

**BY ORDER OF THE  
SECRETARY OF THE AIR FORCE**

**AIR FORCE MANUAL 11-2KC-135,  
VOLUME 2**



**21 APRIL 2020**

**Flying Operations**

**KC-135 AIRCREW EVALUATION  
CRITERIA**

**COMPLIANCE WITH THIS PUBLICATION IS MANDATORY**

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This instruction implements Air Force Policy Directive (AFPD) 11-2, *Aircrew Operations*. It establishes aircrew evaluation criteria for the operation of KC-135 aircraft to ensure these personnel accomplish worldwide mobility missions safely and successfully. This is a specialized publication intended for use by all commanders, operations supervisors, and aircrew assigned or attached to all flying activities of commands operating KC-135 aircraft. This AFMAN applies to military and civilian members of the Regular Air Force, Air Force Reserve and Air National Guard. It is used in conjunction with Air Force Instruction (AFI) 11-202, Volume 2, *Aircrew Standardization and Evaluation Program*, AFI 11-202, Volume 3, *General Flight Rules*, and the appropriate Major Command (MAJCOM) supplements. Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with AFI 33-322, *Records Management and Information Governance Program*, and disposed of in accordance with the Air Force Records Disposition Schedule located in the Air Force Records Information Management System. The applicable SORN F011 AF XO A, Aviation Resource Management Systems is available at: <http://dpclo.defense.gov/Privacy/SORNS.aspx>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional's chain of command. This publication may be supplemented at any level, but all direct supplements must be routed to the OPR of this publication for coordination prior to certification and approval. If supplementing this AFMAN, follow guidance contained in **paragraph 1.6**. 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 AFI

33-360, *Publications and Forms Management*, 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, or alternately, to the requestor's commander for non-tiered compliance items.

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

This document has been substantially revised and must be completely reviewed. Major changes include incorporating AFI 11-2KC-135 Volume 2, *KC-135 Aircrew Evaluation Criteria*, 30 August 2017 Corrective Action, transitioning from an AFI to an AFMAN, and updated tier waiver authorities as prescribed by AFI 33-360.

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## Chapter 1

### GENERAL INFORMATION

**1.1. General.** This Air Force Manual (AFMAN) provides flight examiners and aircrews with procedures and evaluation criteria/tolerances to be used during flight evaluations as specified in AFI 11-202V2, *Aircrew Standardization/Evaluation Program*. Specific areas for evaluation are prescribed to ensure an accurate assessment of the proficiency and capabilities of aircrews. Evaluators use this AFMAN when conducting aircrew evaluations. Instructors use this AFMAN when preparing aircrews for qualification. Copies should be available to all KC-135 aircrew members.

#### **1.2. Key Words and Definitions.**

- 1.2.1. “Will” and “Shall” indicate a mandatory requirement.
- 1.2.2. “Should” is used to indicate a preferred, but not mandatory, method of accomplishment.
- 1.2.3. “May” indicates an acceptable or suggested means of accomplishment.
- 1.2.4. “Note” indicates operating procedures, techniques, etc., which are considered essential to emphasize (as defined in Flight Manuals).

**1.3. Applicability.** This publication establishes evaluation criteria for the operation of KC-135 aircraft to accomplish their worldwide mobility missions safely and successfully.

#### **1.4. Roles and Responsibilities.**

- 1.4.1. MAJCOM/A3. AMC is designated lead command for the KC-135 Mission Design Series (MDS) aircraft and is responsible for establishing and standardizing aircrew evaluations in coordination with user commands.
- 1.4.2. Operations Group Commander (OG/CC) or equivalent. OG/CCs are responsible for establishing and maintaining the Standardization and Evaluation (Stan/Eval) program and ensure evaluators administer evaluations in accordance with AFI 11-202V2 and AFMAN 11-2KC-135V2.
- 1.4.3. Squadron Commander (SQ/CC) or designated representative. SQ/CCs are responsible for establishing and maintaining the Squadron Standardization and Evaluation program and ensure evaluators administer evaluations in accordance with AFI 11-202V2 and AFMAN 11-2KC-135V2.
- 1.4.4. Flight Examiners. Flight Examiners are responsible for administering evaluations in accordance with AFI 11-202V2 and AFMAN 11-2KC-135V2.

**1.5. Deviations and Waivers.** Do not deviate from the guidance in this AFMAN under normal circumstances, except for safety or when necessary to protect the crew or aircraft from a situation not covered by this AFMAN and immediate action is required. Report deviations or exceptions without waiver through channels to MAJCOM Stan/Eval function, who in turn notifies AMC/A3V for follow-on action, if necessary. Unit waivers will be documented in Standardization and Evaluation Board (SEB) minutes. **(T-2).**

**1.6. Supplements.** This AFMAN is a basic directive. Each user MAJCOM may supplement this AFMAN according to AFD 11-2. MAJCOMs may specify unique evaluation items in their

appropriate supplement. Units may supplement this AFMAN or place unit specific information in an Operating Instruction (OI). Supplements and local procedures will not be less restrictive than the provisions of this AFMAN or the appropriate flight manual. **(T-1)**.

1.6.1. Supplement Coordination Process. Units will forward MAJCOM/A3 approved supplements, with attached AF Form 673, *Request to Issue Publication*, to lead command (AMC/A3) for review. **(T-1)**. AMC/A3 will provide a recommendation and forward to AF/A3O-AI for approval (in accordance with AFD 11-2).

1.6.2. If necessary, units will request and include approved long-term waivers to this AFMAN (including, approval authority, date, and expiration date) in the appropriate MAJCOM supplement. **(T-1)**.

1.6.3. Local Supplement Coordination. Units will send a copy of the local supplement or OI to AMC/A3V and parent MAJCOM Stan/Eval for coordination and approval. When local supplements are published, units shall notify or send a final copy to parent MAJCOM, appropriate Numbered Air Force, if applicable, and AMC/A3V. **(T-2)**.

**1.7. Requisition and Distribution Procedures.** Order this AFMAN through the servicing publications distributions office. Unit commanders may provide copies for all aircrew members and associated support personnel.

**1.8. Evaluations.** This manual establishes standardized instrument, qualification, mission, and instructor (INSTM, QUAL, MSN, INSTR) evaluation criteria. It also establishes the areas/subareas necessary for the successful completion of evaluations and which required areas/subareas are considered critical and/or non-critical.

**1.9. Evaluation Requirements.** Accomplish evaluations concurrently, whenever practical. Crew Resource Management (CRM) skills will be evaluated on all evaluations. **(T-2)**. KC-135 aircrew members will complete the following evaluations (except SPOT evaluations, see [paragraph 1.9.5](#)), at 17-month frequency in accordance with AFI 11-202V2, and the appropriate MAJCOM supplement. **(T-2)**. Units co-located with an operational simulator facility will conduct pilot INSTM/QUAL evaluations and boom operator emergency procedures evaluation (EPE) in the simulator. **(T-3)**. Units without co-located simulators may elect to send crews to simulator locations to perform INSTM/QUAL evaluations.

1.9.1. **Instrument (INSTM) Evaluation.** All KC-135 pilots will successfully complete a periodic instrument evaluation including an open-book, written instrument examination and an instrument simulator or flight evaluation. **(T-2)**.

1.9.2. **Qualification (QUAL) Evaluation.** All KC-135 crewmembers will successfully complete a periodic qualification evaluation including the requisite open-book, closed-book and boldface written examinations, EPE, publications check, and a simulator or flight evaluation. In addition to these requirements, navigators will also complete an open-book written instrument examination in conjunction with all QUAL evaluations. **(T-2)**. Boom Operator EPE will be conducted in the Boom Operator Simulator System (BOSS)/Boom Operator Weapon System Trainer (BOWST) for co-located units (not applicable (N/A) for Formal Training Unit instructors). **(T-3)**. Evaluations will be conducted by an Air Force Flight Examiner. **(T-1)**.

**1.9.3. Mission (MSN) Evaluations.** The KC-135 primary mission is tanker air-to-air refueling. Refer to the following crew position chapters of this manual (e.g. Pilot, Navigator, or Boom chapters) for additional mission evaluations. All KC-135 crewmembers will complete a mission evaluation as required in AFI 11-202V2 and MAJCOM supplement. Except as noted in the following crew position chapters of this manual, all crewmembers will be evaluated in designated areas/subareas required in the performance of a single operational or training sortie to successfully complete the MSN evaluation. **(T-2).**

1.9.3.1. All primary crewmembers shall be mission qualified in each specific mission prior to performing any maneuvers associated with that mission (e.g., a receiver air-to-air refueling qualified aircraft commander will not perform any receiver air-to-air refueling if the other primary pilot does not have a receiver air-to-air refueling mission qualification). **(T-1).**

1.9.3.2. Crewmembers not qualified in the specific mission may perform maneuvers under the supervision of a mission qualified instructor. Refer to AFMAN 11-2KC-135V3, *KC-135 Operations Procedures*, to determine whether instructor supervision is required to be direct or indirect for the specific maneuver.

**1.9.4. Instructor (INSTR) Evaluations.** To initially qualify as an instructor in the KC-135, crewmembers will successfully complete an initial instructor qualification course and evaluation. Subsequently, aircrew members designated as instructors will be evaluated on their ability to instruct during all periodic evaluations. **(T-1).** Individuals may accomplish a QUAL, INSTM, or MSN evaluation in conjunction with initial INSTR evaluation if all required items of the respective evaluation are accomplished. Refer to **Chapters 2, 3** and **4** of this manual for specific requirements.

**1.9.5. SPOT Evaluations.** A SPOT evaluation is an evaluation not intended to satisfy the requirements of a periodic (e.g., INSTM, QUAL, MSN) evaluation. SPOT evaluations have no specific requisites or requirements unless specified in MAJCOM/Unit supplement or AFMAN. See AFI 11-202V2 for options to convert a SPOT evaluation to meet requirements of a periodic evaluation.

**1.9.6. Emergency Procedures Evaluations (EPE).** See AFI 11-202V2 and the following: Evaluate MSN specific emergency procedures and system knowledge during MSN evaluations. A single EPE may be used for separate evaluations (e.g., a MSN and INSTM/QUAL evaluation) but the combined EPE must be of a scope and duration to cover required areas and must be within the requisite zone for each evaluation. Refer to the specific aircrew **Chapters 2, 3** and **4** for requirements and the following:

1.9.6.1. Units will develop EPE program requirements (topics, special interests, etc.) and publish in unit supplements. The EPE will include areas commensurate with the examinee's level of training, qualification (e.g., initial, line, instructor, evaluator) or as specified in AFI 11-202V2 and MAJCOM Supplement. **(T-2).** Units may utilize EPs demonstrated during simulator evaluations to fulfill this requirement. Co-located units with a BOSS/BOWST will conduct the EPE in the weapon system trainer. **(T-3).**

1.9.6.2. Examinees will use publications that are normally available in-flight. The examinee will be able to recite all boldface items from memory and provide the initial actions of selected emergency procedures that would not allow time for reference. **(T-2).**

1.9.6.3. Examinees receiving an overall EPE grade of unqualified will be placed in supervised status until recommended additional training and re-evaluation are completed. Examinees receiving an overall EPE grade of unqualified because of unsatisfactory boldface procedures will not be permitted to fly in their aircrew position until a successful re-evaluation is accomplished. **(T-2)**. Accomplish additional training in accordance with AFI 11-202V2.

1.9.7. Evaluation Prefixes/Unique MSN Suffixes. Use AFI 11-202V2 evaluation prefixes for AF Form 8, *Certificate of Aircrew Qualification*, and AF Form 942, *Record of Evaluation*. Utilize “Cargo” or “ARR” (air refueling receiver) parenthetical (e.g., MSN (Cargo), MSN (ARR), MSN (ARRIP)) to distinguish unique MSN evaluations in the flight phase section of the AF Form 8 and AF Form 942. The first entry of the AF Form 8, Examiners Remarks, A. Mission Description will describe the circumstances for any required evaluation prefix or unique mission suffix. **(T-2)**.

1.9.8. Manual Gear Extension and Manual Flap Lowering. Mandatory on all navigator initial mission and initial instructor evaluations. **(T-2)**. For initial qualification and initial mission evaluations, flap lowering should be evaluated in-flight but at the discretion of the evaluator may be accomplished on the ground.

## **1.10. Grading Policies.**

1.10.1. Evaluators will use the grading criteria (see **Chapters 2, 3 and 4**) in this instruction in conjunction with AFI 11-202V2 to grade areas/subareas accomplished during an evaluation. **(T-2)**.

1.10.2. When in-flight or simulator evaluation of a required area is not possible, the area may be verbally evaluated. Flight examiners will make every effort to evaluate all required areas/subareas via flight, simulator or static training tools before resorting to this provision, to include scheduling an evaluation completion sortie/simulator. **(T-3)**. When a verbal evaluation is used, the evaluator will identify the area or items within the area that were verbally evaluated on AF Form 8 as an examiner remark (following the mission description). **(T-2)**.

1.10.2.1. For pilots only, if the flight manual recommends a specific airspeed range for performance of a maneuver, the flight examiner will apply the grading criteria to the upper and lower limits of that range. **(T-2)**.

1.10.2.2. Flight examiners will use sound judgment in the application of the grading criteria in this manual to determine the final grade.

**1.11. Grading System.** Refer to AFI 11-202V2.

## **1.12. Conduct of Evaluations.**

1.12.1. Flight examiners will pre-brief the examinee on the conduct, purpose, requirements of the evaluation, and all applicable evaluation criteria. Flight examiners will then evaluate the examinee in each graded area/subarea. **(T-2)**.

1.12.1.1. Flight examiners should not evaluate personnel they have primarily trained or have recommended for upgrade/evaluation. Flight examiners will not evaluate personnel assigned as their primary rater on Enlisted/Officer Performance Reports. **(T-3)**.



1.12.1.2. Unless otherwise specified, flight examiners may conduct the evaluation in any crew position/seat which will best enable the flight examiner to observe the examinee's performance. As a last resort, evaluator pilots may conduct evaluations when scheduled as primary aircrew members and in this case will perform all duties required of that position (e.g., mandatory advisory calls, etc.).

1.12.2. Flight examiners will note discrepancies and deviations from prescribed tolerances and performance criteria during the evaluation. Compare the examinee's performance with the tolerances provided in the grading criteria and assign an appropriate grade for each area. **(T-2)**.

1.12.2.1. An evaluation will not be changed to a training mission to avoid documenting substandard performance, nor will a training mission be changed to an evaluation after crew brief time unless to facilitate a SPOT evaluation. **(T-2)**.

1.12.2.2. The judgment of the flight examiner, guidance provided in AFI 11-202V2, and this manual will be the determining factors in assigning an overall grade. The flight examiner will thoroughly critique all aspects of the flight. During the critique, the flight examiner will review the examinee's overall rating, specific deviations, area/subarea grades assigned, and any additional training required. **(T-2)**.

1.12.2.3. In the event of unsatisfactory performance, the flight examiner will determine additional training requirements and restrictions, whether critical or non-critical. Normally, additional training should not be accomplished on the same flight. **Exception:** Additional training on the same flight is allowed when, in the evaluator's judgment, unique situations presenting valuable training opportunities (e.g., thunderstorm avoidance, crosswind landings) exist. This option requires utmost flight examiner discretion and judicious application. When used, the examinee will be informed of when the additional training begins and ends. **(T-2)**.

1.12.2.4. When evaluations are less than Q-1 performance, the flight examiner will debrief the examinee and examinee's commander or designated representative. **(T-3)**.

1.12.3. A certified simulator/training device will be used to accomplish additional training and re-checks when available and when criteria to be graded can be realistically accomplished in the device. **(T-2)**.

1.12.4. Rechecks will be administered by a flight examiner other than the one who administered the original evaluation, unless there is no other option available to ensure timely completion of evaluation. **(T-3)**.

**1.13. Unsatisfactory Performance.** Refer to AFI 11-202V2.

**1.14. Use of AF Form 3862, *Aircrew Evaluation Worksheet*.** Units (normally the Operations Group Stan/Eval Office (OGV)) will overprint AF Form 3862, using the examples at **Attachment 2**, **Attachment 3**, or **Attachment 4**, to use as an evaluation worksheet. Copy each title, area number and text (in the order illustrated) to the appropriate blocks. Units may add special interest items and/or local evaluation requirements. The worksheet may be used to ensure all required areas are evaluated. Record positive and negative trend information and aircrew member's performance. File the examiner-signed worksheet or draft copy of the AF Form 8 in the aircrew

member's Flight Evaluation Folder (FEF) in accordance with AFI 11-202V2. Maintain until the completed AF Form 8 is added to the FEF, then discard. (T-3).

**1.15. Aircrew Testing.** For all initial and requalification evaluations, testing requirements will be prerequisites. For all other evaluations, testing requirements will be requisites. (T-1). See specific testing requirements in AFI 11-202V2 and include the following:

1.15.1. Secure Question Bank (SQB, or Patriot Excalibur Program/Graduate Training Integration Management System equivalent). Each unit will maintain a SQB from which open book and instructor open book (if used by unit) exams will be derived. The unit SQB may be a single question bank (containing all questions for all crewmembers) or may be separate question banks (separate question banks for each crew position, mission, and/or aircraft type; there may also be classified and unclassified SQBs). As a minimum, SQB questions will be drawn from appropriate information contained in Flight Crew Information File (FCIF) Volumes I, II, III, and IV (per AFI 11-202V2); however, questions may come from any source deemed pertinent to the operation of unit aircraft and performance of the assigned mission. (T-2).

1.15.2. Open book exam (Open Book). The open book examination will consist of a minimum of 40 questions from the SQB. (T-2).

1.15.3. Closed book exam (Closed Book). The closed book exam will consist of a minimum of 20 questions derived from the MAJCOM-produced master question File (MQF). All crewmembers with boldface responsibilities will complete a boldface exam in conjunction with the closed book examination. (T-2).

1.15.4. Instrument exam. Pilots and navigators only, see AFI 11-202V2, **Chapter 6**, instrument examination requirements.

1.15.5. Instructor open book. Units may maintain a separate SQB for instructors.

**1.16. Typical KC-135 Evaluation Profile.** Units determine a flight evaluation profile to maximize successful completion of all evaluation requirements on a single in-flight mission. A typical profile may include takeoff, cruise, rendezvous, air-to-air refueling (AAR), and transition when pilot QUAL and INSTM portions are to be accomplished in-flight along with the MSN evaluation. Aircrew Training Simulator (ATS) profiles will be used for accomplishment of simulator evaluations, for co-located units. (T-3). Flight examiners may alter the order of maneuver accomplishment and may request to see additional maneuvers. Once an evaluation begins, it should not be terminated until the evaluation debrief except for emergencies, at the evaluator's discretion.

**1.17. Electronic Flight Bag (EFB).** For the purposes of evaluation, the EFB is considered the combination of electronic publications and underlying operating system software and application versions.

**1.18. Senior Officer Requirements.** See AFI 11-202V1, *Aircrew Training*.

## Chapter 2

### PILOT EVALUATIONS

**2.1. General.** This chapter standardizes initial, periodic, and re-qualification evaluations, including the requirements for instrument, qualification, mission, and instructor pilot evaluations.

2.1.1. Events that are accomplished during ATS portion of the evaluation are not required to be evaluated again (e.g., if a non-precision approach is flown during a one engine inoperative approach and landing, it does not have to be re-accomplished during the instrument phase of the check ride); however a landing will be accomplished in flight in conjunction with the MSN evaluation. **(T-2).** Events accomplished during the conduct of a normal MSN check profile are not required to be re-accomplished during the INSTM or QUAL check.

2.1.2. Examiner pilots will utilize the standard ATS evaluation profile. Ceiling for all simulator evaluations will be set no lower than 200 feet above the lowest compatible circling approach minimums. Visibility will be set no lower than 1 mile above the lowest compatible circling approach minimums. Crosswinds for simulator evaluations will not be greater than 10 knots. **(T-3).**

**2.2. Instrument Evaluations (Initial, Periodic and Re-qualifications).** KC-135 instrument evaluations should be combined with a qualification evaluation. Include all items under GENERAL and INSTRUMENT.

**2.3. Qualification Evaluations (Initial, Periodic and Re-qualification).** KC-135 qualification evaluations should be combined with instrument evaluation. Include all areas under GENERAL, and QUALIFICATION. For co-located units, the OG/CC is the waiver authority for conducting INST/QUAL evaluations in the aircraft due to simulator availability. Document approved waivers in unit SEB minutes.

2.3.1. **Qualified pilot in a mission development phase (FP), mission pilot (MP), or an instructor pilot (IP).** Evaluate FP and MP on at least one landing in both left and right seats. **(T-2).** IPs may receive all periodic evaluations in either seat, but are not required to be evaluated in both. If an IP evaluation takes place in the right seat, taxi and full-stop braking do not need to be evaluated.

2.3.2. **Senior Officer (FP) and Flight Training Level E (FTL-E) Basic Qualification.** Senior Officer and FTL-E initial, periodic and re-qualification evaluations will include a takeoff, precision approach, non-precision approach, visual flight rules (VFR) pattern, go-around, and a landing. Area 16, engine out operations and Area 28, circling approach are not required. Entire QUAL/INSTM evaluation will be conducted in simulator in accordance with [paragraph 1.10](#) for co-located units. **(T-3).**

2.3.2.1. Conduct an EPE in a random selection of boldface procedures.

2.3.2.2. **Testing requirements.** Initial, periodic and re-qualification evaluations will include the following requisites **(T-2)**:

2.3.2.2.1. Instrument exam.

2.3.2.2.2. KC-135 Open book test.

2.3.2.2.3. KC-135 Closed book test.

#### 2.3.2.2.4. Boldface exam.

2.3.2.3. Annotate AF Form 8 crew position as “FP”, type of evaluation is QUAL/INSTM and include an expiration date. Add the following restriction in the remarks: “RESTRICTION: This evaluation permits operating the aircraft from a primary crew position only under direct supervision of an instructor pilot during all critical-phases-of-flight.”

2.3.2.4. Senior Officer Course graduates and FTL-E pilots must complete a MSN, INST, and QUAL evaluation to gain full mission ready status. See AFI 11-2KC-135 Volume 1 for training requirements.

**2.4. Mission Evaluations (Initial, Periodic, and Re-qualifications).** Mission evaluations will be flown in accordance with current tactics, unit tasking, and theater area of responsibility scenarios. **(T-2).** Scenarios that represent unit designated operational capability or operational plan tasking and current Air Expeditionary Force requirements satisfy the requirements of this evaluation. Evaluations may be conducted during exercises, deployments, or contingency operations; however, units should apply operational risk management principles to the scheduling of the evaluation.

2.4.1. Include all areas under GENERAL and MISSION (Tanker AAR). Rendezvous is required. Receiver must maintain the contact position (minimum duration determined by evaluator) but an actual offload is not required. Autopilot-off AAR is required on at least one contact (minimum duration determined by evaluator). **(T-2).**

2.4.2. Pilots can be evaluated in either seat and will be evaluated on AAR and a breakaway. Breakaway may be evaluated as either the pilot flying or the pilot monitoring. Pilots will be graded based on procedures applicable to their crew position. Breakaway procedures can be evaluated with receiver not in contact, but within the AAR envelope. Each evaluatee will perform a landing. **(T-2).**

### 2.5. Additional Qualification/Mission Evaluations.

2.5.1. **Receiver AAR.** Include all areas under GENERAL and MISSION (Receiver AAR). For initial/re-qualification evaluations, rendezvous or closure from a minimum of one nautical mile (NM) is required. Evaluate aircraft commanders in left seat. Evaluate instructors in either seat. Pilots will demonstrate sustained contacts. Evaluate limits demonstrations for instructor pilots, inadvertent disconnect tolerances, and breakaway procedures. Annotate “Receiver AAR Qualified” in the remarks section. **(T-2).**

2.5.1.1. Annotate AF Form 8 as “INIT MSN (ARR)” for initial and “MSN (ARR)” for recurring receiver AAR evaluations.

2.5.1.2. Annotate the AF Form 8 with “INIT MSN (ARRIP)” for initial receiver AAR instructor evaluations. Subsequent recurring MSN evaluations for air refueling instructor pilots will be annotated as “MSN (ARR)”. **(T-2).**

2.5.2. **Operational Mission Evaluation (OME).** An OME is a flight evaluation given to prospective aircraft commanders prior to aircraft commander certification. The profile must be balanced between mission availability and the imperative to not delay aircraft commander certification. The evaluation profile is at the discretion of the operations group commander as defined locally. With OG/CC or equivalent approval, a full qualification/instrument and/or

mission evaluation administered just prior to aircraft commander certification may satisfy this requirement. If a qualification/instrument and/or mission evaluation is used, the focus for the evaluation shall be on decision making and CRM. **(T-1)**.

2.5.2.1. Documentation. If documenting an OME on the AF Form 8, use the “SPOT” evaluation and include the following comment in the remarks section, “This OME was conducted in conjunction with aircraft commander certification.” **(T-1)**.

2.5.2.1.1. If this evaluation is intended to satisfy the requirements of a periodic qualification/instrument and/or mission evaluation, comply with the requirements in AFI 11-202V2 and this AFMAN. **(T-2)**.

2.5.2.1.2. Annotate with “INIT” prefix and include the remark “This evaluation was conducted in conjunction with aircraft commander certification.” **(T-1)**.

**2.6. Instructor Evaluation.** Flight examiners will place particular emphasis on the examinee’s ability to recognize student difficulties and provide timely, effective and corrective action. At a minimum, examinee will demonstrate and instruct a variety of approaches. **(T-2)**.

2.6.1. Pilots who desire to realign their INSTM/QUAL/MSN evaluation during the initial instructor evaluation will complete (demonstrate) all required areas/subareas in GENERAL, QUALIFICATION, MISSION (Tanker AAR), INSTRUCTOR, and complete all required requisite written examinations. **(T-2)**.

2.6.2. For Receiver AAR by an instructor pilot, limited inadvertent disconnects are permissible during a boom limits demonstration and will not be counted against the instructor pilot examinee at the examiner’s discretion.

2.6.3. An initial instructor evaluation combined with a QUAL or MSN evaluation that results in a Q3 requires successful completion of the failed QUAL or MSN evaluation before attempting another INIT INSTR evaluation. **(T-2)**.

2.6.4. Conduct initial or requalification instructor evaluations with a qualified pilot occupying the other seat. Initial instructor evaluations are to be conducted in the simulator whenever possible and may be completed in the traffic pattern. When conducted in the aircraft, initial instructor examinees will occupy the right seat and a qualified instructor (or evaluator) will sit in the other seat for IP-only maneuvers and demos. **(T-2)**.

2.6.5. Administer periodic instructor evaluations in conjunction with INSTM/QUAL/MSN evaluation. Include all areas under GENERAL, QUALIFICATION, MISSION (Tanker AAR), MISSION (Receiver AAR) (if applicable), INSTRUMENT, and INSTRUCTOR.

**2.7. Emergency Procedures Evaluation (EPE).** Unit determines EPE requirements. EPE will normally be conducted in certified simulator in conjunction with INSTM/QUAL evaluation. One-on-one discussions or on-aircraft evaluation methods may be utilized when certified simulator is not available to conduct the EPE. The EPE should cover a cross section of aircraft systems. Examinees should be able to demonstrate an understanding of aircraft systems in emergency scenarios. Evaluators will include situations during takeoff/climb-out, cruise, and approach to landing phases. **(T-3)**. The EPE may also include emergency egress, aircrew flight equipment (AFE), and FCIF and/or special interest identified EPE topics.

**2.8. Pilot Grading Criteria.**

**Table 2.1. General.**

|   |
|---|
| <p><b>Area 1, Directives and Publications.</b></p> <p><b>Q</b> Possessed a high level of knowledge of all applicable aircraft directives and publications and understood how to apply both to enhance mission accomplishment. Required publications (paper or electronic) were current and properly posted.</p> <p><b>Q-</b> Unsure of some directives but could locate information in appropriate publications. Required publications (paper or electronic) were current but improperly posted.</p> <p><b>U</b> Unaware of established directives and/or could not locate them in the appropriate publication in a timely manner. Required publications (paper or electronic) were not current.</p>  |
| <p><b>Area 2, Mission Preparation/Planning/Performance.</b></p> <p><b>Q</b> Checked all factors applicable to flight such as: weather, Notice to Airmen (NOTAMs), alternate airfields, airfield suitability, fuel requirements, charts, etc. High level of knowledge of performance capabilities and operating data. Evaluated data intended for use during takeoff/landing after final adjustments and corrections were made.</p> <p><b>Q-</b> Made minor errors or omissions in checking all factors that could have detracted from mission effectiveness. Marginal knowledge of performance capabilities and/or operating data. Did not appropriately analyze/evaluate performance calculations intended for use during takeoff/landing.</p> <p><b>U</b> Made major errors or omissions which would have prevented a safe or effective mission. Unsatisfactory knowledge of performance capabilities and/or operating data. Performance calculations did not allow for safe takeoff/landing.</p> |
| <p><b>Area 3, Use of Checklists. Note:</b> Deviations from checklist order are approved for CRM, equipment malfunctions, or equipment limitations as long as it is understood why each step is performed and why it occurs in a certain sequence. Coordination with the evaluator is required.</p> <p><b>Q</b> Consistently used and called for the correct checklist and gave the correct response at the appropriate time throughout the mission.</p> <p><b>Q-</b> Checklist responses were untimely and/or crewmember required continual prompting for correct response.</p> <p><b>U</b> Used incorrect checklist or consistently omitted checklist items. Unable to identify the correct checklist to use for a given situation. Did not complete checklist prior to event.</p>   |
| <p><b>Area 4, Safety Consciousness (Critical).</b></p> <p><b>Q</b> Aware of and complied with all safety factors required for safe aircraft operation and mission accomplishment.</p> <p><b>U</b> Not aware of or did not comply with all safety factors required for safe aircraft operation or mission accomplishment. Operated aircraft in a dangerous manner.</p>   |
| <p><b>Area 5, Judgment/Compliance (Critical).</b></p> <p><b>Q</b> Prepared and completed mission in compliance with existing regulations and directives. Demonstrated knowledge of operating procedures and restrictions and where to find them in the correct publications.</p>  |

**U** Unaware of established procedures and/or could not locate them in the appropriate publication in a timely manner. Failed to comply with a procedure that could have jeopardized safety or mission success.

**Area 6, Crew Coordination/Crew Resource Management (CRM)/Threat and Error Management (TEM). Note:** See AFI 11-290, *Cockpit/Crew Resource Management Training Program*, and use AF Form 4031, *CRM Skills Criteria Training/Evaluation*, as a reference.

Observe and/or discuss verbalize, verify, monitor practices/procedures and pilot monitoring duties. Evaluate both pilot flying and pilot monitoring duties during all applicable evaluations.

**Q** Effectively coordinated with other aircrew members throughout the assigned mission.

Demonstrated knowledge of other crewmembers' duties and responsibilities. Effectively applied CRM skills, TEM practices, and mandatory call-outs throughout the mission.

**Q-** Crew coordination adequate to accomplish mission. Demonstrated limited knowledge of other crewmembers' duties and responsibilities. Applied poor CRM skills or TEM practices. Mandatory call-outs were inconsistent and or incorrect.

**U** Poor crew coordination or unsatisfactory knowledge of other crewmembers' duties and responsibilities negatively affected mission accomplishment or safety of flight. Failed to apply CRM skills, TEM practices, or mandatory call-outs

**Area 7, Communication Procedures.**

**Q** Complete knowledge of and compliance with correct communications procedures.

Transmissions concise with proper terminology. Complied with and acknowledged all required instructions. Thoroughly familiar with and correctly operated, HAVE QUICK, Identification Friend or Foe (IFF), and secure voice equipment, if required.

**Q-** Occasional deviations from procedures that required re-transmissions or resetting codes. Slow in initiating or missed several required radio calls. Transmissions contained extraneous matter, were not in proper sequence, or used non-standard terminology. Displayed limited knowledge of HAVE QUICK, IFF, and secure voice equipment, if required.

**U** Incorrect procedures or poor performance caused confusion and jeopardized mission accomplishment. Omitted numerous radio calls. Displayed inadequate knowledge of HAVE QUICK, IFF, and secure voice equipment, if required.

**Area 8, Aircrew Flight Equipment Systems/Egress.**

**Q** Displayed thorough knowledge of location and use of AFE systems and equipment.

Demonstrated and emphasized the proper operating procedures used to operate aircraft egress devices such as doors, windows, slide, rafts, and escape ropes, if used.

**Q-** Limited knowledge of location and use of AFE systems and equipment. Unsure of the proper operating procedures used to operate some of the aircraft egress devices, if used.

**U** Displayed unsatisfactory knowledge of location and use of AFE support systems and equipment. Unable to properly operate aircraft egress devices, if used.

**Area 9, Knowledge/Completion of Forms.**

**Q** All required forms and/or flight plans were complete, accurate, readable, accomplished on time and in accordance with applicable directives. Reported an accurate debrief of significant events to applicable agencies (intelligence, maintenance, etc.).

**Q-** Minor errors on forms and/or flight plans did not affect conduct of the mission. Incorrectly or incompletely reported some information due to minor errors, omissions, and/or deviations.

**U** Did not accomplish required forms and/or flight plans. Omitted or incorrectly reported significant information due to major errors, omissions, and/or deviations.

**Area 10, Airmanship/Situational Awareness (Critical).**

**Q** Executed the assigned mission in a timely, efficient manner. Demonstrated strict professional flight and crew discipline throughout all phases of flight. Conducted the flight with a sense of understanding and comprehension.

**U** Decisions or lack thereof, resulted in failure to accomplish the assigned mission.

**Table 2.2. Qualification.**

**General Tolerances.** Evaluators will use the following criteria as general tolerances for knots indicated airspeed (KIAS), altitude and heading/course. **(T-2).**

**Q** *Altitude:* +/-100 feet (+/-75 feet in reduced vertical separation minima (RVSM) airspace)

*Airspeed:* +10/-5 KIAS

*Heading/Course:* +/-5 degrees

**Q-** *Altitude:* +/-200 feet (+/-150 feet RVSM airspace)

*Airspeed:* +15/-5 KIAS

*Heading/Course:* +/-10 degrees

**U** Exceeds Q- criteria

**Note 1.** Airspeed tolerances apply when a specific airspeed has been assigned by air traffic control or prescribed in the flight manual. Airspeed “minus” tolerances are based on minimum maneuvering speed for aircraft configuration.

**Note 2.** Add 50 feet (when practical), two degrees, and +5/-0 KIAS to criteria for one engine inoperative operations.

**Area 11, Takeoff.**

**Q** Maintained smooth, positive aircraft control throughout the takeoff. Performed the takeoff in accordance with flight manual and as published/directed.

**Q-** Minor deviations from published procedures without affecting safety of flight. Control was rough or erratic. Hesitant in application of procedures/corrections.

**U** Takeoff was potentially dangerous. Exceeded aircraft/systems limitations. Failed to establish proper climb attitude. Excessive deviation from intended flight path. Violated flight manual procedures. Exceeded Q- criteria.

**Area 12, VFR Pattern (Weather Permitting or Certified Simulator).**

**Q** Performed traffic pattern and turn to final/final approach in accordance with published procedures. Aircraft control was smooth and positive. Constantly cleared area of intended flight.

**Q-** Performed traffic pattern and turn to final/final approach with minor deviations to procedures as published/directed. Aircraft control was safe but not consistently smooth and



positive. Over/under shot final approach, but was able to intercept normal glide path. Adequately cleared area of intended flight.

**U** Did not perform traffic pattern and/or turn to final/final approach in accordance with published procedures. Displayed erratic aircraft control. Did not clear area of intended flight.

**Area 13, Landings.** Evaluators will use the following criteria as general tolerances for airspeed, centerline and threshold crossing height (TCH). **(T-2).** Subareas includes: Full Flap Landing (50 flap), Normal Landing (40 flap), and Partial Flap Landing (30 flap).

**Q** Performed landings as published/directed in accordance with flight manual and met the following criteria:

*Airspeed:* +5/-5 KIAS (increased landing speed must consider landing distance)

*Centerline:* +/-15 feet left or right

*TCH:* +25/-10 feet

**Q-** Performed landings with minor deviation to procedures as published/directed. Landed in a crab. Exceeded Q criteria but not the following:

*Airspeed:* +15/-5 KIAS (increased landing speed must consider landing distance)

*Centerline:* +/-30 feet left or right

*TCH:* +40/-10 feet

**U** Landing not performed as published/directed. Exceeded Q- criteria.

**Note 1:** Specific items to evaluate include threshold altitude/airspeed, runway alignment, flare touchdown, and landing in a crab. Evaluate landing up to area 14, landing roll/braking.

**Note 2:** Airspeed tolerances apply to computed approach speed.

**Note 3:** Add five KIAS to all engines operating criteria for operations with an engine out criteria.

**Note 4:** FP and MPs will be evaluated in both seats. **(T-2).**

**Subarea 13A, Full-Flap Landing (50 flap).** A full-flap landing is required but may be accomplished in either seat. **(T-2).**

**Q** *Touchdown zone:* 1,000 to 3,000 feet. If computed flare distance is greater than 2,500 feet, use computed flare distance + 500 feet to determine the maximum touchdown point (example 2,600 + 500 = 3,100 feet, touchdown zone 1,000 to 3,100). Planned total landing distance will be less than runway available. **(T-2).**

**Q-** *Touchdown zone:* With computed flare distance of 2,500 feet or less, the touchdown was greater than 3,000 feet but less than 3,500 feet. With computed flare distance of 2,501 feet or more, the touchdown was greater than charted flare distance + 500 feet but less than charted flare distance + 1,000 feet.

**U** Landing not performed as published/directed, or attempted when total landing distance was not computed or exceeded runway available. Exceeded Q- criteria.

**Subarea 13B, Normal Landing (40 flap).** A normal landing is required but may be accomplished in either seat. **(T-2).**

**Q** *Touchdown zone:* 1000 to 3000 feet. If computed flare distance is greater than 2,500 feet, use computed flare distance + 500 feet to determine the maximum touchdown point (example  $2,600 + 500 = 3,100$  feet, touchdown zone 1,000 to 3,100). Planned total landing distance will be less than runway available. **(T-2).**

**Q-** *Touchdown zone:* With computed flare distance of 2,500 feet or less, the touchdown was greater than 3,000 feet but less than 3,500 feet. With computed flare distance of 2,501 feet or more, the touchdown was greater than charted flare distance + 500 feet but less than charted flare distance + 1,000 feet.

**U** Landing not performed as published/directed, or attempted when total landing distance was not computed or exceeded runway available. Exceeded Q- criteria.

**Subarea 13C, Partial Flap Landing (30 flap).** A partial-flap landing is required but may be accomplished in either seat. **(T-2).**

**Q** *Touchdown zone:* Computed flare distance +500 feet. Planned total landing distance will be less than runway available. **(T-2).**

**Q-** *Touchdown zone:* Computed flare distance +501 feet but less than computed flare distance +1,000 feet.

**U** Landing not performed as published/directed, or attempted when total landing distance was not computed or exceeded runway available. Exceeded Q- criteria.

**Area 14, Landing/Roll, Braking.**

**Q** Performed as published/directed in accordance with flight manual. Braking action was prompt and smooth.

**Q-** Performed landings with minor deviation to procedures as published/directed. Braking action unnecessarily delayed or not smooth.

**U** Landing not performed as published/directed. Braking actuated before touchdown. Exceeded Q- criteria

**Area 15, All Engine Go-Around (If observed).**

**Q** Initiated and performed go-around promptly and in accordance with flight manual and directives. Applied smooth control inputs. Acquired and maintained a positive climb.

**Q-** Slow or hesitant to initiate go-around. Slightly over-controlled the aircraft. Minor deviations did not affect mission accomplishment or compromise safety.

**U** Did not initiate go-around when appropriate. Major deviations or misapplication of procedures could have led to an unsafe condition.

**Area 16, Simulated Engine Out Operations.**

**Q** Proper control inputs were used to correct asymmetric condition. Aircraft was properly trimmed. Aircraft maneuvering and configuration was in accordance with aircraft flight manuals

**Q-** Minor deviations in aircraft control allowed the aircraft to occasionally fly uncoordinated flight.

**U** Aircraft was not properly trimmed. Aircraft control was erratic and consistently resulted in uncoordinated flight. Aircraft maneuvering was potentially unsafe.

**Note 1.** Pilots will be evaluated on all Area 16 areas/subareas but may be accomplished in either seat. (T-2).

**Note 2.** Emergency set-up will include an actual malfunction when performed in the simulator. (T-2).

**Subarea 16A, Engine Fire/Failure During Flight.**

**Q** Performed all required procedures in accordance with the flight manual and directives. Applied smooth, positive, and coordinated control inputs. Rudder and aileron inputs were in correct direction and proper thrust inputs were made.

**Q-** Procedural errors were made which did not affect safety. Aircraft control was not consistently smooth and positive. Rudder and aileron inputs were in correct direction but some over/under control. Thrust inputs detracted from aircraft performance or control.

**U** Thrust, rudder and/or aileron inputs were incorrect. Exceeded Q- criteria.

**Subarea 16B, Engine Out Approach. Note:** Use approach criteria for the type of approach being flown and the following:

**Q** Performed all required procedures in accordance with the flight manual and directives. Applied proper configuration for the approach, smooth aircraft control, and thrust management.

**Q-** Procedural errors were made which did not affect safety. Aircraft control was not consistently smooth and positive. Thrust inputs detracted from aircraft performance or control.

**U** Configuration for the approach, thrust, rudder and/or aileron inputs were incorrect. Exceeded Q- criteria.

**Subarea 16C, Engine Out Go-Around (GA).**

**Q** Initiated and performed go-around promptly and in accordance with flight manual and directives. Applied smooth control inputs. Acquired and maintained a positive climb.

**Q-** Slow or hesitant to initiate go-around. Slightly over-controlled the aircraft. Minor deviations did not affect mission accomplishment or compromise safety.

**U** Did not initiate go-around when appropriate or directed. Major deviations or misapplication of procedures could have led to an unsafe condition.

**Subarea 16D, Engine Out Landing (Use Area 16 Criteria).**

**Area 17, Boldface Emergency Procedures (Critical).**

**Q** Correct, immediate responses. Maintained aircraft control. Coordinated proper crew actions.

**U** Incorrect sequence, unsatisfactory response, or unsatisfactory performance of corrective actions

**Area 18, Other Emergency Procedures.**

**Q** Operated within prescribed limits and correctly diagnosed problems. Performed/explained proper corrective action for each type of malfunction. Effectively used available aids.

**Q-** Operated within prescribed limits but slow to analyze problems or apply proper corrective actions. Did not effectively use and/or experienced delays, omissions, or deviations in use of checklist and/or available aids.

**U** Exceeded limitations. Unable or failed to analyze problem or take proper corrective action. Did not use checklist and/or available aids.

**Area 19, Systems Operations/ Knowledge/Limitations.**

**Q** Demonstrated/explained a complete knowledge of aircraft systems operations/limitations and proper procedural use of systems including aircraft model differences (if qualified).

**Q-** Marginal knowledge of aircraft systems operations and limitations in some areas. Used individual technique instead of established procedure.

**U** Unsatisfactory systems knowledge. Unable to demonstrate/explain the procedures for aircraft system operations.

**Area 20, Automation Management**

**Q** Established/followed guidelines for the operation of automated systems; aware of when systems should be disabled. Established/followed pilot flying and pilot monitoring responsibilities with regard to automated systems including verbalize, verify, and monitor procedures. Periodically reviewed and verified the status of aircraft automated systems. Allowed sufficient time for programming the flight management system (FMS). Used automated systems at appropriate levels to reduce workload, but reduced or disengaged level of automation when programming demands could have reduced situational awareness or created work overloads.

**Q-** Had limited knowledge of guidelines for the operation of automated systems; unclear as to when systems should be disabled. Slow to establish/follow pilot flying and pilot monitoring responsibilities with regard to automated systems including verbalize, verify, and monitor procedures. Slow to review and verify the status of aircraft automated systems. Did not always allow sufficient time for programming the FMS. Inconsistently used automated systems at appropriate levels.

**U** Did not establish/follow guidelines for the operation of automated systems; unaware of when systems should be disabled. Did not establish/follow pilot flying and pilot monitoring responsibilities with regard to automated systems including verbalize, verify, and monitor procedures. Did not periodically review and verify the status of aircraft automated systems. Failed to allow sufficient time for programming the FMS. Did not use automated systems at appropriate levels, to decrease workload. Did not reduce or disengage level of automation when programming demands reduced situational awareness or created work overloads.

**Area 21, Pilot Monitoring**

**Q** Effectively monitors and supports/advises the PF, intervening, when appropriate, if the PF is not adequately controlling the aircraft flight path. Complies with applicable flight policies and procedures and makes required flight callouts. Remains vigilant to identify, communicate, and mitigate events/distractions that may adversely affect flight path management. Monitors energy and flight path performance and is alert for erroneous/conflicting aircraft control and navigational information. Effectively addresses aircraft system failures or unexpected aircraft flight guidance and aircraft system outcomes.

**Q-** Does not fully support/advise the PF regarding the aircraft flight path. Slow to intervene if the PF is not adequately controlling the aircraft flight path. Flight policies/procedures are not fully applied and required flight callouts are inconsistent. Flight path/energy management awareness, communication, and/or vigilance is sporadic but does not adversely affect flight safety. Intermittently addresses aircraft system failures or unexpected aircraft flight guidance and aircraft system outcomes.

**U** Fails to support/advise the PF regarding the aircraft flight path. Does not intervene if the PF is not adequately controlling the aircraft flight path. Application of flight policies/procedures is insufficient and required callouts are not made. Flight path/energy management awareness, communication, and/or vigilance is insufficient or jeopardizes flight safety. Fails to address aircraft system failures or unexpected aircraft flight guidance and aircraft system outcomes.

### Table 2.3. Instrument.

**General Tolerances.** Evaluators will use the following criteria as general tolerances for airspeed, level-off altitude, and heading/course with all engines operating. **(T-2).**

**Q** *Level-off Altitude:* +/-100 feet (+/-75 feet RVSM airspace)  
*Airspeed:* +10/-5 KIAS  
*Heading/Course:* +/-5 degrees

**Q-** *Level-off Altitude:* +/-200 feet (+/-150 feet RVSM airspace)\_  
*Airspeed:* +15/-5 KIAS  
*Heading/Course:* +/-10 degrees

**U** Exceeds Q- criteria

**Note 1.** Airspeed tolerances apply when a specific airspeed has been assigned by air traffic control or prescribed in the flight manual. Airspeed “minus” tolerances are based on minimum maneuvering speed for aircraft configuration.

**Note 2.** Add five KIAS, 50 feet (when practical), and two degrees to all engines operating criteria for operations with an engine out criteria.

### Area 22, Instrument Departure/Standard Instrument Departure (SID).

**Q** Complied with all restrictions or controlling agency instructions. Made all required reports. Applied course/heading corrections promptly. Demonstrated smooth, positive control.

**Q-** Minor deviations in navigation occurred during departure. Slow to comply with controlling agency instructions or unsure of reporting requirements. Slow to apply course/heading corrections. Aircraft control was not consistently smooth and positive.

**U** Failed to comply with published/directed departure, or controlling agency instructions. Accepted an inaccurate clearance. Failed to query an inaccurate or ambiguous clearance. Aircraft control was erratic.

### Area 23, Enroute Navigation/FMS.

**Q** Satisfactory capability to navigate using all available means. Used appropriate navigation procedures. Complied with clearance instructions. Aware of position at all times. Remained within the confines of assigned airspace.

**Q-** Minor errors in procedures/use of navigation equipment. Slow to comply with clearance instructions. Had some difficulty in establishing exact position and course. Slow to adjust for deviations in time and course. Exceeded Q criteria but not:

**U** Major errors in procedures/use of navigation equipment. Could not establish position. Failed to recognize checkpoints or adjust for deviations in time and course. Did not remain within the confines of assigned airspace. Exceeded Q- criteria.

**Area 24, Holding.** (If available, else verbally evaluate.)

**Note:** Not required for senior officers.

**Q** Performed entry and holding in accordance with published procedures and directives.

*Timing:* +/-15 seconds

*Distance Measuring Equipment (DME):* +/-2 DME

*Expect Further Clearance:* +/- 2 minutes (if assigned)

**Q-** Performed entry and holding procedures with minor deviations. Exceeded Q criteria but not:

*Timing:* +/-20 seconds

*DME:* +/-3 DME

**U** Holding was not in accordance with flight manual, directives, or published procedures. Exceeded Q- criteria.

**Area 25, Use of Navigational Aids (NAVAIDS).**

**Q** Ensured NAVAIDS were properly tuned, identified, and monitored.

**Q-** Some deviations in tuning, identifying, and monitoring NAVAIDS.

**U** Did not ensure NAVAIDS were tuned, identified, and monitored.

**Area 26, Descent/Arrival.**

**Q** Performed descent as directed. Complied with all flight manual, controlled/issued, or standard arrival restrictions in a proficient manner. Accomplished all required checks.

**Q-** Performed descent as directed with minor deviations that did not compromise mission safety. Slow to accomplish required checks.

**U** Performed descent with major deviations. Did not accomplish required checks. Erratic corrections. Exceeded flight manual limitations.

**Area 27, Precision Approaches.** One required. Evaluators will use the following criteria as general tolerances for airspeed, altitude, heading, glide slope and azimuth and adhere to Stabilized Approach Criteria in accordance with AFI 11-202V3 AMC Supplement. **(T-2)**. Includes Subareas: instrument landing system (ILS) and precision approach radar (PAR).

**Q** *Altitude:* Initiated missed approach at decision height +50/-0 feet

*Airspeed:* +10/-5 KIAS

*Heading (PAR):* +/-5 degrees of controller's instructions

*Azimuth (ILS):* Within one dot

*Glideslope (ILS):* Within one dot

**Q-** *Altitude:* Initiated missed approach at decision height +100/-0 feet

*Airspeed:* +15/-5 KIAS

*Heading (PAR):* +/-10 degrees of controller's instructions

*Azimuth (ILS):* Within two dots

*Glideslope (ILS):* Within one dot low, two dots high

U Exceeds Q- criteria

**Note 1.** Airspeed tolerances are based on computed approach speed.

**Note 2.** Add 50 feet (when practical), two degrees, and +5/-0 KIAS to all engines operating criteria for operations with an engine out criteria.

**Note 3.** If PAR is flown for precision approach credit, a radar approach will not be flown to satisfy non-precision approach requirement. **(T-2).**

#### **Subarea 27A, ILS.**

**Q** Approach was in accordance with published procedures. Smooth and timely corrections to azimuth and glide slope. Complied with decision height. Position would have permitted a safe landing. Maintained glide path with only minor deviations.

**Q-** Performed approach with minor deviations. Slow to make corrections. Slow to comply with decision height. Position would have permitted a safe landing. Improper glide path control.

**U** Approach not in accordance with flight manual, directives, or published procedures. Erratic corrections. Did not comply with decision height and/or position at decision height would not have permitted a safe landing.

#### **Subarea 27B, PAR.**

**Q** Approach was in accordance with published procedures. Smooth and timely response to controller's instructions. Established initial glide path and maintained with only minor deviations. Complied with decision height. Position would have permitted a safe landing. Elevation did not consistently exceed slightly above or slightly below glide path.

**Q-** Performed approach with minor deviations. Slow to respond to controller's instructions and make corrections. Improper glide path control. Complied with decision height. Position would have permitted a safe landing. Elevation did not exceed well above or well below glide path.

**U** Approach not in accordance with flight manual, directives, or published procedures. Erratic corrections. Did not respond to controller's instructions. Did not comply with decision height and/or position would not have permitted a safe landing. Erratic glide path control. Exceeded Q- criteria.

**Area 28, Non Precision Approaches.** One Required. Evaluators will use grading criteria below as general tolerances for airspeed, altitude at minimum descent altitude (MDA)/step-down fixes, heading, course, timing, missed approach point (MAP) and distance with all engines operating. Adhere to Stabilized Approach Criteria in accordance with AFI 11-202V3 AMC Supplement. Includes Subareas: 28A—Approach Surveillance Radar (ASR), 28B—Global Positioning System (GPS)/Area Navigation (RNAV), 28C—Localizer (LOC)/Very High Frequency Omni-Directional Range (VOR), and 28D—Tactical Air Navigation System (TACAN). **(T-2).**

**Q** Approach was in accordance with published procedures. Used appropriate descent rate to arrive at MDA at or before the visual descent point. Position would have permitted a safe landing. Smooth and timely response to controller's instructions (ASR).

*MDA:* +100/-0 feet

*Airspeed:* +10/-5 KIAS

*Course:* +/-5 degrees at MAP (TACAN, VOR), less than one dot deflection (GPS, LOC)

*Timing:* Computed/adjusted timing to determine MAP within 20 seconds (when required)

*Distance:* Determined MAP within +/-0.5 miles

**Q-** Performed approach with minor deviations. Arrived at MDA at or before the MAP. Position would have permitted a safe landing. Slow to respond to controller's instructions and make corrections (ASR).

*MDA:* +150/-0 feet

*Airspeed:* +10/-5 KIAS

*Course:* +/-10 degrees at MAP (VOR, TACAN), more than one dot, but less than two dot deflection (LOC, GPS)

*Timing:* Computed/adjusted timing to determine MAP within 30 seconds (when required)

*Distance:* Determined MAP within +1/-0.5 miles

**U** Approach not in accordance with published procedures. Maintained steady-state flight below the MDA, even though the -50 foot limit was not exceeded. Position would not have permitted a safe landing. Failed to compute or adjust timing to determine MAP (when required). Exceeded Q- criteria.

**Note 1.** Airspeed tolerances are based on computed approach speed.

**Note 2.** Add five KIAS, 50 feet (when practical), and two degrees to all engines operating criteria for operations with an engine out criteria.

**Note 3.** One non precision approach will be flown. **(T-2).**

**Area 29, Circling Approach** (If available, else verbally evaluate.).

**Note:** Not required for Senior Officers.

**Q** Properly identified aircraft category for the approach and remained within the lateral limits in accordance with AFMAN 11-217V1. Complied with controller's instructions. Attained runway alignment without excessive bank angles. Did not descend from the MDA until in a position to place the aircraft on a normal glide path or execute a normal landing.

**Q-** Properly identified aircraft category for the approach and remained within the lateral limits for that category. Slow to comply with controller's instructions. Attained runway alignment but occasionally required excessive bank angles or maneuvering.

**U** Did not properly identify aircraft category or exceeded the lateral limits of circling airspace. Did not comply with controller's instructions. Excessive maneuvering to attain runway alignment was potentially unsafe. Descended from the MDA before the aircraft was in a position for a normal glide path or landing.

**Area 30, Missed Approach.**



**Q** Executed missed approach in accordance with published procedures. Complied with controller's instructions. Applied smooth control inputs.

**Q-** Executed missed approach with minor deviations to published procedures. Slow to comply with controller's instructions. Slightly over-controlled the aircraft.

**U** Did not execute missed approach in accordance with flight manual, directives, or published procedures. Did not comply with controller's instructions. Deviation or misapplications of procedures could have led to an unsafe condition.

**Table 2.4. Instructor.****Area 31, Instructor Ability (Critical).**

**Q** Demonstrated the ability to communicate effectively. Provided appropriate guidance when necessary. Planned ahead and made timely decisions. Identified and corrected potentially unsafe maneuvers/situations.

**U** Unable to effectively communicate or provide timely feedback to the student. Did not provide corrective action when necessary. Did not plan ahead or anticipate student problems. Did not identify unsafe maneuvers/situations in a timely manner. Made no attempt to instruct.

**Subarea 31A, Demonstration of Knowledge (Critical).**

**Q** Effectively demonstrated procedures and techniques. Thorough knowledge of applicable aircraft systems, procedures, publications, and directives.

**U** Did not demonstrate correct procedure or techniques. Insufficient depth of knowledge about applicable aircraft systems, procedures, and/or proper source material.

**Subarea 31B, Student Briefing/Critique (Critical). Use grading criteria in Tables 4.4 and 4.5.**

**Q** Briefings were well organized, accurate, and thorough. Reviewed student's present level of training and defined mission events to be performed. During the critique, demonstrated an effective ability to reconstruct the flight, offer mission analysis, and provide guidance where appropriate. Training grade reflected the actual performance of the student relative to the standard. Pre-briefed the student's next mission, if required.

**U** Briefings were marginal or non-existent. Did not review student's past performance. Failed to adequately critique student or analyze the mission. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Incomplete pre-briefing of student's next mission, if required.

**Table 2.5. Mission.****Area 32, Ground Operations/Taxi.**

**Q** Established and adhered to start engine, taxi, and take-off time to ensure thorough preflight, check of personal equipment, crew/passenger briefings, etc. Accurately determined readiness of aircraft for flight. Completed all systems pre-flight/post-flight inspections in accordance with flight manual. Conducted taxi operations according to flight manuals, AFI 11-218, Aircraft Operation and Movement on the Ground, and local procedures.

**Q-** Same as above except for minor procedural deviations that did not detract from mission effectiveness.

**U** Crew errors directly contributed to a late takeoff that degraded the mission. Failed to accurately determine readiness for flight. Failed to preflight/post-flight a critical component or could not conduct a satisfactory preflight/post-flight inspection.

**Area 33, Takeoff.**

**Q** Maintained smooth, positive aircraft control throughout the takeoff. Performed the takeoff in accordance with flight manual and as published/directed.

**Q-** Minor deviations from published procedures without affecting safety of flight. Control was rough or erratic. Hesitant in application of procedures/corrections.

**U** Takeoff was potentially dangerous. Exceeded aircraft/systems limitations. Failed to establish proper climb attitude. Excessive deviation from intended flight path. Violated flight manual procedures. Exceeded Q- criteria.

**Area 34, Radar Operations/Weather Avoidance/Windshear.**

**Q** Effectively demonstrated procedures for operating weather radar. Updated weather radar/analysis throughout the mission. Highly knowledgeable of windshear detection and avoidance equipment, including minimum groundspeed. Used all available sources to determine if and/or to what degree severe weather conditions exist. Complied with all weather separation and windshear avoidance requirements.

**Q-** Minor deviations observed when operating weather radar. Did not update radar/weather analysis during worsening weather conditions. Limited knowledge of windshear detection and avoidance equipment. Complied with all weather separation and windshear avoidance requirements.

**U** Unable to demonstrate proper use of weather radar. Failed to update radar/weather analysis during the mission. Displayed unsatisfactory knowledge of windshear detection and avoidance equipment. Failed to comply with weather separation or windshear avoidance requirements.

**Area 35, Fuel Conservation.**

**Q** Possessed a high level of knowledge of all applicable aircraft publications and other governing directives and understood how to apply both to enhance fuel conservation. Successfully applied fuel conservation procedures during mission planning and through-out the mission.

**Q-** Possessed some knowledge of applicable aircraft publications and other governing directives and understood how to apply both to enhance fuel conservation. Successfully applied some fuel conservation procedures, but failed to apply fuel conservation procedures during mission planning or during several key phases of the mission.

**U** Unaware of fuel conservation procedures. Failed to apply any fuel conservation procedures in any area of the mission.

**Area 36, Landing.** One required. For general tolerances for airspeed, centerline and TCH see **Table 2.2, Area 13.**

**Area 37, Tanker AAR.** Evaluator will use the following criteria as general tolerances for airspeed, altitude and heading/course. Includes subareas: 37A—Rendezvous, 37B—Platform Control, 37C—Breakaway, 37D—Overrun Procedures, and 37E—Tanker AAR formation. **(T-2).**

**Q** Aircraft control was smooth and positive. Performed all checklists and complied with procedures outlined in accordance with flight manuals/directives.

*Airspeed:* +/- 10 KIAS

*Altitude:* +/- 200 feet

*Heading/Course:* +/-5 degrees

**Q-** Aircraft control was not always smooth and positive, but adequate. Accomplished procedures in accordance with flight manuals/directives with deviations/omissions which did not affect safety of flight.

*Airspeed:* +/-15 KIAS

*Altitude:* +/-300 feet

*Heading/Course:* +/- 10 degrees

**U** Had Deviations/Omissions that affected flight safety and/or the successful completion of AAR. Exceeded Q- criteria.

**Note 1:** When refueling with autopilot off, add 100 feet, five KIAS and five degrees to all tolerances.

**Note 2:** Evaluate AAR Formation, if observed.

**Note 3:** Tanker Overrun; if not observed, verbal.

**Note 4:** To evaluate platform control, the receiver aircraft must, at a minimum, be in the contact position. An actual offload is not required. **(T-2).**

**Note 5:** Pilots can be evaluated in either seat and evaluated on a breakaway as either the pilot flying or pilot monitoring.

**Subarea 37A, Rendezvous.** Evaluators will use the general tolerances for airspeed, altitude and heading/course below. **(T-2).**

**Q** Aircraft control was smooth and positive. Performed all checklists and complied with procedures in accordance with flight manuals/directives.

*Airspeed:* +/- 10 KIAS

*Altitude:* +/- 200 feet

*Heading/Course:* +/- 5 degrees

**Q-** Aircraft control was not always smooth and positive, but adequate. Accomplished procedures in accordance with flight manuals/directives with deviations/omissions which did not affect safety of flight.

*Airspeed:* +/- 15 KIAS

*Altitude:* +/- 300 feet

*Heading/Course:* +/- 10 degrees

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| <p>U Had deviations/omissions that affected flight safety and/or the successful completion of AAR. Exceeded Q- criteria.</p>   |
| <p><b>Subarea 37B, Platform Control.</b><br/> <b>Q</b> Aircraft control was smooth and positive. Performed all checklists and complied procedures in accordance with flight manuals/directives.</p> <p><i>Airspeed: +10/-5 KIAS</i><br/> <i>Altitude: +/200 feet</i><br/> <i>Heading/Course: +/-5 degrees</i></p> <p><b>Q-</b> Aircraft control was not always smooth and positive, but adequate. Accomplished procedures in accordance with flight manuals/directives with deviations/omissions which did not affect safety of flight.</p> <p><i>Airspeed: +15/-5 KIAS</i><br/> <i>Altitude : +/-300 feet</i><br/> <i>Heading/Course: +/-10 degrees</i></p> <p>U Deviations/omissions that affected flight safety and/or the successful completion of AAR. Exceeded Q- criteria.</p> <p><b>Note:</b> When refueling with autopilot off, add 100 feet, five KIAS, and five degrees to all tolerances.</p>  |
| <p><b>Subarea 37C, Breakaway.</b> Comply with procedures as defined in ATP 3.3.4.2, <i>Air-To-Air Refueling</i>. <b>(T-2).</b></p>   |
| <p><b>Subarea 37D, Overrun.</b> Will comply with procedures as defined in ATP 3.3.4.2. <b>(T-2).</b></p>   |
| <p><b>Subarea 37E, Tanker AAR Formation.</b> Grading criteria are defined under Area 38, Formation.</p>  |
| <p><b>Area 38, Formation (if observed).</b> Includes subareas: 38A—Lead, Departure, &amp; Joinup, 38B—Enroute, Position Change, Breakup, and 38C—AAR Formation.</p> <p><b>Q</b> Established and maintained briefed position. Aircraft control was positive and smooth. Demonstrated a complete knowledge of procedures. Performed all procedures in accordance with applicable checklists and other governing directives.</p> <p><b>Q-</b> Slow to recognize and apply needed corrections to establish and maintain proper position. Aircraft control was not always positive and smooth, but was adequate. Performed all procedures in accordance with applicable checklists and other governing directives with only minor omissions or deviations.</p> <p>U Erratic or dangerous. Had deviations/omissions that affected safety of flight. Did not perform all procedures in accordance with applicable checklists and other governing directives or omitted major items.</p> |
| <p><b>Area 39, Receiver AAR (if qualified).</b> Pilots will demonstrate sustained contacts. Includes subareas: 39A—Rendezvous, 39B—Closure, 39C—AAR position/control, 39D—Overrun</p>  |

procedures, 39E—Breakaway, and 39F—IP right seat AAR limit demonstration. See below for grading criteria. (T-2).

**Q** Established and maintained proper refueling position. Aircraft control was positive and smooth. Demonstrated complete knowledge of rendezvous and closure procedures. Performed all procedures in accordance with flight manuals/directives.

*Airspeed:* +10/-5 KIAS

*Altitude:* +/-200 feet

*Inadvertent disconnects:* three or less for initial Qual, two or less otherwise (N/A IP Limit Demo)

**Q-** Slow to recognize and apply needed corrections to establish and maintain proper refueling position. Aircraft control was not always positive and smooth, but adequate. Accomplished rendezvous and closure with deviations and/or missions which did not affect safety of flight or the successful completion of AAR. Performed all procedures in accordance with flight manuals/directives with only minor omissions or deviations.

*Airspeed:* +15/- 10 KIAS

*Altitude:* +/- 300 feet

*Inadvertent disconnects:* four or less for initial Qual, three or less otherwise (N/A IP Limit Demo)

**U** Erratic or dangerous in the pre-contact/astern refueling position. Had deviations/omissions that affected safety of flight and/or successful completion of AAR. Did not perform all procedures in accordance with flight manuals/directives, or omitted major items. Exceeded Q-criteria.

**Note 1.** Receiver Overrun; if observed, else verbally evaluate.

**Note 2.** Right Seat AAR / Limit Demo (IP only).

**Area 40. Tactics (If observed).**

**Q** Demonstrated satisfactory knowledge of tactics. Applied appropriate tactics to avoid the threat and minimize exposure. Made timely and appropriate inputs to crew during mission.

**Q-** Minor errors in threat analysis or tactics selection. Limited knowledge of appropriate tactic for a given scenario. Did not make timely inputs to crew during mission.

**U** Unsatisfactory tactics knowledge. Major errors in threat analysis or tactics selection would have resulted in an unsuccessful mission.

**Area 41. Threat Avoidance (If observed).**

**Q** Able to plot threats in-flight and formulate a plan of action to avoid lethal range of given threat system. Executed the proper evasive maneuver when given an immediate threat. Aware of appropriate tactics to avoid threats and exposure.

**Q-** Made minor errors in plotting and avoiding the lethal range of a given threat system. Minor errors in threat analysis or tactics selection.

**U** Unable to plot a given threat. Did not avoid lethal range of given threat system. Did not execute an effective evasive maneuver when given an immediate threat. Not aware of appropriate tactics for specific threats or terrain.

**Area 42. Tactical Arrival (If observed).**

**Q** Followed procedures as briefed. Smooth positive control throughout the recovery. Aircraft in position to intercept glidepath to intended touchdown point. Constantly cleared area of intended flight.

**Q-** Performed recovery with minor deviations to published procedures. Aircraft control was not consistently positive and smooth. Over/under-shot final approach slightly but was able to intercept glidepath to intended touchdown point.

**U** Recovery not performed in accordance with flight manual directives or published procedures. Displayed erratic aircraft control. Over/under-shot final approach requiring a go-around or potentially unsafe maneuvering to intercept final. Did not clear area of intended flight.

## Chapter 3

### NAVIGATOR EVALUATIONS

**3.1. General.** This chapter standardizes navigator-specific requirements for initial, periodic, and requalification evaluations, including the requirements for qualification, mission, and instructor evaluations. See [paragraph 1.9](#) for basic evaluation requirements. See AFI 11-2KC-135V1, *KC-135 Aircrew Training*, [paragraph 2.10](#) and AFMAN11-2KC-135V3 [paragraph 6.14](#) for descriptions of Basic Navigator versus special operations air refueling (SOAR) Navigator. Basic Navigator evaluations may be accomplished by an Evaluator Pilot if no Evaluator Navigator is available. SOAR Navigator MSN evaluations will be accomplished by an Evaluator SOAR Navigator. **(T-3).**

**3.2. Qualification/Mission Evaluations (initial, periodic and re-qualification).** Include all areas under GENERAL, QUALIFICATION, MISSION (Tanker or Receiver AAR).

**3.2.1. Basic Navigator.** Include only areas 1 through 18.

3.2.1.1. Initial: Include all areas under GENERAL and QUALIFICATION. Annotate AF Form 8, Flight Phase as INIT QUAL. Requisites: Open book, closed book, boldface, and the IRC taken at Stan/Eval.

3.2.1.2. Periodic: If taken as part of the SOAR Navigator qualification, subsequent periodic QUAL evaluations will be completed concurrently with the MSN evaluation. Subsequent periodic QUAL evaluations for Basic Navigators will be conducted in accordance with [paragraph 3.2.1.1](#).

**3.2.2. MISSION.**

3.2.2.1. Initial: All areas under GENERAL and MISSION (Tanker or Receiver AAR). Annotate AF Form 8, Flight Phase as INIT MSN/QUAL. Requisites: Closed book, open book, IRC, and boldface.

3.2.2.2. Periodic: Include all areas under GENERAL, QUALIFICATION, and MISSION (Tanker or Receiver AAR). Complete in conjunction with QUAL evaluation. Requisites: Closed book, open book, IRC, and boldface.

3.2.3. Difference Evaluations. Unless specified otherwise, navigators do not require a flight evaluation to obtain qualification in a different model KC-135 (i.e. KC-135T).

3.2.4. Conduct an in-flight evaluation of either a tanker or a receiver rendezvous (point parallel or enroute). Verbally evaluate all rendezvous procedures not observed.

**3.3. Instructor Evaluations.** The flight examiner will place particular emphasis on the examinee's ability to recognize student difficulties and provide timely and effective instruction. **(T-2).**

3.3.1. Initial instructor evaluations. Will be conducted with the examinee instructing either an unqualified navigator or the evaluator acting as the student. Initial instructor evaluations will include (at a minimum) all items under GENERAL, QUALIFICATION, MISSION (Tanker AAR), and INSTRUCTOR. **(T-2).**

3.3.2. Initial instructor evaluations will accomplish landing gear alternate extension and main flap manual operation procedures. For initial instructor evaluations, this requirement may be demonstrated to a student or evaluator navigator. **(T-2)**.

3.3.3. Administer periodic instructor evaluations in conjunction with QUAL/MSN evaluation.

**3.4. Emergency Procedures Evaluation (EPE).** Unit determines EPE requirements. Use one-on-one discussions, an aircrew training device (ATD) (MAJCOM specified), or on-aircraft evaluation methods to conduct the EPE. The EPE should cover a cross section of aircraft systems. Examinees should be able to demonstrate an understanding of aircraft systems in emergency scenarios. Include situations during takeoff/climb-out, cruise, and approach to landing phases. The EPE may also include emergency egress, aircrew flight equipment systems, and FCIF and/or special interest identified EPE topics.

### 3.5. Navigator Grading Criteria.

**Table 3.1. General.**

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| <p><b>Area 1, Directives and Publications.</b></p> <p><b>Q</b> Possessed a high level of knowledge of all applicable aircraft directives and publications and understood how to apply both to enhance mission accomplishment. Required publications (paper or electronic) were current and properly posted.</p> <p><b>Q-</b> Unsure of some directives but could locate information in appropriate publications. Required publications (paper or electronic) were current but improperly posted.</p> <p><b>U</b> Unaware of established directives and/or could not locate them in the appropriate publication in a timely manner. Required publications (paper or electronic) were not current.</p>   |
| <p><b>Area 2, Mission Preparation/Planning.</b> Includes subareas: 2A—General and 2B—Flight Planning.</p>  |
| <p><b>Area 2A, General.</b></p> <p><b>Q</b> Checked all navigation factors applicable to flight including weather, NOTAMs, alternate airfields, airfield suitability, and charts. Chart Preparation error free. Accomplish/review mission flight plan without error.</p> <p><b>Q-</b> Missed an essential navigation factor with only minor mission effect. Chart Preparation - one or more action points plotted in error greater than five NM but less than 15 NM. Flight Planning – computed and used one or more action points where no one error is greater than 10 NM, but less than 15 NM. Did not comply with mission planning requirements, but did not detract from safety or mission effectiveness.</p> <p><b>U</b> Did not check navigation factors with direct effect on mission effectiveness. Exceeded Chart Preparation and Flight Planning Q- tolerances. Did not comply with requirements that had a direct effect on mission effectiveness.</p> |
| <p><b>Area 2B, Flight Planning.</b></p> <p><b>Q</b> Completed a flight plan in its entirety, time errors did not exceed five minutes of total time to destination. Selected current navigation charts of a proper scale for the type of the mission profile.</p> <p><b>Q-</b> Minor errors or omissions that would not have adversely affected mission accomplishment. Time errors did not exceed 10 minutes.</p>  |



**U** Flight plan was incomplete, could not demonstrate flight planning procedures, or computer flight plan was not reviewed. Flight plan contained major errors/omissions. Selected an improper or obsolete chart. Exceeded Q- criteria.

**Area 3, Use of Checklists.**

**Q** Consistently ensured all appropriate checklists were used while completing items in a timely manner without omissions.

**Q-** Completed in an untimely manner (delayed crew) or completed the checklist with minor omissions which did not detract from safety or mission effectiveness.

**U** Used incorrect checklist or omitted checklist items which detracted from safety or mission effectiveness. Did not complete checklist prior to event.

**Note:** Deviations from checklist order are approved for CRM, equipment malfunctions, or equipment limitations as long as it is understood why each step is performed and why it occurs in a certain sequence. Coordination with the evaluator is required.

**Area 4, Safety Consciousness (Critical).**

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

**U** Not aware of or did not comply with all safety factors required for safe aircraft operation or mission accomplishment. Operated aircraft in a dangerous manner.

**Area 5, Judgment/Compliance (Critical).**

**Q** Prepared and completed mission in compliance with existing regulations and directives. Demonstrated knowledge of operating procedures and restrictions and where to find them in the correct publications.

**U** Unaware of established procedures and/or could not locate them in the appropriate publication in a timely manner. Failed to comply with a procedure that could have jeopardized safety or mission success.

**Area 6, Crew Coordination/CRM.** See AFI 11-290 and use AF Form 4031 as a reference.

**Q** Effectively coordinated with other aircrew members throughout the assigned mission. Demonstrated knowledge of other crewmembers' duties and responsibilities. Effectively applied CRM skills throughout the mission.

**Q-** Crew coordination adequate to accomplish mission. Demonstrated limited knowledge of other crewmembers' duties and responsibilities.

**U** Poor crew coordination or unsatisfactory knowledge of other crewmember duties and responsibilities negatively affected mission accomplishment or safety of flight.

**Area 7, Communication Procedures.**

**Q** Complete knowledge of and compliance with correct communication procedures. Transmissions were concise with proper terminology. Accomplished required calls and acknowledgments with standard terminology. Consistently backed up crew for all air traffic control (ATC) calls. Thoroughly familiar with and correctly operated IFF, secure voice, SATCOM (if available), HAVE QUICK, and GPS key loading equipment, if required.

**Q-** Occasional deviation or omissions from required procedures, calls or acknowledgments that required re-transmissions or resetting codes. Occasional backup for ATC calls. Displayed a limited knowledge of communication equipment.

**U** Incorrect procedures or poor performance caused confusion and jeopardized mission accomplishment. Failed to back up the crew for ATC calls or correct a known deviation. Displayed a lack of or poor operational knowledge of communication equipment.

**Area 8, Aircrew Flight Equipment Systems/Egress.**

**Q** Displayed thorough knowledge of location and use of aircrew flight equipment support systems and equipment. Demonstrated and emphasized the proper operating procedures used to operate aircraft egress devices such as doors, windows, hatches, slide rafts, and escape ropes/pulleys, if used.

**Q-** Limited knowledge of location and use of aircrew flight equipment support systems and equipment. Unsure of the proper operating procedures used to operate some of the aircraft egress devices, if used.

**U** Displayed unsatisfactory knowledge of location and use of aircrew flight equipment support systems and equipment. Unable to properly operate aircraft egress devices, if used.

**Area 9, Knowledge/Completion of Forms.**

**Q** All required forms and/or flight plans were complete, accurate, readable, accomplished on time and in accordance with applicable directives. Related an accurate debrief of significant events to applicable agencies (intelligence, maintenance, etc.)

**Q-** Minor errors on forms and/or flight plans did not affect conduct of the mission. Incorrectly or incompletely reported some information due to minor errors, omissions, and/or deviations.

**U** Did not accomplish required forms and/or flight plans. Omitted or incorrectly reported significant information to applicable agencies due to major errors, omissions, and/or deviations.

**Area 10, Airmanship/Situational Awareness (Critical).**

**Q** Executed the assigned mission in a timely, efficient manner. Demonstrated strict professional flight and crew discipline throughout all phases of flight. Conducted the flight with a sense of understanding and comprehension.

**U** Decisions, or lack thereof, resulted in failure to accomplish the assigned mission. Failed to exhibit strict flight and crew discipline.

**Table 3.2. Qualification.**

**Area 11, Ground Operations / Taxi.**

**Q** Timely completion of all pre-flight checks and procedures without omission. Proper coordination with maintenance and crew when required. Ensured readiness of navigation equipment for flight.

**Q-** Minor omissions or deviations which did not detract from safety or directly contribute to a late takeoff.

**U** Failed to pre-flight a critical component or system. Errors, omissions or deviations directly contributed to a late takeoff or detracted from safety or mission effectiveness.

**Area 12, Departure.**

**Q** Monitored headings, airspeeds, altitudes and aircraft position throughout departure. Used an appropriate departure procedure chart, if required. Provided headings, estimated time of arrival (ETA), and other required information in a timely manner. Monitored appropriate radios and

clearances to ensure crew compliance. Provided updated information when the clearance caused a change in the planned departure.

**Q-** Monitored aircraft position, but slow to provide headings, ETAs, or other required information. Performance did not degrade mission accomplishment or compromise flight safety.

**U** Did not monitor departure headings, airspeeds or altitudes. Unaware of aircraft position and unable to provide updated information when required. Did not use an appropriate departure procedure chart, if required. Allowed major deviations that degraded mission accomplishment or compromised safety.

**Area 13, Radar Operations/Weather Avoidance/Windshear.**

**Q** Effectively demonstrated procedures for operating the weather radar. Monitored and updated weather radar/analysis throughout the mission. Knowledgeable of windshear detection procedures including minimum groundspeed. Used all available sources to determine if and/or to what degree severe weather conditions exist. Complied with all weather separation and windshear avoidance requirements.

**Q-** Minor deviations observed when operating on-board radar. Did not update radar/weather analysis during worsening weather conditions. Failed to alter course to meet weather separation and windshear avoidance requirements but did not violate established limits. Limited knowledge of windshear detection and avoidance equipment.

**U** Unable to demonstrate proper use of on-board radar. Failed to update radar/weather analysis during the mission. Failed to comply with weather separation or windshear avoidance requirements that could have or jeopardized safety or mission success. Displayed unsatisfactory knowledge of windshear detection and avoidance equipment.

**Area 14, General Navigation and Course Adherence.** Includes general navigation in controlled airspace, e.g., MNPS, RNP-10, etc.

**Q** Thorough knowledge of enroute time status in relation to objective area. Complied with all altitude restrictions. Adhered to all airspace restrictions. Remained within three NMs of course centerline (**Exceptions:** Threat avoidance, weather deviation, ATC assigned heading) or less than or equal to required course tolerances for the appropriate airspace operated in.

**Q-** Uncertain of exact aircraft position due to marginal navigational procedures. Better awareness of required timing events or enroute time status could have avoided excessive, or unplanned maneuvering. Flew three to five NMs from course without the above exceptions. Momentarily exceeded ATC course tolerances with correction to return to centerline.

**U** Unable to maintain position awareness throughout most of the route. Unable to accurately assess required timing or unaware of mission time status, jeopardizing formation integrity or mission accomplishment. Violated airspace restrictions. Exceeded five NMs during enroute navigation without the above exceptions. Exceeded required course tolerances for the appropriate airspace operated in.

**Area 15, Navigation Systems.** All references to navigation systems refer to actual systems onboard unit aircraft (e.g., FMS, GPS, or inertial navigation system).

**Q** Thorough knowledge of onboard navigation system operating procedures. Effectively used navigation systems to direct the aircraft. Updated system as required. Monitored system including investigating “Check STATUS”, “Check NAV ERR”, etc.

**Q-** Navigation systems error greater than five NM but less than 10 NM from actual or determined position. Demonstrated only a basic knowledge of onboard navigation systems operation. Made minor errors in operation/interpretation of navigation system data. Error operating the FMS with no mission impact.

**U** Displayed inadequate knowledge of onboard navigation system procedures. Failed to update or correctly interpret navigation system data. Exceeded Q- tolerances.

**Area 16, Descent/Approach Monitor.**

**Q** Monitored aircraft position, approach instructions and primary approach navigation aids. Thoroughly understood instrument approach and missed approach procedures. Ensured terrain clearance during approach or departure by available navigation aids and available resources.

**Q-** Misidentified/misunderstood essential approach and departure instructions. Monitored aircraft position, but did not fully understand approach instructions/procedures. Slow to provide headings, ETAs or other appropriate information at the request of the aircraft commander.

**U** Did not ensure terrain clearance during the approach. Exceeded Q- tolerances.

**Area 17, Emergency Equipment.**

**Q** Displayed thorough knowledge of location and use of emergency equipment.

**Q-** Limited knowledge of location and use of emergency equipment.

**U** Displayed unsatisfactory knowledge of emergency equipment.

**Area 18, Emergency Procedures** (If observed and not covered during EPE).

**Q** Understood and performed emergency procedures for the navigator according to the flight manual. Assists the crew at the direction of the aircraft commander.

**Q-** Correctly analyzed and understood aircraft emergencies. Difficulty performing required procedures to correct the emergency.

**U** Failed to analyze and did not understand aircraft emergencies. Could not perform required procedures to correct the emergency.

**Area 19, Manual Gear Extension.** Initial Mission and Initial Instructor Only.

**Q** Actions required by the applicable flight manual were accomplished correctly and with no omissions.

**Q-** Procedures required by the flight manual/checklists were accomplished with no more than minor discrepancies that did not affect the missions or use of equipment.

**U** Incorrect actions or checklist steps not accomplished that resulted in corrective action to successfully extend the landing gear manually.

**Area 20, Manual Flap Extension.** Initial Mission and Initial Instructor Only.

**Q** Actions required by the applicable flight manual were accomplished correctly and with no omissions.

**Q-** Procedures required by the flight manual, checklists were accomplished with no more than minor discrepancies that did not affect the missions or use of equipment.

**U** Incorrect actions or checklist steps not accomplished correctly, resulting in the need for corrective action to successfully extend the flaps manually.

**Area 21, Formation/Station Keeping (If Observed).** (N/A for Basic Navigators)

**Q** Performed navigation duties within prescribed tolerances as lead or wing aircraft formation according to AFMAN 11-2KC-135V3, Chapters 11 & 18.

**Q-** Completed navigation duties with minor errors that did not affect the mission. Unable to maintain station keeping position or failed to notify lead when a known navigation error occurred.

**U** Unable to complete navigation duties and degraded mission effectiveness. Unable to assume lead navigator role. Allowed lead to commit a known navigation error that degraded mission effectiveness.

**Table 3.3. Mission (Tanker AAR) (N/A for Basic Navigators).**

**Area 22, Tanker Air-to-Air Refueling.**

Commences 10 minutes prior to air refueling control time (ARCT)/rendezvous point (RZ PT) and terminates at end AAR point. Conduct an in-flight evaluation of rendezvous. Area 22 includes the Rendezvous and the following subareas (if observed): 22A—Tanker Rendezvous, 22B—Breakaway, 22C—Overrun Procedures, 22D—Tanker AAR Formation and 22E—AAR Track Adherence/Altitude.

**Subarea 22A, Tanker Rendezvous.** Conduct an in-flight evaluation of an Enroute (GOLF) or Point Parallel (DELTA) rendezvous. Verbally evaluate the rendezvous not observed.

**Q** Provided headings, airspeeds, and altitude direction in a timely manner to ensure rendezvous success. Performed all checklists and complied with procedures outlined in the flight manual and other governing directives.

*Point-Parallel (DELTA):* Computed and used turn range and offset to within two NM compared to the FMS computed turn range and offset for a non-standard day.

*Enroute (GOLF):* Arrived over rendezvous control point (RZCP) or air-to-air refueling control point (ARCP) within one minute of scheduled/adjusted rendezvous control time. Advised the receiver of any required control time adjustments with enough time to successfully accomplish the rendezvous.

**Q-** Provided headings, airspeeds and altitude direction throughout the rendezvous but not always in a timely manner. Performed all checklists and complied with procedures outlined in the flight manual and other governing directive with deviations/omissions which did not affect safety of flight.

*Point-Parallel (DELTA):* Computed and used turn range and offset greater than two NM but less than four NM compared to the FMS computed turn range and offset for a non-standard day.

*Enroute (GOLF):* Arrived over RZCP or ARCP greater than one minute, but within two minutes of scheduled/adjusted rendezvous control time. Slow to advise receiver of required time adjustments potentially jeopardizing the rendezvous.

**U** Failed to provide heading, airspeed or altitude direction. Had deviations or omissions that affected flight safety or jeopardized completion of successful rendezvous. Exceeded Q-tolerances. Failed to crosscheck, if applicable, air-to-air refueling altitude & hot armament check, if required. Directed final turn toward receiver with unknown altitude separation.

**Subarea 22B, Tanker Breakaway.** Ensure correct response in accordance with ATP 3.3.4.2.

**Table 3.4. Mission (Receiver AAR) (N/A for Basic Navigators).**

**Area 23, Receiver Air-to-Air Refueling.** Commences 10-minutes prior to ARCT/RZ PT and terminates at end AAR point. Evaluate a Rendezvous Delta or Rendezvous Golf (one required); verbally evaluate the alternative rendezvous.

**Subarea 23A, Receiver Rendezvous.** Include subareas: 23C—AAR Track Adherence/Altitude and 23D—Receiver AAR Formation, if observed.

**Q Point Parallel (DELTA):** Maintained AAR track after air-to-air refueling initial point (ARIP) not more than three NM. Directed radar closure to in-trail position under IFR conditions not more than one NM.

*Enroute (GOLF):* Arrived over RZ PT or ARCP (as coordinated at 15 minutes prior Tanker/Receiver radio call) less than one minute. Directed radar closure to in-trail position under IFR conditions not more than one NM.

**Q- Point Parallel (DELTA):** AAR track after ARIP more than three NM but less than six NM. Directed radar closure to in-trail under IFR condition greater than one NM without mission degrade (pilot visual with tanker).

*Enroute (GOLF):* Arrived over RZ PT or ARCP greater than one minute but less than two minutes and failed to advise receiver of timing delay. Directed radar closure to in-trail under IFR condition greater than one NM without mission degrade (pilot visual with tanker).

**U** Exceed Q- tolerances. Unable to direct radar closure to tanker with mission degrade and missed rendezvous.

**Subarea 23B, Receiver Breakaway Procedures.** Ensure correct response.

**Table 3.5. Instructor.**

**Area 24, Instructor Ability (Critical).**

**Q** Demonstrated the ability to communicate effectively. Provided appropriate guidance when necessary. Planned ahead and made timely decisions. Identified and corrected potentially unsafe maneuvers/situations.

**U** Unable to effectively communicate or provide timely feedback to the student. Did not provide corrective action when necessary. Did not plan ahead or anticipate student problems. Did not identify unsafe maneuvers/situations in a timely manner. Made no attempt to instruct.

**SubArea 24A, Demonstration of Knowledge (Critical).**

**Q** Effectively demonstrated procedures and techniques. Thorough knowledge of applicable aircraft systems, procedures, publications and directives.

**U** Did not demonstrate correct procedure or techniques. Insufficient depth of knowledge about applicable aircraft systems, procedures, and/or proper source material.

**Subarea 24B, Student Briefing/Critique (Critical).** Use grading criteria in Tables 4.4 and 4.5.

**Q** Briefings were well organized, accurate, and thorough. Reviewed student's present level of training and defined mission events to be performed. During the critique, demonstrated an effective ability to reconstruct the flight, offer mission analysis, and provide guidance where appropriate. Training grade reflected the actual performance of the student relative to the standard. Pre-briefed the student's next mission, if required.

**U** Briefings were marginal or non-existent. Did not review student's past performance. Failed to adequately critique student or analyze the mission. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Incomplete pre-briefing of student's next mission, if required.

## Chapter 4

### BOOM OPERATOR EVALUATIONS

**4.1. General.** This chapter standardizes initial, periodic, qualification, instructor, and re-qualification evaluations.

#### **4.2. Qualification/Mission Evaluations.**

4.2.1. **Initial:** Include all areas under GENERAL, QUALIFICATION, and MISSION (Tanker AAR) except Area 20B, AAR Boom-to-Drogue Adapter (BDA) and Area 20C, AAR Multi-Point Refueling System (MPRS) unless observed. Upon successful completion, the AF Form 8 will indicate Crew Position as “MB”. Use FB only when Area 21, Cargo Loading was not evaluated and include the appropriate restriction on AF Form 8. **(T-2)**.

4.2.2. **Periodic:** Evaluate all areas under GENERAL, MISSION and QUALIFICATION (TANKER AAR).

4.2.3. BOSS/BOWST evaluations, if co-located and available (See [paragraph 1.9](#)). Conduct a BOSS/BOWST evaluation in conjunction with all qualification evaluations. Annotate the BOSS/BOWST evaluation on the qualification Form 8 as EPE. Use OGV developed or contractor-developed Air Force approved G997A-D Emergency Procedures profiles. No requirement for Pre-brief/Debrief by ATS contractor. **(T-3)**.

4.2.4. **Flight Training Level E (FTL-E) Basic Qualification.** FTL-E initial, periodic and re-qualification evaluations include the areas under GENERAL and QUALIFICATION.

4.2.4.1. Conduct an EPE in accordance with [paragraph 4.5](#) of this manual.

4.2.4.2. **Testing requirements.** Initial, periodic and re-qualification evaluations include the following requisites: **(T-2)**.

4.2.4.2.1. Boldface exam.

4.2.4.2.2. KC-135 Closed book test.

4.2.4.2.3. KC-135 Open book test.

4.2.4.3. Annotate AF Form 8 crew position as “FB”, type of evaluation is QUAL and include an expiration date. Add the following restriction in the remarks: “RESTRICTION: This evaluation permits operating the aircraft from a primary crew position only under direct supervision of an instructor boom operator during all phases-of-flight.” **(T-1)**.

4.2.4.4. FTL-E boom operators must complete a CARGO, MSN and QUAL evaluation to gain full mission ready status. **(T-1)**. See AFI 11-2KC-135 Volume 1 for training requirements.

4.2.5. **Evaluator note.** Receiver aircraft must be equipped with a boom receptacle. A TMO contact and a practice emergency separation will be evaluated in flight. During initial qualification evaluations all procedures will be accomplished in flight. **(T-2)**.

#### **4.3. Additional Mission Evaluations.**

4.3.1. **Cargo Loading.**



4.3.1.1. Normally, the initial cargo evaluation is accomplished in conjunction with qualification evaluation. In this case, the initial qualification evaluation will include cargo except as noted in the approved initial qualification course syllabus. For all other initial cargo qualifications, an actual or static load must be accomplished. **(T-2)**.

4.3.1.2. Initial and periodic qualification will include all areas in GENERAL, QUALIFICATION Area 15, Weight and Balance, Area 16, Passenger Handling (if observed) and MISSION (Cargo). **(T-1)**.

4.3.1.3. Conduct an initial mission evaluation for unqualified boom operators. **(T-1)**.

4.3.1.4. Periodic. Recurring cargo evaluations should normally be conducted under actual conditions (e.g., AMC channel, SAAM, etc.). If necessary, this evaluation may be evaluated verbally or under static conditions. Crewmembers should not accomplish consecutive verbal cargo evaluations.

4.3.1.5. When verbally evaluated, the flight examiner must present a scenario that reveals the examinee's cargo loading proficiency/capability to meet the unit's assigned requirements to ensure the crewmember can safely accomplish the cargo mission under actual conditions. **(T-2)**.

4.3.1.6. Actual/static on-load or off-loads satisfies the requirements for an evaluation.

4.3.1.7. All evaluations must include calculation of applied restraint using the electronic restraint calculator in the KC-135 Weight and Balance (WB) Application or AF Form 4112, *KC-135 Restraint Computation Worksheet*. All computations regarding cargo and/or aircraft weight and balance will be calculated using the KC-135 WB Application to the maximum extent possible. When operations do not include hazardous material, evaluators must verbally evaluate this area. **(T-2)**.

4.3.1.8. Evaluators will document results of actual, static, or verbal cargo evaluations with a description of the cargo evaluation in the COMMENTS section of the AF Forms 8. **(T-1)**.

4.3.1.9. The flight examiner will assign a MSN (Cargo) Eval grade (1, 2, or 3) in the Qualification Flight Phase block of AF Form 8 and the date the evaluation was completed. **(T-2)**.

4.3.2. Difference Evaluations. Unless specified otherwise, boom operators do not require a flight evaluation to obtain qualification in a different series KC-135.

**4.4. Instructor Evaluations.** The flight examiner will place particular emphasis on the examinee's ability to recognize student difficulties and provide timely, effective, corrective action. **(T-2)**. Flight examiners will exercise sound judgment to ensure the explanations/demonstrations do not distract the examinee's attention or disrupt mission objectives.

4.4.1. Initial instructor evaluations. Will be conducted with the examinee instructing a student boom operator or boom operator acting as a student in accordance with AFI 11-202V2, **paragraph 5.2.4.2.1**. Initial instructor evaluations will include (as a minimum) instruction/supervision on all items under GENERAL, QUALIFICATION, the boom AAR portion of MISSION (Tanker AAR), and INSTRUCTOR. **(T-2)**. **Note:** Boom Operators, who desire to realign the QUAL/MSN evaluation during the initial instructor evaluation will

complete (demonstrate) all required areas/subareas in QUALIFICATION, MISSION (Tanker AAR), and INSTRUCTOR, and complete requisite written examinations. (T-2).

4.4.2. Administer periodic instructor evaluations in conjunction with QUAL/MSN evaluation. Instructor Boom Operators will perform all required areas/subareas. (T-2).

4.4.3. Instructors may receive periodic instructor evaluation credit while performing actual student training provided all minimum requirements identified in **paragraph 4.2.2** are instructed and the evaluatee demonstrates an actual air-to-air refueling contact(s) to the student.

**4.5. Emergency Procedures Evaluations (EPE).** Units without BOSS/BOWST will determine EPE requirements. Conduct the EPE normally as a ground evaluation in conjunction with in-flight evaluation portion of evaluation. Use one-on-one discussions, an ATD, or on-aircraft evaluation methods to conduct the EPE. (T-3).

4.5.1. The EPE should cover a cross section of aircraft systems. Examinees should be able to demonstrate an understanding of aircraft systems in emergency scenarios. The following operations/procedures may be evaluated; emergency ditching/egress, 20-man life raft, escape slide, manual gear/flap extension, manual boom hoist, AAR procedures, Auxiliary Power Unit procedures, manual form F, locked ruddervators or any coordinated topic for instruction. Include situations during takeoff/climb-out, cruise, and approach to landing phases. The EPE may also include emergency egress, aircrew flight equipment support equipment, and FCIF and/or special interest identified EPE topics. This list is not all-inclusive and evaluators may modify them as required. (T-3).

4.5.2. See **paragraph 4.2.3** for KC-135 BOSS/BOWST EPE requirements. Only evaluators certified in BOSS/BOWST operations are authorized to conduct EPEs in the BOSS/BOWST. (T-3).

#### **4.6. Additional Information.**

4.6.1. Boom operator flight examiners will not conduct evaluations when scheduled as primary aircrew members. (T-2).

4.6.2. The KC-135 BOSS/BOWST may be used for additional training, EPE and recheck in area(s) involving normal, abnormal, emergency, breakaway or tanker manual operation procedures. The BOSS/BOWST will not be used for additional training or requalification involving actual contacts or boom control downgrades. (T-2).

#### **4.7. Boom Operator Grading Criteria.**

**Table 4.1. General.**

**Area 1, Directives and Publications.**

**Q** Possessed a high level of knowledge of all applicable aircraft directives and publications and understood how to apply both to enhance mission accomplishment. Required publications (paper or electronic) were current and properly posted.

**Q-** Unsure of some directives but could locate information in appropriate publications. Required publications (paper or electronic) were current but improperly posted.

**U** Unaware of established directives and/or could not locate them in the appropriate publication in a timely manner. Required publications (paper or electronic) were not current.

**Area 2, Mission Preparation/Planning.**

**Q** Read (initialed, if required) all items in FCIF. Completed/obtained all applicable forms. Complied with all local directives. Attended all required briefings.

**Q-** Minor deviations or omissions from Q tolerances which did not impair mission effectiveness. Did not fully comply with local directives, but did not detract from safety.

**U** FCIF was not reviewed (initialed, if required). Failed to attend required briefings. Failed to obtain/complete all applicable forms, or made major errors or omissions. Did not obtain adequate mission information. Failed to comply with local directives.

**Area 3, Use of Checklist.** This area includes completion of all formal checklist procedures performed to complete the mission. **Note:** Deviations from checklist order are approved for CRM, equipment malfunctions, or equipment limitations as long as it is understood why each step is performed and why it occurs in a certain sequence. Coordination with the evaluator is required.

**Q** Procedures and checklist items required by flight manual and applicable directives were accomplished in a thorough and proficient manner.

**Q-** Procedures and checklist items required by flight manuals and applicable directives were accomplished with omission, deviation, or error, which detracted from the overall efficient conduct of the mission. Performance was the minimum acceptable.

**U** Procedures or checklist items required by flight manual and applicable directives were accomplished with omission, deviation, or error which did, or could adversely affect the successful accomplishment of the mission or task.

**Area 4, Safety Consciousness (Critical).**

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

**U** Not aware of or did not comply with all safety factors required for safe aircraft operation or mission accomplishment. Operated aircraft or equipment in a dangerous manner.

**Area 5, Judgment/Compliance (Critical).**

**Q** Prepared and completed mission in compliance with existing regulations and directives. Demonstrated knowledge of operating procedures and restrictions. Decisions were logical and did not jeopardize or complicate the situation.

**U** Unaware of established procedures and/or could not locate them in the appropriate publication in a timely manner. Failed to comply with a procedure which could, or actually did jeopardize safety or successful mission completion. Consistently made poor decisions or made a major error in judgment. Flight objectives were not attained due to poor decision.

**Area 6, Crew Coordination/Crew Resource Management (CRM).** Use AFI 11-290 and AF Form 4031 as a reference.

**Q** Effectively coordinated with other aircrew members throughout the assigned mission. Demonstrated knowledge of other crewmembers' duties and responsibilities. Effectively applied CRM skills throughout the mission.

**Q-** Crew coordination adequate to accomplish mission. Demonstrated limited knowledge of other crewmembers' duties and responsibilities.

|   |
|---|
| <p>U Poor crew coordination or unsatisfactory knowledge of other crewmembers' duties and responsibilities negatively affected mission accomplishment or safety of flight.</p>   |
| <p><b>Area 7, Communication Procedures.</b><br/> <b>Q</b> Displayed a satisfactory knowledge of, and compliance with, correct communication procedures. Transmissions were concise and used proper terminology. Accomplished required calls and acknowledged transmissions in a manner, which enhanced mission effectiveness.<br/> <b>Q-</b> Displayed adequate communication procedures, but was slow or not concise in making transmissions. Transmissions contained erroneous information or included non-standard terminology. Mission effectiveness was not jeopardized.<br/> <b>U</b> Incorrect procedures or poor performance caused confusion and jeopardized mission accomplishment. Omitted required transmissions or transmitted erroneous information.</p>                      |
| <p><b>Area 8, Aircrew Flight Equipment Support Systems/Egress.</b><br/> <b>Q</b> Displayed thorough knowledge of location and use of aircrew flight equipment systems and equipment. Demonstrated and emphasized the proper operating procedures used to operate aircraft egress devices such as doors, windows, hatches, slide, rafts, and escape ropes, if used.<br/> <b>Q-</b> Limited knowledge of location and use of aircrew flight equipment support systems and equipment. Unsure of the proper operating procedures used to operate some of the aircraft egress devices, if used.<br/> <b>U</b> Displayed unsatisfactory knowledge of location and use of aircrew flight equipment support systems and equipment. Unable to properly operate aircraft egress devices, if used.</p> |
| <p><b>Area 9, Knowledge/Completion of Forms.</b><br/> <b>Q</b> All required forms were complete, accurate, readable, accomplished on time and in accordance with applicable directives. Related an accurate description of significant events to applicable agencies (Safety, Maintenance, etc.).<br/> <b>Q-</b> Minor errors on forms that did not affect conduct of the mission. Incorrectly or incompletely reported some information due to minor errors, omissions, and/or deviations.<br/> <b>U</b> Did not accomplish required forms. Omitted or incorrectly reported significant information due to major errors, omissions, and/or deviations.</p>   |
| <p><b>Area 10, Airmanship/Situational Awareness (Critical).</b><br/> <b>Q</b> Executed the assigned mission in a timely, efficient manner. Demonstrated strict professional flight and crew discipline throughout all phases of flight. Conducted the flight with a sense of understanding and comprehension.<br/> <b>U</b> Decisions, or lack thereof, resulted in failure to accomplish the assigned mission. Failed to exhibit strict flight and crew discipline.</p>  |

**Table 4.2. Qualification.**

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|--|
| <p><b>Area 11, Ground Operation.</b> This area includes all activity up to initiation of STARTING ENGINES AND BEFORE TAXI checklist.<br/> <b>Q</b> Complied with established preflight requirements. Accurately determined readiness of aircraft for flight. Completed all system pre-flight inspections in accordance with flight manual.</p> |
|--|

**Q-** Same as Q criteria, except for minor procedural deviations that did not detract from mission effectiveness.

**U** Errors directly contributed to a late takeoff that degraded the mission. Failed to accurately determine readiness for flight. Failed to pre-flight a critical component or could not conduct a satisfactory pre-flight inspection.

**Area 12, Pre-takeoff, Climb and Cruise.**

Pre-takeoff procedures include all activity beginning with STARTING ENGINES and BEFORE TAXI checklist. Climb procedures include all activity of AFTER TAKEOFF – CLIMB checklist to cruise. Cruise procedures include all duties not specifically covered in other areas.

**Q** Executed the assigned mission in a timely, efficient manner. Demonstrated strict professional flight and crew discipline. Conducted the flight with a sense of understanding and comprehension.

**Q-** Untimely or inappropriate decisions degraded or prevented accomplishment of a portion of the mission. Resources were not always effectively used to accomplish mission objectives.

**U** Decisions resulted in failure to accomplish the assigned mission. Failed to exhibit strict flight and crew discipline.

**Area 13, Systems Operations/ Knowledge/Limitations.**

**Q** Demonstrated/explained a complete knowledge of aircraft systems operations/limitations and proper procedural use of systems with minimal reference to flight manual/available aids.

**Q-** Marginal knowledge of aircraft systems operations and limitations in some areas. Used inappropriate technique instead of established procedure. Required moderate references to flight manual/available aids to differentiate between procedure and technique.

**U** Unsatisfactory systems knowledge. Unable to demonstrate/explain the proper procedures for aircraft system operations. Lack of systems knowledge that could have resulted in unsafe operation of or damage to equipment.

**Area 14, Abnormal/Emergency Procedures.** Boom operators will be graded on their initial response and actions taken to any actual emergency/abnormal conditions that occurs either in-flight or on the ground during the evaluation. **(T-2).**

**Q** Operated within prescribed limits and correctly diagnosed problems. Performed/explained proper corrective action for each type of malfunction or abnormal condition. Effectively used available aids.

**Q-** Operated within prescribed limits but slow to analyze problems or apply proper corrective actions. Did not effectively use checklist and/or available aids.

**U** Exceeded limitations. Unable or failed to analyze problem or take proper corrective action. Did not use checklist and/or available aids.

**Area 15, Weight and Balance.**

All computations including center of gravity (CG) and mean aerodynamic chord (MAC) shall be made using the KC-135 WB Application to the maximum extent possible. **(T-3).**

**Q**     *Weight:* Error did not exceed 2,500 pounds (lbs)  
           *CG:* Error did not exceed 1% MAC

|   |
|---|
| <p><b>Q-</b> <i>Weight:</i> Error exceeded 2,500 lbs, but less than 3,500 lbs<br/><i>CG:</i> Error exceeded 1%, but less than 1.5% MAC</p> <p><b>U</b> <i>Weight:</i> Error exceeded 3,500 lbs<br/><i>CG:</i> Error exceeded 1.5% MAC</p> <p><b>Note:</b> Consider total number of errors even if no tolerances were exceeded.</p>  |
| <p><b>Area 16, Passenger Handling</b> (if observed).</p> <p><b>Q</b> Demonstrated a thorough knowledge of required passenger handling normal/emergency procedures and equipment as outlined in applicable guidance. Passengers briefing was clear, concise, and accurate.</p> <p><b>Q-</b> Demonstrated a limited knowledge of required passenger handling, and related emergency procedures and equipment as outlined in applicable guidance. Minor errors or omissions were made in procedures which did/could detract from the overall efficient conduct of the mission or the comfort and control of the passenger(s). Passenger briefing was accomplished with minor omission or errors.</p> <p><b>U</b> Demonstrated an unsatisfactory knowledge of required passenger handling or related emergency procedures and equipment as outlined in applicable guidance. Procedures were not complied with which jeopardized passenger safety or control. Passenger briefing was unclear and/or ineffective.</p> |
| <p><b>Area 17, Manual Gear Extension</b> (if observed).</p> <p><b>Q</b> Actions required by the applicable flight manual were accomplished correctly and with no omissions.</p> <p><b>Q-</b> Procedures required by the flight manual/checklists were accomplished with no more than minor discrepancies that did not affect the missions or use of equipment.</p> <p><b>U</b> Incorrect actions or checklist steps not accomplished that resulted in corrective action to successfully extend the landing gear manually.</p>   |
| <p><b>Area 18, Manual Flap Extension</b> (if observed).</p> <p><b>Q</b> Actions required by the applicable flight manual were accomplished correctly and with no omissions.</p> <p><b>Q-</b> Procedures required by the flight manual/checklists were accomplished with no more than minor discrepancies that did not affect the missions ore use of equipment.</p> <p><b>U</b> Incorrect actions or checklist steps not accomplished correctly, that resulted in the need for corrective action to successfully extend the flaps manually.</p>   |

**Table 4.3. Instructor.**

|  |
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| <p><b>Area 19, Instructor Ability. (Critical).</b><br/>Includes subareas 19A—Demonstration of Knowledge (Critical), 19B—Student Briefing/Critique (Critical)</p> <p><b>Q</b> Demonstrated the ability to communicate effectively. Provided appropriate guidance when necessary. Planned ahead and made timely decisions. Identified and corrected potentially unsafe situations.</p> |
|--|

|   |
|---|
| <p><b>U</b> Unable to effectively communicate or provide timely feedback to the student. Did not provide corrective action when necessary. Did not plan ahead or anticipate student problems. Did not identify unsafe situations in a timely manner. Made little or no attempt to instruct.</p>   |
| <p><b>Subarea 19A, Demonstration of Knowledge. (Critical)</b><br/> <b>Q</b> Effectively demonstrated procedures and techniques. Thorough knowledge of applicable aircraft systems, procedures, publications, and directives.<br/> <b>U</b> Did not demonstrate correct procedure or techniques. Insufficient depth of knowledge about applicable aircraft systems, procedures, and/or proper source material.</p>   |
| <p><b>Subarea 19B, Student Briefing/Critique. (Critical)</b> Use criteria in Table 4.4 and Table 4.5.<br/> <b>Q</b> Briefings were well organized, accurate, and thorough. Reviewed student's present level of training and defined mission events to be performed. During the critique, demonstrated an effective ability to reconstruct the flight, offer mission analysis, and provide guidance where appropriate. Training grade reflected the actual performance of the student relative to the standard. Pre-briefed the student's next mission, if required.<br/> <b>U</b> Briefings were marginal or non-existent. Did not review student's past performance. Failed to adequately critique student or analyze the mission. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Incomplete pre-briefing of student's next mission, if required</p> |

**Table 4.4. Student Briefing Factors.**

| <b>GRADING FACTOR</b>  | <b>QUALIFIED</b>   | <b>UNQUALIFIED</b>   |
|--|--|--|
| Organization   | Briefings were well organized, accurate, and thorough. Reviewed student's present level of training and defined mission events to be performed Covers mission sequence of events to assure the student understands what is expected. | Did not review the students past performance. Briefings were sketchy, out of sequence, incomplete. Failed to adequately critique student or analyze the mission. Training grade did not reflect actual performance of student. Overlooked or omitted major discrepancies. Student was confused and did not understand what was expected. |
| Mission Objective  | Covered in general   | Vague  |
| How Objective Will Be Achieved   | Sufficient detail  | Vague  |
| Description of Activity to be Accomplished                                 | Sufficient for understanding   | Incomplete, rambling   |
| Purpose of Each Type Activity Scheduled                                    | Adequately explained   | Omitted  |
| Explanation of Peculiar Aircraft Procedure or Local Operating Instructions | Adequate   | Omitted  |
| Use of Standard Terminology  | Minor deviations   | Rarely used  |

|                              |                   |             |
|------------------------------|-------------------|-------------|
| Cultivate Student Confidence | Sufficient effort | Ineffective |
| Arouse Student Interest      | Effective         | Ineffective |

**Table 4.5. Student Critique Factors.**

| <b>GRADING FACTOR</b>                                      | <b>QUALIFIED</b>   | <b>UNQUALIFIED</b>  |
|--|--|---|
| Data Collection  | Adequate for mission reconstruction  | Incomplete or irrelevant  |
| Analysis of Discrepancies                                  | Correct and generally complete   | Incorrect   |
| Referencing Discrepancies                                  | Correct  | Incorrect and/or Not up to date   |
| Organization:<br>Chronologically or by<br>Performance area | Logically developed  | Given very little consideration   |
| Annotations/Note Taking                                    | Legible  | Illegible   |
| Publications   | Available if required to support presentation  | Not available to support presentation   |
| Corrective<br>Actions/Recommended<br>Additional Training   | Applied correct procedures and/or recommended correct/adequate additional training to correct deficiencies   | No corrective actions, additional training or personal opinion given; unable to reference additional study areas from required flight manuals or instructions |
| Use of Grading Criteria                                    | Correct grade was awarded in accordance with applicable Instructions, Master Training List (MTL), Evaluation Standards Document (ESD), or Formal School Syllabus | Awarded incorrect grade which affected overall status or performance rating not in accordance with established standards                                      |
| Arouse Student Interest                                    | Effective  | Ineffective   |

**Table 4.6. Mission (Tanker AAR).**

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| <b>Area 20, MISSION (Tanker AAR).</b>  |
| <b>Subarea 20A, AAR (Boom).</b><br>Includes all activity from PREPARATION FOR AIR REFUELING to completion of the POST AIR REFUELING CHECKLIST. Coordinated air-to-air refueling breakaway procedures will be initiated with the receiver within the air-to-air refueling envelope. <b>(T-2).</b> An actual breakaway satisfies this requirement regardless of receiver's position.<br><b>Q</b> Demonstrated a satisfactory knowledge of procedures and equipment. Complied with directives. Coordinated with tanker and receiver pilots. Boom control was smooth and |



contacts were effective. Monitored receiver closely and gave corrections as necessary. Used proper procedures and techniques that would not jeopardize mission or safety.

**Q-** Same as Q criteria, except for minor deviations which did not or would not jeopardize safety or mission effectiveness. Boom control was slightly erratic resulting in contacts being delayed.

**U** Failed to accomplish required checks. Boom control was erratic, and/or technique used in attempting contacts resulted in delays to such extent that fuel could not be offloaded within the time available. Inadequate knowledge, procedures, or techniques jeopardized safety of flight.

**Subarea 20B, AAR (Boom-to-Drogue Adapter (BDA)).** If observed.

**Q** Demonstrated a satisfactory knowledge of procedures and equipment for the BDA.

Complied with directives. Coordinated with tanker and receiver pilots. Monitored receiver closely and gave corrections as necessary. Used proper procedures and techniques that would not jeopardize mission or safety.

**Q-** Same as Q criteria, except for minor deviations which did not or would not jeopardize safety or mission effectiveness.

**U** Failed to accomplish required checks. Inadequate knowledge, procedures, or techniques jeopardized safety of flight.

**Subarea 20C, AAR (MPRS).** If observed.

**Q** Demonstrated a satisfactory knowledge of MPRS procedures and equipment. Complied with directives. Coordinated with tanker and receiver pilots. Monitored receiver closely and gave corrections as necessary. Used proper procedures and techniques that would not jeopardize mission or safety.

**Q-** Same as Q criteria, except for minor deviations which did not or would not jeopardize safety or mission effectiveness.

**U** Failed to accomplish required checks. Inadequate knowledge, procedures, or techniques jeopardized safety of flight.

**Table 4.7. Mission (Cargo).**

**Area 21, Cargo Loading and Unloading** (See Requirements at **paragraph 4.3.**)

**Q** Demonstrated a thorough knowledge of required procedures as outlined in the flight manual and applicable directives. Load planning was accomplished without errors or omissions. Required briefings were clear, concise and accurate. Coordinated with air terminal operation personnel (or equivalent) on cargo loading/unloading matters.

**Q-** Demonstrated a limited knowledge of required procedures as outlined in the flight manual and applicable directives. Procedures were accomplished with errors or deviations which did/would not detract from the cargo loading/unloading operation or mission. Load planning contained minor errors or omissions without exceeding established limits. Required briefings contained minor errors or omissions.

**U** Demonstrated an unsatisfactory knowledge of required procedures as outlined in the flight manuals and applicable manuals. Procedures were not complied with which jeopardized mission accomplishment or the safety of the cargo loading/unloading operation. Required briefings were unclear and/or ineffective causing confusion. Failed to coordinate with air

terminal operation personnel (or equivalent) on cargo loading/unloading matters. Load planning contained major errors or omissions and/or exceeded limits.

Mark D. Kelly, Lt Gen, USAF  
Deputy Chief of Staff, Operations

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

AFMAN 11-202V1, *Aircrew Training*, 27 September 2019  
AFI 11-202V2, *Aircrew Standardization and Evaluation Program*, 6 December 2018  
AFI 11-215, *Flight Manuals Program (FMP)*, 25 March 2019  
AFMAN 11-218, *Aircraft Operations and Movement on the Ground*, 5 April 2019  
AFI 11-290, *Cockpit/Crew Resource Management Training Program*, 4 December 2014  
AFI 11-2KC-135V1, *KC-135 Aircrew Training*, 3 January 2017  
AFMAN 11-2KC-135V3, *KC-135 Operations Procedures*, 10 September 2019  
AFPD 11-2, *Aircrew Operations*, 30 January 2019  
ATP 3.3.4.2 (C), *Air-To-Air Refueling*, 18 November 2013  
AFI 33-322, *Records Management and Information Governance Program*, 23 March 2020  
AFI 33-360, *Publications and Forms Management*, 1 December 2015  
AFI 33-332, *Records Management and Information Governance Program*, 6 March 2020

***Adopted Forms***

AF Form 8, *Certificate of Aircrew Qualification*  
AF Form 673, *Air Force Publication/Form Action Request*  
AF Form 847, *Recommendation for Change of Publication*  
AF Form 942, *Record of Evaluation*  
AF Form 3862, *Flight Evaluation Worksheet*  
AF Form 4031, *CRM Skills Criteria Training/Evaluation*  
AF Form 4112, *KC-135 Restraint Computation Worksheet*

***Abbreviations and Acronyms***

**AAR**—Air-to-air refueling  
**AETC**—Air Education and Training Command  
**AFE**—Aircrew Flight Equipment  
**AFPD**—Air Force Policy Directive  
**AFRC**—Air Force Reserve Command  
**AMC**—Air Mobility Command  
**ANG**—Air National Guard

**ARCP**—Air-to-air refueling Control Point  
**ARCT**—Air-to-air refueling Control Time  
**ARIP**—Air-to-air refueling Initial Point  
**ARR**—Air Refueling Receiver  
**OGV**—Operations Group Standardization and Evaluation  
**ARRIP**—Air Refueling Receiver Instructor Pilot  
**ASR**—Approach Surveillance Radar  
**ATC**—Air Traffic Control  
**ATD**—Aircrew Training Device  
**ATP**—Allied Tactical Publication  
**ATS**—Aircrew Training System  
**BDA**—Boom-to-Drogue Adapter  
**BOSS**—Boom Operator Simulation System  
**BOWST**—Boom Operator Weapon System Trainer  
**CG**—Center of Gravity  
**CRM**—Crew Resource Management  
**DME**—Distance Measuring Equipment  
**EFB**—Electronic Flight Bag  
**EPE**—Emergency Procedures Evaluation  
**ETA**—Estimated Time of Arrival  
**FCIF**—Flight Crew Information File  
**FEF**—Flight Evaluation File  
**FMS**—Flight Management System  
**FP**—Qualified Pilot  
**FTL-E**—Flight Training Level E  
**GA**—Go-Around  
**GPS**—Global Positioning System  
**IFF**—Identification Friend or Foe  
**ILS**—Instrument Landing System  
**INSTM**—Instrument Evaluation  
**INSTR**—Instructor Evaluation  
**IP**—Instructor Pilot

**KIAS**—Knots Indicated Airspeed  
**LOC**—Localizer  
**MAC**—Mean Aerodynamic Chord  
**MAP**—Missed Approach Point  
**MDA**—Minimum Descent Altitude  
**MP**—Mission Pilot  
**MPRS**—Multi-point Refueling System  
**MQF**—Master Question File  
**MSN**—Mission Evaluation  
**N/A**—Not Applicable  
**NAVAID**—Navigation Aid  
**NM**—Nautical Mile  
**NOTAM**—Notice to Airmen  
**OGV**—Operations Group Standardization and Evaluation Office  
**OI**—Operating Instruction  
**OME**—Operational Mission Evaluation  
**OPR**—Office of Primary Responsibility  
**PACAF**—Pacific Air Forces  
**PAR**—Precision Approach Radar  
**QUAL**—Qualification Evaluation  
**RNAV**—Area Navigation  
**RQ**—Requalification  
**RVSM**—Reduced Vertical Separation Minima  
**RZ PT**—Rendezvous Point  
**RZCP**—Rendezvous Control Point  
**SEB**—Standardization and Evaluation Board  
**SID**—Standard Instrument Departure  
**SOAR**—Special Operations Air Refueling  
**SPOT**—Spot Evaluation  
**SQB**—Secure Question Bank  
**Stan/Eval**—Standardization and Evaluation  
**TACAN**—Tactical Air Navigation System

**TCH**—Threshold Crossing Height

**TEM**—Threat and Error Management

**USAFE**—United States Air Forces in Europe

**VDP**—Visual Descent Point

**VFR**—Visual Flight Rules

**VOR**—Very High Frequency Omni-Directional Range

**WB**—Weight and Balance

### *Terms*

**Additional Training**—Any training recommended by the flight examiner to remedy a discrepancy identified during an evaluation that cannot be remedied during the evaluation debrief.

**Aircrew**—See AFPD 11-4, *Aviation Service*.

**Aircrew Evaluation**—An assessment of individual aircrew capability to accomplish assigned flying duties.

**Aircrew Evaluation Eligibility Period**—The six-month period prior to the expiration date of an evaluation that includes the month in which the Aircrew Evaluation is due.

**Aircrew Evaluation Types**—The Types of Aircrew Evaluations are INSTM, MSN, QUAL, INSTR, SPOT.

**Aircrew Qualification**—A documented designation that identifies an aircrew member as having the capability to accomplish specific flying duties. These Aircrew Qualifications include "Basic Qualification", "Instrument Qualification", "Mission Qualification", and "Instructor Qualification".

**Aircrew Qualification Expiration Date**—The date an Aircrew Member loses an Aircrew Qualification due to exceeding the periodic evaluation time requirement. Required periodic evaluations expire on the last day of the 17th month following the month in which the previous periodic aircrew evaluation was successfully completed.

**Aircrew Training Device (ATD)**—A training platform suitable to conduct evaluations.

**Basic Qualification**—A documented designation allowing an aircrew member to perform the basic duties of a particular crew position in the specified weapons system.

**Certification**—Procedure used to document competency in a particular task. Not interchangeable with —qualification, which requires Form 8/8a documentation.

**Formal Training Unit**—A unit with a primary mission to train aircrew personnel according to approved syllabi.

**Discrepancy**—Substandard performance in a Graded Area/Sub-area. A discrepancy in performance is documented with a grade of Q- or U.

**Downgrade**—A reduction in Grade or Qualification Level.

**Emergency Procedures Evaluation (EPE)**—An evaluation of an aircrew member's knowledge and skill with respect to MDS-Specific Emergency Procedures and systems. An EPE can be completed during a flight, in an aircrew training device, a simulator or verbally.

**Examination**—A method of measuring an aircrew member's knowledge of normal/emergency procedures, threats, and other information essential for the safe and effective operation of their assigned weapon system through the administration of written or computer- based examinations.

**Flight Crew Information File (FCIF)**—A collection of publications and material determined by the MAJCOM and unit as necessary for day-to-day operations.

**Flight Evaluation Folder (FEF)**—A two-part folder containing the source documents that constitute the history of flying qualifications of each aircrew member.

**Flight Examiner**—An aircrew member designated to perform evaluation duties as specified by this instruction.

**Grade**—A characterization of examinee performance in a Graded Area or Graded Sub-area. Grades are Q, Q- and U.

**Graded Area/Sub-area**—A specific evaluated ability or skill set within an Aircrew Evaluation.

**INIT Aircrew Evaluation**—The first Aircrew Evaluation of any type for an MDS (e.g., INIT QUAL/ INSTM, INIT MSN, INIT INSTR).

**INSTR Evaluation**—A means of assessing an aircrew member's instructional ability in their weapon system/crew position and to obtain/maintain Instructor Qualification. This evaluation initially establishes or reestablishes instructor qualification of the examinee in an MDS (i.e., INIT INSTR and RQ INSTR) as directed in AFI/AFMAN 11-2MDS Vol 1.

**Instructor Qualification**—A documented designation allowing an aircrew member to instruct and provide airborne supervision of unqualified and/or uncertified aircrew members.

**INSTM Evaluation**—The means of assessing an aircrew member's ability to operate under Instrument Flight Rules (IFR).

**Instrument Qualification**—A documented designation allowing an aircrew member to operate under Instrument Flight Rules (IFR).

**Lead Command**—The Air Force MAJCOM or agency possessing an MDS that is designated by AFD 10-9 as responsible for the coordination of MDS-Specific activities.

**Master Question File (MQF)**—Question bank used to construct closed book exams. Aircrew members have access to MQFs.

**Mission Qualification**—A documented designation allowing an aircrew to employ the assigned weapon system in accomplishing the unit's operational mission.

**MSN Evaluation**—A means of assessing an aircrew member's ability to employ the assigned weapon system in accomplishing the unit's operational mission. Requires AF Form 8/8a documentation.

**Objective Area**—A defined geographical area within which is located an objective to be captured or reached.

**Office of Primary Responsibility (OPR)**—Any headquarters, agency, or activity having the primary functional interest in, and responsibility for, a specific action, project, plan, program or problem.

**QUAL Evaluation**—A means of assessing an aircrew member's ability to perform the basic duties of a particular crew position in the specified aircraft. Requires AF Form 8/8a documentation.

**Qualification Level**—The overall characterization of examinee performance based on the compilation of requisite results and the Aircrew Evaluation Graded Areas/Sub-areas. The EPE will also be assigned a Qualification Level based on the compilation of EPE Graded Areas/Sub-areas. The Qualification Level will be Q1, Q2 or Q3.

**Qualified Pilot (FP)**—Designates a qualified pilot (including qualification from a previous aircraft) and the 3<sup>rd</sup> letter designators will further distinguish the pilot's qualification status.

**Rendezvous**—A procedure to join the receiver with the tanker.

**Requalification (RQ)**—An Aircrew Evaluation administered to remedy a loss of qualification due to expiration of a required periodic evaluation, loss of currency (as specified in applicable AFI/AFMAN 11-2MDS Vol 1), an Aircrew Qualification following a failed Aircrew Evaluation or a commander directed downgrade.

**Requisites**—Requirements such as examinations, EPEs, Boldface/CAPs, etc., that must be successfully accomplished before an Aircrew Evaluation is considered complete. Requires AF Form 8/8a documentation.

**Restrictions**—A statement on the AF Form 8/8a that places limitations on the duties that may be performed by an aircrew, usually as the result of a failed ground or flight phase event. For example, "Restriction: Examinee will not fly unless under the supervision of an instructor pilot, Day Only, Conus Only".

**Secure Question Bank (SQB)**—Questions used to construct open book examinations. Aircrew members do not have access to the SQB.

**Special Interest Item (SII)**—Items of emphasis relating to existing procedure(s) designed to mitigate or eliminate specific risks or trends.

**SPOT Evaluation**—An Aircrew Evaluation, EPE, Examination or the evaluation of a specific event that does not intend to satisfy the requirements of an initial, periodic or requalification evaluation. May be No-Notice. Requires AF Form 8/8a documentation.

**Stan/Eval Function**—An organization at appropriate echelons of command that accomplishes the objectives of this instruction.

**Supervised Status**—The status of an aircrew member who must fly under the supervision of either an instructor or a designated supervisor (as specified in the applicable AFI/AFMAN11-2MDS Vol 1) qualified in that specific aircrew position. The flight examiner determines when supervision is required. The type of supervisor (i.e., instructor or designated supervisor) is as specified in the applicable AFI/AFMAN11-2MDS Vol 1, or as determined by the SQ/CC.

**Unit**—A level of organization under HHQs (MAJCOM and/or Numbered Air Force) required to establish a Stan/Eval function (normally this is an operations group and consists of both the group and flying squadrons).



**User Command**—Any Air Force MAJCOM/agency, other than the lead command, that possess a MDS.

**Visual Flight Rules (VFR)**—A set of regulations under which a pilot operates an aircraft in weather conditions generally clear enough to allow the pilot to navigate with reference to the ground.

**Weapon System**—A combination of one or more weapons with all related equipment, materials, services, personnel, and means of delivery and deployment (if applicable) required for self-sufficiency.

**Windshear**—A change in wind speed and/or direction.

## Attachment 2

## KC-135 PILOT FLIGHT EVALUATION WORKSHEET EXAMPLE

Table A2.1. KC-135 Pilot Flight Evaluation Worksheet Example.

| AREAS/SUBAREAS                                     | Q | Q- | U | T | REMARKS |
|--|---|----|---|---|---------|
| <b>GENERAL</b>                                     |   |    |   |   |         |
| 1. Directives and Publications                     |   |    |   |   |         |
| 2. Mission Preparation/Planning                    |   |    |   |   |         |
| 3. Use of Checklists                               |   |    |   |   |         |
| 4. Safety Consciousness (Critical)                 |   |    |   |   |         |
| 5. Judgment/Compliance (Critical)                  |   |    |   |   |         |
| 6. Crew Coordination/CRM                           |   |    |   |   |         |
| 7. Communication Procedures                        |   |    |   |   |         |
| 8. Aircrew Flight Equipment<br>Systems/Egress      |   |    |   |   |         |
| 9. Knowledge/Completion of Forms                   |   |    |   |   |         |
| 10. Airmanship/Situational Awareness<br>(Critical) |   |    |   |   |         |
| <b>QUALIFICATION</b>                               |   |    |   |   |         |
| 11. Takeoff  |   |    |   |   |         |
| 12. VFR Pattern (WX Permitting)                    |   |    |   |   |         |
| 13. Landings                                       |   |    |   |   |         |
| 13A. Full Flap Landing (50 Flap)                   |   |    |   |   |         |
| 13B. Normal Landing (40 Flap)                      |   |    |   |   |         |
| 13C. Partial Flap Landing (30 Flap)                |   |    |   |   |         |
| 14. Landing Roll, Braking                          |   |    |   |   |         |
| 15. All Engine Go-Around (If observed)             |   |    |   |   |         |
| 16. Simulated Engine Out Operations                |   |    |   |   |         |
| 16A. Engine Fire/Failure During Flight             |   |    |   |   |         |
| 16B. Engine Out Approach                           |   |    |   |   |         |
| 16C. Engine Out GA                                 |   |    |   |   |         |
| 16D. Engine Out Landing                            |   |    |   |   |         |
| 17. Boldface Emergency Procedures<br>(Critical)    |   |    |   |   |         |
| 18. Other Emergency Procedures                     |   |    |   |   |         |
| 19. Systems Ops/Knowledge/Limitations              |   |    |   |   |         |
| 20. Automation Management                          |   |    |   |   |         |
| 21. Pilot Monitoring                               |   |    |   |   |         |
| <b>INSTRUMENT</b>                                  |   |    |   |   |         |
| 22. Instrument Departure /SID                      |   |    |   |   |         |
| 23. Enroute Navigation/FMS                         |   |    |   |   |         |
| 24. Holding  |   |    |   |   |         |
| 25. Use of NAVAIDS                                 |   |    |   |   |         |
| 26. Descent/Arrival                                |   |    |   |   |         |

|                                       |  |  |  |  |  |
|---------------------------------------|--|--|--|--|--|
| 27. Precision Approach (one required) |  |  |  |  |  |
| 27A. ILS                              |  |  |  |  |  |
| 27B. PAR                              |  |  |  |  |  |

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| AREAS/SUBAREAS                              | Q | Q- | U | T | REMARKS |
|---|---|----|---|---|---------|
| 28. Non Precision Approaches (one required) |   |    |   |   |         |
| 28A. ASR                                    |   |    |   |   |         |
| 28B. GPS/RNAV                               |   |    |   |   |         |
| 28C. Localizer (LOC)/VOR                    |   |    |   |   |         |
| 28D. TACAN                                  |   |    |   |   |         |
| 29. Circling Approach (If avail, else verb) |   |    |   |   |         |
| 30. Missed Approach                         |   |    |   |   |         |
| <b>INSTRUCTOR</b>                           |   |    |   |   |         |
| 31. Instructor Ability (Critical)           |   |    |   |   |         |
| 31A. Demonstration of Knowledge (Critical)  |   |    |   |   |         |
| 31B. Student Briefing/Critique (Critical)   |   |    |   |   |         |
| <b>MISSION</b>                              |   |    |   |   |         |
| 32. Ground Operations/Taxi                  |   |    |   |   |         |
| 33. Takeoff                                 |   |    |   |   |         |
| 34. Radar Ops/WX Avoid/Windshear            |   |    |   |   |         |
| 35. Fuel Conservation                       |   |    |   |   |         |
| 36. Landing                                 |   |    |   |   |         |
| 37. Tanker AAR                              |   |    |   |   |         |
| 37A. Rendezvous                             |   |    |   |   |         |
| 37B. Platform Control                       |   |    |   |   |         |
| 37C. Breakaway                              |   |    |   |   |         |
| 37D. Overrun Procedures                     |   |    |   |   |         |
| 37E. Tanker AAR Formation                   |   |    |   |   |         |
| 38. Formation (if observed)                 |   |    |   |   |         |
| 38A. Lead, Departure, & Joinup              |   |    |   |   |         |
| 38B. Enroute, Position Change, Breakup      |   |    |   |   |         |
| 38C. AAR Formation                          |   |    |   |   |         |
| <b>MISSION (ARR)</b>                        |   |    |   |   |         |
| 39. Receiver AAR                            |   |    |   |   |         |
| 39A. Rendezvous                             |   |    |   |   |         |
| 39B. Closure                                |   |    |   |   |         |
| 39C. AAR Position/Control                   |   |    |   |   |         |
| 39D. Overrun Procedures                     |   |    |   |   |         |
| 39E. Breakaway                              |   |    |   |   |         |
| 39F. IP Right Seat AAR Limit Demo           |   |    |   |   |         |
| 40. Tactics (if observed)                   |   |    |   |   |         |
| 41. Threat Avoidance (if observed)          |   |    |   |   |         |

|                                      |  |  |  |  |  |
|--------------------------------------|--|--|--|--|--|
| 42. Tactical Arrival (if observed)   |  |  |  |  |  |
| <b>SPECIAL INTEREST ITEMS (SIIs)</b> |  |  |  |  |  |
|                                      |  |  |  |  |  |
|                                      |  |  |  |  |  |
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## Attachment 3

## KC-135 NAVIGATOR FLIGHT EVALUATION WORKSHEET EXAMPLE

Table A3.1. KC-135 Navigator Flight Evaluation Worksheet Example.

| AREAS/SUBAREAS                                     | Q | Q- | U | T | REMARKS |
|--|---|----|---|---|---------|
| <b>GENERAL</b>                                     |   |    |   |   |         |
| 1. Directives and Publications                     |   |    |   |   |         |
| 2. Mission Preparation/Planning                    |   |    |   |   |         |
| 2A. General  |   |    |   |   |         |
| 2B. Flight Planning                                |   |    |   |   |         |
| 3. Use of Checklists                               |   |    |   |   |         |
| 4. Safety Consciousness<br>(Critical)              |   |    |   |   |         |
| 5. Judgment/Compliance<br>(Critical)               |   |    |   |   |         |
| 6. Crew Coordination/CRM<br>(Critical)             |   |    |   |   |         |
| 7. Communication Procedures                        |   |    |   |   |         |
| 8. Aircrew Flight Equipment<br>Systems/Egress      |   |    |   |   |         |
| 9. Knowledge/Completion of<br>Forms                |   |    |   |   |         |
| 10. Airmanship/Situational<br>Awareness (Critical) |   |    |   |   |         |
| <b>QUALIFICATION</b>                               |   |    |   |   |         |
| 11. Ground Operations / Taxi                       |   |    |   |   |         |
| 12. Departure                                      |   |    |   |   |         |
| 13. Radar Ops/WX Avoid/<br>Windshear               |   |    |   |   |         |
| 14. General Navigation and<br>Course Adherence     |   |    |   |   |         |
| 15. Navigation Systems                             |   |    |   |   |         |
| 16. Descent/Approach Monitor                       |   |    |   |   |         |
| 17. Emergency Equipment                            |   |    |   |   |         |
| 18. Emergency Procedures (if<br>observed)          |   |    |   |   |         |
| 19. Manual Gear Extension                          |   |    |   |   |         |
| 20. Manual Flap Extension                          |   |    |   |   |         |
| 21. Formation/Station Keeping<br>(if observed)     |   |    |   |   |         |
| <b>MISSION (Tanker AAR) –<br/>N/A Basic Nav</b>    |   |    |   |   |         |
| 22. Tanker AAR                                     |   |    |   |   |         |



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## Attachment 4

## KC-135 BOOM OPERATOR FLIGHT EVALUATION WORKSHEET EXAMPLE

Table A4.1. KC-135 Boom Operator Flight Evaluation Worksheet Example.

| AREAS/SUBAREAS                                  | Q | Q- | U | T | REMARKS |
|---|---|----|---|---|---------|
| <b>GENERAL</b>                                  |   |    |   |   |         |
| 1. Directives and Publications                  |   |    |   |   |         |
| 2. Mission Preparation/Planning                 |   |    |   |   |         |
| 3. Use of Checklists                            |   |    |   |   |         |
| 4. Safety Consciousness (Critical)              |   |    |   |   |         |
| 5. Judgment/Compliance (Critical)               |   |    |   |   |         |
| 6. Crew Coordination/CRM                        |   |    |   |   |         |
| 7. Communication Procedures                     |   |    |   |   |         |
| 8. Aircrew Flight Equipment Systems/Egress      |   |    |   |   |         |
| 9. Knowledge/Completion of Forms                |   |    |   |   |         |
| 10. Airmanship/Situational Awareness (Critical) |   |    |   |   |         |
| <b>QUALIFICATION</b>                            |   |    |   |   |         |
| 11. Ground Operation                            |   |    |   |   |         |
| 12. Pre-takeoff, Climb, & Cruise                |   |    |   |   |         |
| 13. System Ops/Knowledge/Limitations            |   |    |   |   |         |
| 14. Abnormal/Emer Procedures                    |   |    |   |   |         |
| 15. Weight and Balance                          |   |    |   |   |         |
| 16. Pax Handling                                |   |    |   |   |         |
| 17. Manual Gear Extension (if observed)         |   |    |   |   |         |
| 18. Manual Flap Extension (if observed)         |   |    |   |   |         |
| <b>INSTRUCTOR</b>                               |   |    |   |   |         |
| 19. Instructor Ability (Critical)               |   |    |   |   |         |
| 19A. Demonstration of Knowledge (Critical)      |   |    |   |   |         |
| 19B. Student Briefing/Critique (Critical)       |   |    |   |   |         |
| <b>MISSION (Tanker AAR)</b>                     |   |    |   |   |         |
| 20. Tanker AAR                                  |   |    |   |   |         |
| 20A. AAR (Boom)                                 |   |    |   |   |         |
| 20B. AAR (BDA) (if observed)                    |   |    |   |   |         |
| 20C. AAR (MPRS) (if observed)                   |   |    |   |   |         |
| <b>MISSION (Cargo)</b>                          |   |    |   |   |         |



|  |  |  |  |  |  |
|--|--|--|--|--|--|
| 21. Cargo Loading/Unloading              |  |  |  |  |  |
| <b>SPECIAL INTEREST ITEMS<br/>(SIIs)</b> |  |  |  |  |  |

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