be evaluated on the aircraft. (**T-3**) **Table 10.2** contains a list of systems that will be discussed/evaluated.

10.2.1.1. **Q.** Demonstrated satisfactory knowledge of communication components, functions, and limitations; demonstrated proper management and operation of communication systems; adequately determined status of all related systems.

10.2.1.2. **Q-.** Demonstrated incomplete knowledge of communications components, functions and limitations. Performed minor deviations in management or operation of communications systems. Adequately determined status of related systems.

10.2.1.3. **U.** Demonstrated unsatisfactory knowledge of aircraft systems and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for applicable related systems.

Table 10.2. SLCS Aircraft Systems.

Digital Voice System (DVS)	Internal Communications System (ICS)
International Maritime Satellite Communications System (INMARSAT)	Manual Distribution Systems
Enhanced Network Distribution System (ENDS)	Integrated Services Digital Network (ISDN)

Video Teleconference (VTC)	Display Management System (DMS)
Maintenance and Control System (MACS)	Voice Over Internet Protocol
High-Capacity Backbone (HCB)	Moving Map
Local Area Network (LAN)	Printing Devices
Crisis Management System (CMS)	Streaming Video System (SVS)
Uninterruptable Power Supply (UPS)	

10.2.2. **AREA 172 – DATA LINKS: Note:** This must be evaluated on the aircraft. (**T-3**)

10.2.2.1. **Q.** Demonstrated/explained satisfactory knowledge of network infrastructure and naming conventions. Satisfactorily established off-board transport connection. Satisfactorily assigned appropriate networks IAW mission directives.

10.2.2.2. **Q-.** Limited ability/knowledge of network infrastructure and naming conventions. Difficulty establishing off-board transport connection. Difficulty assigning appropriate networks IAW mission directives.

10.2.2.3. **U.** Lacked ability/knowledge of network infrastructure and naming conventions. Failed to establish off-board transport connection. Failed to assign appropriate networks IAW mission directives.

10.2.3. **AREA 173 – TROUBLESHOOTING AND CORRECTIVE ACTIONS:**

10.2.3.1. **Q.** Demonstrated satisfactory knowledge of proper troubleshooting practices using current directives and applicable flight manuals and/or technical orders with minor omissions and deviations not affecting malfunction analysis. Properly attempted to optimize mission equipment effectiveness.

10.2.3.2. **Q-.** Demonstrated incomplete knowledge of proper troubleshooting practices using current directives and applicable flight manuals and/or technical orders with minor omissions and deviations not adversely affecting malfunction analysis. Attempted to optimize mission equipment effectiveness with some errors which did not affect mission success.

10.2.3.3. **U.** Demonstrated unsatisfactory knowledge of proper troubleshooting practices using current directives and applicable flight manuals and/or technical orders which adversely affected mission success. Either did not attempt or improperly attempted to optimize mission equipment effectiveness, which adversely affected mission success.

10.2.4. **AREA 174 – NETWORK CRYPTOGRAPHIC DEVICES:**

10.2.4.1. **Q.** Demonstrated/explained satisfactory knowledge of cryptographic device operation, equipment function, and component location. Correctly operated applicable cryptographic device and demonstrated how to make menu changes. Described power/signal flow to simplified block diagram level. Correctly loaded cryptographic device keys into correct device. Demonstrated knowledge of fault isolation and troubleshooting procedures.

10.2.4.2. **Q-.** Limited knowledge of cryptographic device operation. Correctly operated applicable cryptographic device and menus with minor errors or deviations. Described power/signal flow with minor errors or omissions. Correctly interpreted power indications/tolerances with minor errors or deviations. Marginal knowledge of power fault isolation or troubleshooting procedures.

10.2.4.3. **U.** Unsatisfactory knowledge of cryptographic device operation. Failed to operate applicable cryptographic devices. Unable to describe power/signal flow. Failed to do load/fill procedures.

10.2.5. **AREA 175 – OPERATIONAL EXECUTION: Note:** Required only for mission evaluations. Evaluate AFAMN 11-2E-4BV3 alert procedures and equipment requirements IAW mission directives. This may be verbally evaluated.

10.2.5.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives and applicable flight manuals. Aircraft/equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations. Completed daily log entries and monitored system status effectively.

10.2.5.2. **Q-.** As above but with minor deviations, omissions or errors, which did not prevent accomplishment of mission goals. Slow to adapt to changing situations. Difficulty completing daily log entries and monitoring system status.

10.2.5.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistent with objectives and current directives. Aircraft/equipment was not properly configured, affecting mission success. Failed to adapt to changing situations. Failed to complete daily log entries and monitor system status.

10.2.6. **AREAS 176 – 180 – RESERVED FOR FUTURE USE.**

Chapter 11

COMMUNICATION SYSTEM OPERATOR (CSO) EVALUATIONS

11.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific CSO evaluation requirements are found in **Table 11.1**.

Table 11.1. CSO Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
181. CSO Workstation	R	
182. Cryptographic Devices	R	
183. Internal Communications System	R	
184. High Frequency (HF) Communications System	R	
185. Medium Frequency (MF) Receiver System	R	
186. Ultra-High Frequency (UHF) Command Radios	R	
187. UHF Satellite Communications (SATCOM)	R	
188. UHF Command, Control, and Communications (C3) Radios	R	
189. MILSTAR (Military Satellite Communications System) Survivable Emergency Conferencing Network (SECN) or Presidential and National Voice Conferencing (PNVC) System	R	
190. Very High Frequency (VHF) – Frequency Modulation (FM) Radio System	R	
191. INMARSAT	R	
192. Facsimile System	R	
193. Secure Terminal Equipment Remote (STE-R)	R	
194. Power Off Telephone System (POTS)/Ground Line System	R	
195. Klaxon System		X
196. Force Report Back/Nuclear Execution Reporting Plan		X
197. Network Controller Duties		X
198. Operational Execution		X
199. EAM Procedures (Critical)		X
200. Authentication Procedures		X
201. – 205. Reserved for future use		

11.2. *CSO Grading Criteria.*

11.2.1. **AREA 181 – CSO WORKSTATION:**

11.2.1.1. **Q.** Demonstrated/explained satisfactory knowledge of workstation theory of operation, function, location, and power source. Performed correct boot up/shutdown procedures. Demonstrated familiarity with workstation software functions/menus and keyboard, video, mouse (KVM) menus. Demonstrated knowledge of KVM login procedures. Demonstrated adequate knowledge of or correctly performed workstation troubleshooting/fault isolation, workstation remove and replace procedures.

11.2.1.2. **Q-.** Limited knowledge. Performed correct boot up/shutdown procedures with minor errors or delays. Limited knowledge of workstation software functions/menus or KVM menus. Demonstrated limited knowledge of workstation troubleshooting/fault isolation, workstation remove and replace procedures.

11.2.1.3. **U.** Unsatisfactory knowledge. Unable to correctly perform boot up/shutdown procedures. Unsatisfactory knowledge of workstation software functions/menus or KVM menus. Lacked knowledge of or incorrectly performed workstation troubleshooting/fault isolation, workstation remove and replace procedures.

11.2.2. **AREA 182 – CRYPTOGRAPHIC DEVICES:**

11.2.2.1. **Q.** Demonstrated/explained satisfactory knowledge of cryptographic device operation, equipment function, and component location. Correctly operated applicable cryptographic device and demonstrated how to make menu changes. Described power/signal flow to simplified block diagram level. Correctly loaded cryptographic device keys into correct device. Demonstrated knowledge of fault isolation and troubleshooting procedures.

11.2.2.2. **Q-.** Limited knowledge of cryptographic device operation. Correctly operated applicable cryptographic device and menus with minor errors or deviations. Described power/signal flow with minor errors or omissions. Correctly interpreted power indications/tolerances with minor errors or deviations. Marginal knowledge of power fault isolation or troubleshooting procedures.

11.2.2.3. **U.** Unsatisfactory knowledge of cryptographic device operation. Failed to operate applicable cryptographic devices. Unable to describe power/signal flow. Failed to do load/fill procedures.

11.2.3. **AREA 183 – INTERNAL COMMUNICATIONS SYSTEM:**

11.2.3.1. **Q.** Satisfactory knowledge of the interphone equipment. Effectively monitored and operated crew and operator interphone, either with TXP-A or legacy panels. Effectively made calls with the TXP-A using the PLBs or dialing functions found in the directory. Demonstrated correct configuration and operation of components.

11.2.3.2. **Q-.** Limited knowledge of the Interphone equipment. Difficulty with monitoring and operating crew and operator interphone, either with TXP-A or legacy panels. Difficulty making calls with the TXP-A using the PLBs or dialing functions found in the directory. Demonstrated correct configuration or operation with minor errors or deviations.

11.2.3.3. **U.** Lacked knowledge of the interphone equipment. Failed to monitor and operate crew and operator interphone, either with TXP-A or legacy panels. Could not make calls with the TXP-A using the PLBs or dialing functions found in the directory. Failed to correctly configure or operate interphone and TXP-A components.

11.2.4. **AREA 184 – HF COMMUNICATIONS SYSTEM:**

11.2.4.1. **Q.** Demonstrated/explained satisfactory knowledge of HF communications system. Demonstrated clear understanding of theory of operation, signal/data flow, equipment function, and circuit breaker location. Performed correct operational checkout of radios, and related subsystems. Correctly interpreted and analyzed errors, troubleshot, and applied corrective measures to system malfunctions.

11.2.4.2. **Q-.** Limited knowledge of HF communications system. Demonstrated limited understanding of theory of operation, signal/data flow, equipment function, or circuit breaker location. Performed correct operational checkout of radios, and related subsystems with errors or deviations. Correctly interpreted and analyzed errors, troubleshot, and applied corrective measures to malfunctions with minor errors or delays.

11.2.4.3. **U.** Unsatisfactory knowledge of HF communications system. Lacked understanding of theory of operation, signal/data flow, equipment function, location, or circuit breaker location. Unable to perform operational checkout of radios, or related subsystems with errors or deviations. Failed to correctly interpret/analyze errors, troubleshoot, or apply corrective measures to malfunctions.

11.2.5. **AREA 185 – MF RECEIVER SYSTEM:**

11.2.5.1. **Q.** Demonstrated/explained satisfactory knowledge of MF receiver system. Described equipment location, function, signal flow, and power requirements for MF receiver system components. Correctly performed power-on procedures. Correctly interpreted/analyzed errors, troubleshot, and applied corrective measures to malfunctions.

11.2.5.2. **Q-.** Limited knowledge of MF receiver system. Difficulty describing equipment location, function, signal flow, or power requirements. Correctly performed power-on procedures with minor errors or deviations. Interpreted/analyzed errors, troubleshot, and applied corrective measures to malfunctions with minor errors or delays.

11.2.5.3. **U.** Unsatisfactory knowledge of MF system. Failed to describe location, function, signal flow, or power requirements. Unable to perform power-on procedures. Failed to correctly interpret/analyze errors, troubleshoot, or apply corrective measures to system malfunctions.

11.2.6. **AREA 186 – UHF COMMAND RADIOS:**

11.2.6.1. **Q.** Demonstrated/explained satisfactory knowledge of UHF command radios. Familiar with associated frequencies and able to use radio in secure/non-secure means. Able to describe basic signal flow. Interpreted/analyzed errors, troubleshot, and applied corrective measures to malfunctions.

11.2.6.2. **Q-.** Limited knowledge of UHF command radios. Limited knowledge of associated frequencies and using radio in secure/non-secure means. Some difficulty describing basic signal flow. Interpreted/analyzed errors, troubleshot, or applied corrective measures to malfunctions with errors or delays.

11.2.6.3. **U.** Unsatisfactory knowledge of UHF command radios. Unsatisfactory knowledge of associated frequencies and unable to use radio in secure/non-secure means. Unable to describe basic signal flow. Failed to interpret/analyze errors, troubleshoot, or apply corrective measures to malfunctions.

11.2.7. **AREA 187 – UHF SATCOM:**

11.2.7.1. **Q.** Demonstrated/explained satisfactory knowledge of UHF SATCOM system. Demonstrated clear understanding of theory of operation, signal/data flow, equipment function, and circuit breaker location. Able to change channel of system and program new channels for use. Performed correct operational checkout of radios, and related subsystems. Correctly interpreted and analyzed errors, troubleshot, and applied corrective measures to system malfunctions.

11.2.7.2. **Q-.** Limited knowledge of UHF SATCOM system. Demonstrated limited understanding of theory of operation, signal/data flow, equipment function, or circuit breaker location. Performed correct operational checkout of radios, and related subsystems with errors or deviations. Correctly interpreted and analyzed errors, troubleshot, and applied corrective measures to malfunctions with minor errors or delays.

11.2.7.3. **U.** Unsatisfactory knowledge of UHF SATCOM system. Lacked understanding of theory of operation, signal/data flow, equipment function, location, or circuit breaker location. Unable to perform operational checkout of radios, or related subsystems with errors or deviations. Failed to correctly interpret/analyze errors, troubleshoot, or apply corrective measures to malfunctions.

11.2.8. **AREA 188 – UHF C3 RADIOS:**

11.2.8.1. **Q.** Demonstrated/explained satisfactory knowledge of C3 UHF radios, equipment function, and component location. Correctly coordinated to set up radios.

11.2.8.2. **Q-.** Limited knowledge of C3 UHF radios. Demonstrated adequate knowledge of system with minor errors or omissions.

11.2.8.3. **U.** Unsatisfactory system knowledge of C3 UHF radios, equipment function, and component location.

11.2.9. **AREA 189 – MILSTAR SECN OR PNVC SYSTEM:**

11.2.9.1. **Q.** Demonstrated/explained satisfactory knowledge of SECN/PNVC, equipment function, and component location. Correctly operated applicable MILSTAR device and demonstrated how to make menu changes. Described power/signal flow to simplified block diagram level. Demonstrated knowledge of fault isolation and troubleshooting procedures.

11.2.9.2. **Q-.** Limited knowledge of SECN/PNVC. Demonstrated adequate knowledge of system with minor errors or omissions. Demonstrated correct configuration or operation with minor errors or deviations. Correctly interpreted/analyzed errors, troubleshot, or applied corrective measures to malfunctions with minor errors or delays.

11.2.9.3. **U.** Unsatisfactory system knowledge. Failed to correctly configure or operate SECN/PNVC system. Failed to make menu changes, troubleshoot, or apply corrective measures to malfunctions.

11.2.10. **AREA 190 – VHF-FM RADIO SYSTEM:**

11.2.10.1. **Q.** Demonstrated/explained satisfactory knowledge of VHF radio system, equipment function, and component location. Correctly operated VHF radio and demonstrated how to make menu changes. Described/performed key variable loader (KVL) loading procedures, described power/signal flow to simplified block diagram level. Demonstrated knowledge of fault isolation and troubleshooting procedures.

11.2.10.2. **Q-.** Limited knowledge of VHF radio system. Demonstrated adequate knowledge of system with minor errors or omissions. Demonstrated correct configuration or operation with minor errors or deviations. Correctly interpreted/analyzed errors, troubleshot, or applied corrective measures to malfunctions with minor errors or delays.

11.2.10.3. **U.** Unsatisfactory system knowledge. Failed to correctly configure or operate VHF system. Failed to make menu changes, troubleshoot, or apply corrective measures to malfunctions.

11.2.11. **AREA 191 – INMARSAT:**

11.2.11.1. **Q.** Demonstrated/explained satisfactory knowledge of INMARSAT system. Demonstrated clear understanding of signal/data flow, equipment function. Performed call through INMARSAT 1 and 2, performed call through STE-R. Correctly interpreted and analyzed errors, troubleshot, and applied corrective measures to system malfunctions.

11.2.11.2. **Q-.** Limited knowledge of INMARSAT system. Demonstrated adequate knowledge of system with minor errors or omissions. Demonstrated correct configuration or operation with minor errors or deviations. Correctly interpreted/analyzed errors, troubleshot, or applied corrective measures to malfunctions with minor errors or delays.

11.2.11.3. **U.** Unsatisfactory knowledge of INMARSAT System. Lacked understanding of signal/data flow, equipment function. Performed incorrect operational checkout of system equipment. Incorrectly interpreted and analyzed errors, no attempt at troubleshooting, and did not provide corrective measures to system malfunctions.

11.2.12. **AREA 192 – FACSIMILE SYSTEM:**

11.2.12.1. **Q.** Demonstrated/explained satisfactory knowledge of facsimile system, equipment function, and component location. Performed clear/secure fax procedures correctly. Described power/signal flow to simplified block diagram level. Demonstrated knowledge of fault isolation and troubleshooting procedures.

11.2.12.2. **Q-.** Limited knowledge of facsimile. Demonstrated adequate knowledge of system with minor errors or omissions. Demonstrated correct configuration or operation with minor errors or deviations. Correctly interpreted/analyzed errors, troubleshot, or applied corrective measures to malfunctions with minor errors or delays.

11.2.12.3. **U.** Unsatisfactory system knowledge. Failed to correctly configure or operate facsimile system. Lacked understanding of signal/data flow, equipment function. Incorrectly interpreted and analyzed errors, no attempt at troubleshooting, and did not provide corrective measures to system malfunctions.

11.2.13. **AREA 193 – STE-R:**

11.2.13.1. **Q.** Demonstrated/explained satisfactory knowledge of STE-R system, equipment function, and component location. Performed secure call procedures correctly through public switching telephone network (PSTN)/ISDN. Described power/signal flow to simplified block diagram level. Demonstrated knowledge of fault isolation and troubleshooting procedures.

11.2.13.2. **Q-.** Limited knowledge of STE-R system. Demonstrated adequate knowledge of system with minor errors or omissions. Demonstrated correct configuration or operation with minor errors or deviations. Correctly interpreted/analyzed errors, troubleshot, or applied corrective measures to malfunctions with minor errors or delays.

11.2.13.3. **U.** Unsatisfactory knowledge of STE-R system. Failed to correctly configure or operate STE-R system. Lacked understanding of signal/data flow, equipment function. Incorrectly interpreted and analyzed errors, no attempt at troubleshooting, and did not provide corrective measures to system malfunctions.

11.2.14. **AREA 194 – POTS/GROUND LINE SYSTEM:**

11.2.14.1. **Q.** Demonstrated/explained satisfactory knowledge of POTS/ground line system, equipment function, and component location. Performed call procedures correctly through PSTN. Described power/signal flow to simplified block diagram level. Demonstrated knowledge of fault isolation and troubleshooting procedures.

11.2.14.2. **Q-.** Limited knowledge of POTS/ground line system. Demonstrated adequate knowledge of system with minor errors or omissions. Demonstrated correct configuration or operation with minor errors or deviations. Correctly interpreted/analyzed errors, troubleshot, or applied corrective measures to malfunctions with minor errors or delays.

11.2.14.3. **U.** Unsatisfactory knowledge of POTS/ground line system. Failed to correctly configure or operate POTS/ground line system. Lacked understanding of signal/data flow, equipment function. Incorrectly interpreted and analyzed errors, no attempt at troubleshooting, and did not provide corrective measures to system malfunctions.

11.2.15. **AREA 195 – KLAXON SYSTEM: Note:** Required only for mission evaluations.

11.2.15.1. **Q.** Demonstrated/explained satisfactory knowledge of klaxon system, equipment function, and component location. Performed test procedures correctly. Described power/signal flow to simplified block diagram level. Demonstrated knowledge of fault isolation and troubleshooting procedures.

11.2.15.2. **Q-.** Limited knowledge of klaxon system. Demonstrated adequate knowledge of system with minor errors or omissions. Demonstrated correct configuration or operation with minor errors or deviations. Correctly interpreted/analyzed errors, troubleshot, or applied corrective measures to malfunctions with minor errors or delays.

11.2.15.3. **U.** Unsatisfactory knowledge of klaxon system. Failed to correctly configure or operate klaxon system. Lacked understanding of signal/data flow, equipment function. Incorrectly interpreted and analyzed errors, no attempt at troubleshooting, and did not provide corrective measures to system malfunctions.

11.2.16. **AREA 196 – FORCE REPORT BACK/NUCLEAR EXECUTION REPORTING PLAN: Note:** Required only for mission evaluations.

11.2.16.1. **Q.** Demonstrated/explained satisfactory knowledge of force report back/nuclear execution reporting plan. Able to identify when to initiate procedures per directives.

11.2.16.2. **Q-.** Limited knowledge of force report back/nuclear execution reporting plan.

11.2.16.3. **U.** Unsatisfactory knowledge of force report back/nuclear execution reporting plan. Was unable to identify when procedures were warranted per directives. Did not know where to find information related to directives.

11.2.17. **AREA 197 – NETWORK CONTROLLER DUTIES: Note:** Required only for mission evaluations.

11.2.17.1. **Q.** Demonstrated/explained satisfactory knowledge of network controller duties reporting plan. Able to identify when to initiate procedures per directives.

11.2.17.2. **Q-.** Limited knowledge of network controller duties. Able to identify when to initiate procedures per directives with assistance.

11.2.17.3. **U.** Unsatisfactory knowledge of network controller duties. Unable to identify when to initiate procedures per directives.

11.2.18. **AREA 198 – OPERATIONAL EXECUTION: Note:** Required only for mission evaluations. Evaluate AFMAN 11-2E-4BV3 alert procedures, equipment requirements, and challenge/response authentication IAW mission directives. This may be verbally evaluated.

11.2.18.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives, and applicable flight manuals. Aircraft/equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations.

11.2.18.2. **Q-.** As above but with minor deviations, omissions, or errors which did not prevent accomplishment of mission goals. Slow to adapt to changing situations.

11.2.18.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistent with objectives and current directives. Aircraft/equipment was not properly configured, affecting mission success. Failed to adapt to changing situations.

11.2.19. **AREA 199 – EAM PROCEDURES (CRITICAL): Note:** Required only for mission evaluations.

11.2.19.1. **Q.** Demonstrated ability to properly configure/operate system for receipt and transmission of messages IAW applicable directives. Applied appropriate alternate operating procedure when applicable. EAM dissemination procedures applied as required by governing directives.

11.2.19.2. **U.** Failed to properly configure/operate systems. Made major discrepancies or incorrect operations which caused significant delay in receipt or transmission of messages. Demonstrated inadequate knowledge of procedures for applicable related systems. Unacceptable EAM dissemination procedures as required by governing directives.

11.2.20. **AREA 200 – AUTHENTICATION PROCEDURES: Note:** Required only for mission evaluations.

11.2.20.1. **Q.** Demonstrated/explained satisfactory knowledge of authentication procedures. Successfully able to challenge/reply in allotted time, using correct documents. Able to identify when to initiate procedures per directives.

11.2.20.2. **Q-.** Limited knowledge of authentication procedures. Demonstrated limited understanding of challenge/reply procedures and applied corrective measures to malfunctions with minor errors or delays.

11.2.20.3. **U.** Unsatisfactory knowledge of authentication procedures. Lacked understanding of challenge/reply procedures and failed to correctly interpret/analyze errors. Unable to identify when to initiate procedures per directives.

11.2.21. **AREAS 201 – 205 – RESERVED FOR FUTURE USE.**

Chapter 12

DATA OPERATOR (DO) EVALUATIONS

12.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific DO evaluation requirements are found in **Table 12.1**.

Table 12.1. DO Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
205. Message Processing System (MPS)	R	
206. Survivable Mobile Command Center (SMCC) Hybrid Messaging System (SHMS)	R	
207. Very Low Frequency/Low Frequency (VLF/LF) System	R	
208. DVS	R	
209. Advance Extremely High Frequency (AEHF) System	R	
210. UHF Global Summary Message (GSM) System	R	
211. Nuclear Planning and Executing System (NPES)	R	
212. Operational Execution		X
213. – 220. Reserved for future use		

12.2. *DO Grading Criteria.*

12.2.1. **AREA 205 – MPS:**

12.2.1.1. **Q.** Demonstrated satisfactory knowledge of MPS and mission communications system (MCS) communication components and functions; was able to satisfactorily navigate and modify video display user interface (VINTER) application; demonstrated proper management and operation of MPS and MCS systems; adequately described all of MPS UPS.

12.2.1.2. **Q-.** Demonstrated incomplete knowledge of MPS and MCS communication components and functions; showed difficulty navigating and/or modifying VINTER application; demonstrated incomplete management and operation of MPS and MCS systems; adequately described MPS UPS.

12.2.1.3. **U.** Demonstrated unsatisfactory knowledge of MPS and MCS communication components and functions; was not able to satisfactorily navigate and modify VINTER application; was unable to demonstrate proper management and operation of MPS and MCS systems; inadequately described MPS UPS.

12.2.2. **AREA 206 – SHMS:**

12.2.2.1. **Q.** Demonstrated satisfactory knowledge of signal flow, functions, and configuration; demonstrated proper management and circuit activation/deactivation; adequately determined status of all related systems.

12.2.2.2. **Q-.** Demonstrated incomplete knowledge of signal flow, functions, and configuration; performed minor deviations in management and circuit activation/deactivation; adequately determined status of related systems.

12.2.2.3. **U.** Demonstrated unsatisfactory knowledge of signal flow, functions, and configuration; demonstrated inadequate management and circuit activation/deactivation; inadequately determined status of all related systems.

12.2.3. **AREA 207 – VLF/LF SYSTEM:**

12.2.3.1. **Q.** Demonstrated satisfactory knowledge of timing, cryptographic devices, and receiver components. Demonstrated proper management and configuration of receiver subsystem; adequately determined status of all related systems.

12.2.3.2. **Q-.** Demonstrated incomplete knowledge of timing, cryptographic devices, and receiver components. Demonstrated incomplete management and configuration of the receiver subsystem; adequately determined status of related systems.

12.2.3.3. **U.** Demonstrated unsatisfactory knowledge of timing, cryptographic devices, and receiver components. Demonstrated improper management and configuration of the receiver subsystem; inadequately determined status of all related systems.

12.2.4. **AREA 208 – DVS:**

12.2.4.1. **Q.** Could operate the TXP-A and place calls and monitor conferences using the PLBs and dialing functions. Demonstrated proper application of operator and crew interphones.

12.2.4.2. **Q-.** Struggled to operate the TXP-A and place calls using the PLBs and dialing functions. Demonstrated incomplete application of operator and crew interphones.

12.2.4.3. **U.** Failed to operate the TXP-A and place calls using the PLBs and dialing functions. Demonstrated inadequate application of operator and crew interphones.

12.2.5. **AREA 209 – AEHF SYSTEM:**

12.2.5.1. **Q.** Demonstrated satisfactory knowledge of communication components and functions; demonstrated proper management and operation of communication systems; adequately determined status of all related systems.

12.2.5.2. **Q-.** Demonstrated incomplete knowledge of communication components and functions. Performed minor deviations in management or operation of communications systems. Adequately determined status of related systems.

12.2.5.3. **U.** Demonstrated unsatisfactory knowledge of communication components and functions. Demonstrated inadequate knowledge of procedures for applicable related systems.

12.2.6. **AREA 210 – UHF GSM SYSTEM:**

12.2.6.1. **Q.** Demonstrated satisfactory knowledge of UHF GSM and its functions; demonstrated proper management and operation of the ARC-210; adequately determined configuration of all related systems.

12.2.6.2. **Q-.** Demonstrated incomplete knowledge of UHF GSM and its functions. Performed minor deviations in management and operation of the ARC-210. Adequately determined configuration of related systems.

12.2.6.3. **U.** Demonstrated unsatisfactory knowledge of UHF GSM and its functions; demonstrated improper management and operation of the ARC-210. Inadequately determined configuration of all related systems.

12.2.7. **AREA 211 – NPES:**

12.2.7.1. **Q.** Demonstrated satisfactory knowledge of the NPES and its functions; demonstrated proper configuration of NPES; adequately determined power and signal flow for all related systems.

12.2.7.2. **Q-.** Demonstrated incomplete knowledge of the NPES and its functions; demonstrated incomplete configuration of NPES; struggled to determined power and signal flow for related systems.

12.2.7.3. **U.** Demonstrated unsatisfactory knowledge of the NPES and its functions; demonstrated improper configuration of NPES; inadequately determined power and signal flow for all related systems.

12.2.8. **AREA 212 – OPERATIONAL EXECUTION: Note:** Required only for mission evaluations. Evaluate AFMAN 11-2E-4BV3 alert procedures, equipment requirements, and challenge/response authentication IAW mission directives. This may be verbally evaluated.

12.2.8.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives and applicable flight manuals. Aircraft/equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations.

12.2.8.2. **Q-.** As above but with minor deviations, omissions or errors, which did not prevent accomplishment of mission goals. Slow to adapt to changing situations.

12.2.8.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistent with objectives and current directives. Aircraft/equipment was not properly configured, affecting mission success. Failed to adapt to changing situations.

12.2.9. **AREAS 213 – 220 – RESERVED FOR FUTURE USE.**

Chapter 13

COMMUNICATION CONTROL OFFICER (CCO) EVALUATIONS

13.1. *General.* General evaluations requirements are defined in **Chapter 2.** Specific CCO evaluation requirements are found in **Table 13.1**.

Table 13.1. CCO Evaluation Requirements.

AREA/TITLE	QUAL	NOTE
221. CSO Systems	R	
222. Data Systems	R	
223. Technical Control Systems	R	
224. SHF Systems	R	
225. SLCS Systems	R	
226. Internal Communications Systems	R	
227. Determine Status of All Related Systems	R	
228. Adverse Weather Operations	R	
229. Operational Execution	R	X
230. Cryptographic Devices	R	
231. EAM Procedures (Critical)	R	
232. – 240. Reserved for future use		

13.2. *CCO Grading Criteria.*

13.2.1. **AREA 221 – CSO SYSTEMS:**

13.2.1.1. **Q.** Explained satisfactory knowledge of CSO systems, critical equipment functions and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds.

13.2.1.2. **Q-.** Limited Knowledge of CSO systems, critical equipment functions and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds. Did not negatively affect mission success.

13.2.1.3. **U.** Lacked knowledge of CSO systems, critical equipment functions and system limitations. Incorrectly described the equipment's use for mission operation. Incorrectly interpreted errors and did not understand operator troubleshooting timelines and work arounds. Negatively affected mission success.

13.2.2. **AREA 222 – DATA SYSTEMS:**

13.2.2.1. **Q.** Explained satisfactory knowledge of Data systems, critical equipment functions, and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds.

13.2.2.2. **Q-.** Limited Knowledge of Data systems, critical equipment functions, and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds. Did not negatively affect mission success.

13.2.2.3. **U.** Lacked knowledge of Data systems, critical equipment functions, and system limitations. Incorrectly described the equipment's use for mission operation. Incorrectly interpreted errors and did not understand operator troubleshooting timelines and work arounds. Negatively affected mission success.

13.2.3. **AREA 223 – TECHNICAL CONTROL SYSTEMS:**

13.2.3.1. **Q.** Explained satisfactory knowledge of technical control systems, critical equipment functions, and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds.

13.2.3.2. **Q-.** Limited knowledge of technical control systems, critical equipment functions, and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds. Did not negatively affect mission success.

13.2.3.3. **U.** Lacked knowledge of technical control systems, critical equipment functions, and system limitations. Incorrectly described the equipment's use for mission operation. Incorrectly interpreted errors and did not understand operator troubleshooting timelines and work arounds. Negatively affected mission success.

13.2.4. **AREA 224 – SHF SYSTEMS** :

13.2.4.1. **Q.** Explained satisfactory knowledge of SHF systems, critical equipment functions, and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds.

13.2.4.2. **Q-.** Limited knowledge of SHF systems, critical equipment functions, and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds. Did not negatively affect mission success.

13.2.4.3. **U.** Lacked knowledge of SHF systems, critical equipment functions, and system limitations. Incorrectly described the equipment's use for mission operation. Incorrectly

interpreted errors and did not understand operator troubleshooting timelines and work arounds. Negatively affected mission success.

13.2.5. **AREA 225 – SLCS SYSTEMS:**

13.2.5.1. **Q.** Explained satisfactory knowledge of SLCS systems, critical equipment functions, and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds.

13.2.5.2. **Q-.** Limited knowledge of SLCS systems, critical equipment functions, and system limitations. Described the equipment's use for mission operation. Correctly interpreted errors and understood operator troubleshooting timelines and work arounds. Did not negatively affect mission success.

13.2.5.3. **U.** Lacked knowledge of SLCS systems, critical equipment functions, and system limitations. Incorrectly described the equipment's use for mission operation. Incorrectly interpreted errors and did not understand operator troubleshooting timelines and work arounds. Negatively affected mission success.

13.2.6. **AREA 226 – INTERNAL COMMUNICATIONS SYSTEMS:**

13.2.6.1. **Q.** Satisfactory knowledge of the interphone equipment. Effectively monitored and operated crew and operator interphone, either with TXP-A or legacy panels. Effectively made calls with the TXP-A using the PLBs or dialing functions found in the directory.

13.2.6.2. **Q-.** Limited knowledge of the interphone equipment. Difficulty with monitoring and operating crew and operator interphone, either with TXP-A or legacy panels. Difficulty making calls with the TXP-A using the PLBs or dialing functions found in the directory.

13.2.6.3. **U.** Lacked knowledge of the interphone equipment. Failed to monitor and operate crew and operator interphone, either with TXP-A or legacy panels. Could not make calls with the TXP-A using the PLBs or dialing functions found in the directory.

13.2.7. **AREA 227 – DETERMINE STATUS OF ALL RELATED SYSTEMS:**

13.2.7.1. **Q.** Satisfactory knowledge and demonstration of system status logs and reporting.

13.2.7.2. **Q-.** Limited knowledge and demonstration of system status logs and reporting.

13.2.7.3. **U.** Lacked knowledge and failed demonstration of system status logs and reporting.

13.2.8. **AREA 228 – ADVERSE WEATHER OPERATIONS:**

13.2.8.1. **Q.** Satisfactory knowledge of communication systems vulnerability to all types of weather interference, workarounds, and reporting. Provided adequate alternate recommendations for alert posturing.

13.2.8.2. **Q-.** Limited knowledge of communication systems vulnerability to all types of weather interference, workarounds, and reporting. Provided adequate alternate recommendations for alert posturing. Did not negatively affect mission.

13.2.8.3. **U.** Lacked knowledge of communication systems vulnerability to all types of weather interference, workarounds, and reporting. Provided inappropriate or no alternate recommendations for alert posturing. Negatively affected mission.

13.2.9. **AREA 229 – OPERATIONAL EXECUTION:** **Note 1:** Alert procedures (minimum of one mission exercise, one flight sortie, and security sweeps) should be accomplished on initial QUAL evaluations. Security sweeps may be verbally evaluated. **Note 2:** Alert procedures may be verbally evaluated on recurring QUAL evaluations.

13.2.9.1. **Q.** Examinee accomplished mission goals. Applied operational procedures were consistent with objectives, current directives and applicable flight manuals. Ensured coordination between operators and equipment was properly configured IAW mission priorities and timing. Examinee adapted to meet changing situations.

13.2.9.2. **Q-.** As above but with minor deviations, omissions or errors, which did not prevent accomplishment of mission goals. Slow to adapt to changing situations.

13.2.9.3. **U.** Did not accomplish mission goals. Applied operational procedures inconsistent with objectives and current directives. Failed to ensure coordination between operators and equipment was properly configured, affecting mission success. Failed to adapt to changing situations.

13.2.10. **AREA 230 – CRYPTOGRAPHIC DEVICES:**

13.2.10.1. **Q.** Demonstrated satisfactory knowledge of cryptographic devices (KIV-7M, KGV-9, SKL) functions, and limitations; demonstrated proper management and operation of communication systems; adequately determined status of all related systems.

13.2.10.2. **Q-.** Demonstrated incomplete knowledge of cryptographic devices functions and limitations. Performed minor deviations in management or operation of cryptographic devices. Adequately determined status of related systems.

13.2.10.3. **U.** Demonstrated unsatisfactory knowledge of cryptographic devices (KIV-7M, KGV-9, SKL) and related communications systems, equipment limitations, and functions. Demonstrated inadequate knowledge of procedures for cryptographic devices.

13.2.11. **AREA 231 – EAM PROCEDURES (CRITICAL):**

13.2.11.1. **Q.** Demonstrated satisfactory knowledge of EAM procedures and status of transmission in accordance with applicable directives. Applied appropriate alternate operating procedure when applicable. EAM dissemination procedures were applied as required by governing directives.

13.2.11.2. **U.** Demonstrated unsatisfactory knowledge of EAM procedures and status of transmission in accordance with applicable directives. Made major discrepancies or incorrect operations which caused significant delay in receipt or transmission of messages. Demonstrated inadequate knowledge of procedures for applicable related systems. EAM dissemination procedures were contradictory to governing directives.

13.2.12. **AREAS 232 – 240 – RESERVED FOR FUTURE USE.**

JAMES C. SLIFE, Lt. Gen, USAF
DCS, Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

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AFMAN 11-2E-4BV1, *E-4B Aircrew Training*, 20 May 2019

AFMAN 11-2E-4BV3, *E-4B Operations Procedures,* 9 July 2019

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TO 1E-4B(II)-1, *Flight Manual E-4B,* 30 April 2011

Adopted Forms

AF Form 8, *Certificate of Aircrew Qualification*

DAF Form 679, *Publication Compliance Item Waiver Request/Approval*

DAF Form 847, *Recommendation for Change of Publication*

DD Form 365-4, *Weight and Balance Clearance Form F-Transport/Tactical*

AFTO Form 781 Series

Abbreviations and Acronyms

AC—Alternating Current

ACCS—Airborne Command Control Squadron

ACS—Aircraft Computing System

AEHF—Advance Extremely High Frequency

AFFSA—Air Force Flight Standards Agency

AFGSC—Air Force Global Strike Command

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFPD—Air Force Policy Directive

AFTO—Air Force Technical Order

AMSO—Airborne Mission Systems Operator

APG—Antenna Pointing Group

APM—Airborne Performance Monitor

APTS—Automatic Patch and Test System

APV—Approach with Vertical Guidance

ARCT—Air Refueling Control Time

ARMS—Aviation Resource Management System

ATC—Air Traffic Control

ATD—Aircrew Training Device

ATP—Allied Technical Publication

BIT—Built-In Test

BTCE—Block Time Control Exercise

C2G—Command and Control Group

C3—Command, Control, and Communications

CAT—Category

CAP—Critical Action Procedure

CAPS—Computerized Antenna Pointing System

CCO—Communication Control Officer

CFL—Critical Field Length

CMS—Crisis Management System

CRM—Cockpit/Crew Resource Management

CSO—Communication System Operator

DAF—Department of the Air Force

DAFMAN—Department of the Air Force Manual

DC—Direct Current

DH—Decision Height

DMS—Display Management System

DO—Data Operator

DR—Dead Reckoning

DVR—Digital Voice Recorder

DVS—Digital Voice System

EAM—Emergency Action Message

ECC—Enhanced Command Console

ENDS—Enhanced Network Distribution System

EPE—Emergency Procedures Evaluation

EPL—Evaluation Profile Letter

ETA—Estimated Time of Arrival

FCIF—Flight Crew Information File

FL—Flight Level

FLIP—Flight Information Publication

FM—Frequency Modulation

FMS—Flight Management System

GSM—Global Summary Message

HCB—High Capacity Backbone

HF—High Frequency

HPA—High Power Amplifier

IAW—In Accordance With

ICS—Internal Communications System

IFF—Identification, Friend or Foe

IFR—Instrument Flight Rules

ILS—Instrument Landing System

INMARSAT—International Maritime Satellite Communications System

INS—Inertial Navigation System

INSTM—Instrument

INSTR—Instructor

IP—Instructor Pilot

IP—gate—Internet Protocol-gate

IRC—Instrument Refresher Course

IRP—Instrument Refresher Program

ISDN—Integrated Services Digital Network

KVL—Key Variable Loader

KVM—Keyboard, Video, Mouse

LAN—Local Area Network

LCS—Liquid Cooling System

LPVR—Low Pass Visual Rendezvous

MAC—Mean Aerodynamic Chord

MACS—Maintenance and Control System

MAJCOM—Major Command

MAP—Missed Approach Point

MCS—Mission Communications System

MCSS—Mission Communications Switching System

MDA—Minimum Descent Altitude

MDS—Mission Design Series

MF—Medium Frequency

MILSTAR—Military Satellite Communications System

MPS—Message Processing System

MQF—Master Question File

MSN—Mission

MTS—Master Timing Source

MUX—Multiplexer

NM—Nautical Mile

NPES—Nuclear Planning and Executing System

OPR—Office of Primary Responsibility

PA—Precision Approach

PAR—Precision Approach Radar

PEX—Patriot Excalibur

PLB—Programmable Line Button

PNVC—Presidential and National Voice Conferencing

POTS—Power Off Telephone System

PSTN—Public Switching Telephone Network

Q—Qualified—QUAL—Qualification

R/T—Receiver/Transmit

RVIP—Rendezvous Initial Point

RX—Receive

SATCOM—Satellite Communications

SECN—Survivable Emergency Conferencing Network

SHF—Super High Frequency

SHMS—SMCC Hybrid Messaging System

SID—Standard Instrument Departure

SIF—Selective Identification Feature

SKL—Simple Key Loader

SLCS—Senior Leader Communications System

SMCC—Survivable Mobile Command Center

SNC—Switch Network Control

SQB—Standard Question Bank

STE-R—Secure Terminal Equipment Remote

SVS—Streaming Video System

TAPR—Training Accomplishment Progress Report

TAS—True Airspeed

TC1—Technical Controller 1

TC2—Technical Controller 2

TCC—Tech Control Console

T/O—Take Off

TOLD—Take Off and Landing Data

TRU—Transformer Rectifier Unit

TX—Transmit

TXP-A—Touchscreen Executive Phone-Airborne

U—Unqualified—UHF—Ultra-High Frequency

UPS—Uninterruptable Power Supply

VDP—Visual Descent Point

VFR—Visual Flight Rules

VHF—Very High Frequency

VINTER—Video Display User Interface

VLF/LF—Very Low Frequency/Low Frequency

VMC—Visual Meteorological Condition

VTC—Video Teleconference

Office Symbols

AF/A3T—Air Force Training and Readiness Directorate, Deputy Chief of Staff, Operations

AFGSC/A3/6—Headquarters Air Force Global Strike Command, Operations and Communications Directorate

AFGSC/A3TV—Headquarters Air Force Global Strike Command, Standardization and Evaluation Branch

Terms

595 C2G EPL—Outlines additional 595 CACG/OV evaluation policies and profiles for all airframes and crew positions within the 595th Command and Control Group.

Aircrew Training Devices—All simulators, trainers, computer-assisted instruction, sound-on-slide programs, videos, virtual reality systems, and mockups designed to prepare students for flight training or augment prescribed continuation training.

Airmanship—An aircrew member's continuous perception of self and aircraft in relation to the dynamic environment of flight and mission, and the ability to forecast, then execute, tasks based upon that perception.

Deviation—Performing an action 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. In some cases, momentary deviations may be acceptable; however, cumulative deviations will be considered in determining the overall qualification level.

Error—Departure from standard procedure. Performing incorrect actions or recording inaccurate information.

Error/Deviation Levels—(See Major/Minor below)

Major—Detracted from task accomplishment, adversely affected use of equipment, or violated safety.

Minor—did not detract from task accomplishment, adversely affect use of equipment, or violate safety.

Flight Examiner—An aircrew member designated to administer evaluations.

Instructor—Aircrew member trained, qualified, and certified by the squadron commander as an instructor to perform both ground and flight training.

Instructor Supervision—A qualified instructor in the same duty position supervising a maneuver or training event. For critical phases of flight, the instructor pilot must occupy one of the seats with immediate access to the controls.

Mission Crew—For the purposes of this manual, the mission crew is defined as all communication specialist crewmembers.

Omission—To leave out a required action or annotation.