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AIR FORCE MANUAL 11-2KC-46, VOLUME 3

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Flying Operations

KC-46 OPERATIONS PROCEDURES

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This manual implements Air Force Policy Directive (AFPD) 11-2, *Aircrew Operations*, and Air Force Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, and is consistent with Air Force Manual (AFMAN) 11-202, Volume 3, *Flight Operations*. This manual applies to all civilian employees and uniformed members of the Regular Air Force (RegAF), Air Force Reserve (AFR), and Air National Guard (ANG) operating KC-46 missions. This publication does not apply to the United States Space Force. Ensure all records generated as a result of processes prescribed in this publication adhere to Air Force Instruction 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the DAF Form 847 – *Recommendation for Change of Publication*; route DAF Forms 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level, but all supplements must be routed to the OPR of this publication for coordination prior to certification and approval. The authorities to waive wing or unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See Department of the Air Force Manual (DAFMAN) 90-161 – *Publications and Forms Management*, Table 1.1 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. The use of the name or mark of any specific manufacturer, product, commodity, or service in this publication does not

imply endorsement by the Air Force. Compliance with the attachment in this publication is not mandatory.

SUMMARY OF CHANGES

This publication has been substantially rewritten and needs to be completely reviewed. Major changes include an overhaul of low visibility approach operations; extended range operations guidance; command authorization meaning and clarification; and updated cargo and passenger handling procedures.

Chapter 1

GENERAL INFORMATION

1.1. General. This AFMAN provides operational procedures and guidance for the KC-46 aircraft. It is an original source document for many areas but, for utility, restates information found in aircraft flight manuals, flight information publications (FLIP), and other Air Force directives. For matters where this AFMAN is the source document, waiver authority is in accordance with **paragraph 1.4**. For matters where this AFMAN repeats information in another document, follow waiver authority outlined in the basic/source document. This is a specialized publication intended for use by airmen who have graduated from technical training related to this publication. It establishes procedures for the operation of the KC-46 aircraft to safely and successfully accomplish worldwide mobility missions.

1.1.1. Unit commanders and agency directors involved with or supporting KC-46 operations must make current copies of this AFMAN available to appropriate personnel.

1.1.2. Transportation and Base Operations passenger manifesting agencies will maintain a current copy of this AFMAN.

1.2. Applicability. This AFMAN applies to aircrew members, maintenance/support personnel, and flight managers involved with employing KC-46 aircraft.

1.3. Key Words Explained.

1.3.1. "Will" and "must" indicate a mandatory requirement.

1.3.2. "Should" indicates a preferred, but not mandatory, method of accomplishment.

1.3.3. "May" indicates an acceptable or suggested means of accomplishment.

1.4. Deviations and Waivers. Do not deviate from guidance in this AFMAN except to protect life, preserve safety of flight, or when an in-flight emergency requires immediate action. Directive guidance (will and must, etc.) throughout this regulation is tiered in accordance with DAFMAN 90-161. For examples of tiered waivers, see DAFMAN 90-161. Air Mobility Command, Director of Operations (AMC/A3) or OPR is the approval authority for waivers to this manual where the approval authority is not already identified. Major Command Air, Space and Information Operations Directorate (MAJCOM/A3) is waiver authority for MAJCOM supplements to this manual. MAJCOM/A3s will forward a copy of approved long-term waivers to this manual, to Air Mobility Command Tanker Aircrew Standardization and Evaluation Branch (AMC/A3VK) for follow-on action.

1.4.1. Deviations. The Pilot in Command (PIC) must report deviations or exceptions taken without a waiver through command channels to their Chief, MAJCOM Standardization and Evaluation (Stan/Eval). **(T-2)** The Chief, MAJCOM Stan/Eval will then notify Chief, AMC Stan/Eval as appropriate for follow-on action.

1.4.2. For the purposes of this manual, flying MAJCOMS are: Air Combat Command (ACC); Air Education and Training Command (AETC); Air Force Global Strike Command (AFGSC); Air Force Material Command (AFMC); Air Force Reserve Command (AFRC); Air Force Special Operations Command (AFSOC); Air Mobility Command (AMC); National Guard Bureau (NGB); Pacific Air Forces (PACAF); Air Force Central Command (AFCENT); and

United States Air Forces Europe-Air Forces Africa (USAFE-AFAFRICA). Commander Air Force forces (COMAFFORs) in the grade of O-8 or higher in Combatant Commands (CCMDs) are considered MAJCOM commanders only for forces under their operational control.

1.4.3. Permanent waivers affect theater unique circumstances and are enduring in nature. List MAJCOM/A3-approved permanent waivers in the MAJCOM supplement (see **paragraph 1.5**.).

1.4.4. Long-term waivers affect multiple aircraft and/or missions but are not permanent in nature (expire at a specific date/time). Initiate waivers to deviate from provisions in this AFMAN with appropriate MAJCOM Stan/Eval. Copies of MAJCOM-approved long-term waivers will be sent to AMC Stan/Eval.

1.4.5. Short-notice waivers to operate with degraded equipment are for specific missions in execution. PIC must use the waiver protocol procedure in **Chapter 4** to secure approval for short-notice waivers. **(T-2)**

1.4.6. USAFE-AFAFRICA and PACAF planning and/or execution agencies may use their waiver protocol to secure MAJCOM/A3 approval for short-notice waivers.

1.5. Supplemental Procedures. This AFMAN is a basic directive. Each user MAJCOM or operational theater may supplement this AFMAN according to AFPD 11-2 - *Flying Operations* and DAFMAN 90-161. Stipulate unique MAJCOM procedures (cannot be less restrictive than this basic document) and publish MAJCOM/A3-approved permanent waivers in the MAJCOM supplement.

1.5.1. Combined Command Operations. Plan and conduct all operations that include forces from multiple MAJCOMs using provisions in this AFMAN. Do not assume or expect aircrews to perform MAJCOM theater unique procedures without owning MAJCOM/A3 approval and advance training.

1.5.2. Coordination Process. Forward MAJCOM-proposed supplements (attach DAF Form 673, *Air Force Publication/Form Action Request*) to Air Mobility Command Aircrew Standardization and Evaluation Division (AMC/A3V) for mandatory coordination prior to approval.

1.6. Local Supplement Coordination Process. Operations Group commanders (OG/CCs) must define local operating procedures to this manual in a unit supplement. **(T-2)** OG/CCs must obtain approval from Numbered Air Force (NAF), if applicable, and MAJCOM prior to releasing their supplement. **(T-2)** Send an electronic copy of the approved version to AMC/A3V (**amc.a37v@us.af.mil**) or NAF Director of Operations (DO) (if applicable). MAJCOM, Standardizations and Evaluations (MAJCOM/A3V) equivalent will send approved copies to AMC/A3V.

1.7. Improvement Recommendations. Submit suggested improvements to this manual on a DAF Form 847 via the 847 Central located at: **https://usaf.dps.mil/teams/12797/SitePages/847%20Central.aspx**.

1.8. Definitions. Find explanations or definitions of terms and abbreviations commonly used in the aviation community in Code of Federal Regulations (CFR) Title 14, **Chapter 1**, *Federal Aviation Administration, Department of Transportation*; DoD FLIP, *General Planning*, Chapter

2; and *DoD Dictionary of Military and Associated Terms*. See **Attachment 1** for common terms used herein.

1.9. Aircrew Operational Reports. The reporting requirements in this manual are exempt from licensing, licensing guidance is provided in AFI 33-324, *The Air Force Information Collections and Reports Management Program*.

Chapter 2

ROLES AND RESPONSIBILITIES

2.1. Major Command (MAJCOM). MAJCOMs will provide guidance and approve waivers (as required), where specified throughout this manual.

2.2. Pilot in Command (PIC). The PIC is the aircrew member designated by competent authority, regardless of rank, as being responsible for, and is the final authority for the operation of the aircraft. The term PIC is used interchangeably with the term Aircraft Commander (AC). The PIC/AC will ensure the aircraft is not operated in a careless, reckless, or irresponsible manner that could endanger life or property. **(T-0)** The PIC will ensure compliance with this publication and the following:

2.2.1. HAF, MAJCOM, and mission design series (MDS)-specific guidance. **(T-1)**

2.2.2. Flight Information Publications (FLIP) and operationally-specific *DoD Foreign Clearance Guides (FCG)*. **(T-0)**

2.2.3. Air Traffic Control (ATC) clearances. **(T-1)**

2.2.4. Notices to Airmen (NOTAMs). **(T-1)**

2.2.5. Aircraft Technical Orders (T.O.s). **(T-1)**

2.2.6. Combatant Commander's instructions and other associated directives. **(T-1)**

2.3. Aircrew. Individuals designated on the flight authorization are responsible to fulfill specific aeronautical tasks regarding operating USAF aircraft as specified in this AFMAN or by other competent, supplemental authority.

Chapter 3

AIRCREW COMPLEMENT/MANAGEMENT

3.1. General. This chapter provides guiding principles to form/manage mobility aircrews. Commanders at all levels must follow these principles to form aircrews and to develop aircrew-related work/rest schedules that optimize efficiency of mobility forces engaged in worldwide operations. **(T-2)**

3.2. Aircrew Complement. Squadron Commanders (SQ/CC) must form aircrews based on fragmentation order/mission directive, crew duty time (CDT) and flight duty period (FDP) requirements, aircrew member qualifications, operational risk management considerations, and other constraints to safely accomplish the mission tasking and in accordance with **Table 3.1** for different crew types. **(T-3)**

3.2.1. The minimum crewmember complement for any flight is an aircraft commander, a pilot/copilot, and a boom operator.

3.2.2. SQ/CCs must form augmented aircrews for missions planned to take longer than a basic CDT. Augmenting aircrew members must be current, qualified, and mission ready (MR). MR guidance is provided in AFMAN 11-2KC-46 Volume 1, KC-46 Aircrew Training. **(T-3)** **Exception**: A non-mission ready (NMR) pilot may augment provided the other two pilots are MR Instructor Pilots (IPs). A NMR or unqualified boom operator may be used as an augmentee if accompanied by an MR Instructor Boom Operator (IB). The NMR boom operator must be qualified and certified to perform the required mission (e.g., cargo qualified, fighter certified, etc.) or the boom operator will be supervised by the IB during all portions of the mission for which they are not fully qualified. SQ/CCs must ensure the aircrew is augmented for the full FDP. **(T-3)** The MAJCOM/A3 may designate an augmented CDT/FDP if the crew complement is manned accordingly while the flight is underway (see **paragraph 3.7** for more on CDT/FDP).

Table 3.1. Aircrew Complement.

Crew Position	Basic Crew (See Note 1)	Augmented Crew (See Note 1)
Aircraft Commander	1	2
Pilot/Copilot	1	1
Boom Operator	1 (See **Note 2**)	2

Notes:

1. Add one additional crew member to the mission when passengers (Space-A/Duty Passenger) are seated in the MDCC or on legs where tanker AR will be conducted with passengers seated in the ACMC. On missions with no tanker AR and passengers only seated in the ACMC no additional passenger monitor is required above the basic or augmented crew. Add another additional crew member (two total passenger monitors in addition to the basic or augmented crew) to the mission when over 42 passengers are carried on any leg.

2. Two boom operators are required on missions with cargo operations and AE. An FB may only count toward this requirement when supervised by an IB.

3.3. Aircrew Member Qualification. An aircrew member will be qualified, or in qualification training, to perform duties as a primary aircrew member. **(T-3)**

3.3.1. Senior leaders who complete a Senior Officer Course (SOC) (restricted AF Form 8, *Certificate of Aircrew Qualification*) may occupy a primary crew position when an instructor of like specialty shares the controls (e.g., under direct instructor supervision during critical phases of flight). Refer to Department of the Air Force Manual (DAFMAN) 11-401, *Aviation Management*, for procedures and requirements governing senior leader flying. **Note:** Comply with **paragraph 3.4.5** restrictions for passenger movements.

3.3.1.1. Senior officers who complete the SOC must adhere to the restrictions listed in their AF Form 8. **(T-2)**

3.3.1.2. Crewmembers who complete the SOC will log "FP" for Flight Authorization Duty Code on the Air Force Technical Order (AFTO) Form 781, *ARMS Aircrew/Mission Flight Data Document.* **(T-3)**

3.3.2. Crewmembers who complete a senior staff familiarization flight, to include aircraft delivery flights, will log "OP" or "XP" for Flight Authorization Duty Code on the AFTO Form 781. Guidance on these duty codes is provided in DAFMAN 11-401. **(T-3)**

3.4. Pilots.

3.4.1. An IP must supervise non-current or unqualified pilots regaining currency or qualification (direct IP supervision during critical phases of flight). **(T-2)**

3.4.2. Although other qualified aircraft commanders may be in the seat, overall command of the mission, crew, and aircraft remains with the PIC. At no time should the crew have any doubt who is in command of the aircraft. To prevent confusion among the crew, a change of PIC will not occur during a flight duty period unless the off-going PIC is leaving the crew.

3.4.3. SQ/CCs must ensure the PIC is augmented for missions over 16 hours FDP and designate those additional pilots authorized to perform PIC duties. **(T-2)** The PIC must brief the aircrew on the plan to transfer PIC duties.

3.4.4. Missions with Passengers. Commanders will ensure that only current and qualified pilots (possessing an AF Form 8) occupy pilot seats with passengers on board. **(T-2)** **Exception:** A non-current but qualified pilot may fly with passengers on board if under IP supervision.

3.4.5. FPs may perform receiver AR when certified by SQ/CC.

3.4.6. MPs certified in CP07YM may supervise FPs performing receiver AR.

3.4.7. FPCs are qualified in the right seat only. FPCs must be under direct supervision of an IP to occupy the left seat during critical phases of flight.

3.5. Boom Operators.

3.5.1. A non-current or unqualified boom operator may serve as a primary aircrew member on any mission when supervised by a current and qualified instructor boom operator (direct supervision for critical phases of flight).

3.5.2. Multiple Boom Operator Crew Resource Management (CRM) and Threat and Error Management (TEM). To ensure good CRM/TEM when there is a multiple boom operator

requirement, the primary boom operator will assume overall responsibility for completion of all checklists. The primary boom operator will coordinate all responsibilities and ensure no confusion exists about what duties have been accomplished. The primary boom operator will alert the pilots to operational threats and be watchful for crewmember-made errors that might jeopardize flight safety.

3.6. Crew Rest/Ground Time and Alerting Procedures.

3.6.1. Off-station/En route Crew Rest. The minimum en route crew rest period is 12 hours before legal for alert or scheduled report time when self-alerting. Except during emergencies or as authorized by mission execution authority, Command and Control (C2) agents will not disturb an aircrew member in crew rest. **(T-2)** When necessary to interrupt aircrew members' crew rest period, re-enter that aircrew in a subsequent minimum 12-hour crew rest period. **(T-2)**

3.6.2. Off-station/Enroute Ground Time. Mobility planners must provide aircrews at least 17 hours ground time between engine shutdown and subsequent takeoff. Mobility planners must provide at least 18+15, when missions are plan cargo upload or download. **(T-2)** C2 agents will not ask PIC to accept less than 17 hours ground time. **(T-2)**

3.6.3. Alerting Procedures. Aircrew alert time is normally 4+15 hours before scheduled takeoff time (allows 1 hour for reporting and 3+15 hours for mission preparation). Individual locations and aircraft commanders may increase or decrease this time depending on specific capabilities. OG/CCs may establish self-alert procedures for local training missions.

3.7. T-Alert (Joint Chiefs of Staff [JCS]-directed alert force). T-Alert is intended only for use by specific tanker units that are tasked with an enduring JCS-directed alert posture. T-Alert can only be directed by JCS or CCMD. This alert, and the associated aircrews and aircraft, may relocate to another location and will be directed by Command and Control (C2) when required by the user. **(T-2)** The associated wing commander may identify a need to move the alert due to adverse weather, runway construction, etc., and will coordinate directly with C2 to garner Numbered Air Force Commander (NAF/CC), if applicable, or MAJCOM approval before relocating. **(T-2)** The following T-Alert procedures are only for JCS-directed alert force missions and will not be used for any other mission type without prior approval from Air Mobility Command Directorate of Operations, Strategic Deterrence, and Nuclear Integration (AMC/A3/10). **(T-2)**

3.7.1. T-Alert aircrews will be provided 12 hours of crew rest prior to assuming T-Alert duty. **(T-1)** If a crew completes a mission within their alert cycle, they can be legal for alert again after 12 hours of crew rest.

3.7.2. OG/CC will determine the length of a T-Alert tour, not to exceed 192 hours or eight days. **(T-2)**

3.7.3. Crews will be alerted per local guidance to meet the timing established in mission guidelines, or as directed by 618th Air Operations Center (618 AOC). **(T-2)**

3.7.4. Pre-flight, alert cocking, and alert duties should be accomplished during normal waking hours. Do not break crew rest to perform these duties.

3.7.5. T-Alert crews will not be used as pre-flight crews for aircraft other than designated JCS-alert aircraft or its replacement. **(T-2)**

3.7.6. T-Alert crew members may complete ground currency events and limited office duties at their leisure while on T-Alert; however, T-Alert crew members will not accomplish those items that may result in DNIF status or inhibit alert response time. **(T-2)**

3.7.7. T-Alert aircraft pre-flight generation and security.

3.7.7.1. Normal aircraft cocking procedures may apply to primary aircraft as well as any spare aircraft tasked and/or generated for the alert.

3.7.7.2. The PIC or designated representative must be present if access to the aircraft is required. **(T-2)**

3.7.8. Crew duty time (CDT) for real-world crisis response will begin when the crew shows for the real-world mission. **(T-2)**

3.8. Flight Duty Period (FDP). Per AFMAN 11-202V3_MAJCOM SUP.

3.9. Orientation Flights and Incentive Flights. Refer to DoD Instruction (DoDI) 4515.13, *Air Transportation Eligibility*, DAFMAN 11-401, and the appropriate MAJCOM supplement.

3.10. Mission Essential Personnel (MEP).

3.10.1. MEPs normally travel in the Aircrew Member Compartment (ACMC). If the number of MEPs desiring travel exceeds the capacity of the ACMC, the C2 agency will notify the Air Terminal Operations Center (ATOC). **(T-2)** ATOC will coordinate with the passenger terminal. **(T-2)**

3.10.2. MEPs seated in the flight deck/ACMC will be trained on use of inertial egress devices and aircrew oxygen systems in accordance with *ACMC Passenger Briefing Guide*.

3.11. Mobility Mission Observers (MMO). MAJCOM supplements or additional directives may establish programs authorizing senior military and civilian personnel to fly for mobility mission familiarization. For AMC MMO information reference Air Mobility Command Instruction (AMCI) 11-208, *Mobility Air Forces Management*.

3.12. Flight Attendants on Distinguished Visitor Missions. Flight attendants (FA) may fly as primary crew members on designated KC-46 missions and will be placed on the flight orders using the following procedures:

3.12.1. Pen-and-ink changes to the flight authorization will contain the appropriate information for flight time purposes and will be annotated with the PIC certification of Go/No-Go. **(T-3)** Each FA will provide individual data and training summaries (IDS/ITS) to validate Go/No-Go. **(T-3)** A signed copy of the AFTO Form 781 extract along with a copy of the flight authorization is given to the appropriate individuals when they depart the crew.

3.12.2. The FAs fall under the authority of the PIC, or mission commander if assigned, throughout the mission. The PIC is the final authority for all persons on board the aircraft. The lead FA will coordinate with the PIC, or mission commander, if assigned, regarding FA prepared aircrew meals, costs associated with those meals and servicing requirements for the mission. **(T-3)**

3.12.3. The PIC will ensure an egress briefing is given to the FAs prior to the first mission leg. **(T-3)** The remarks section of the AFTO Form 781, to include the extract, will be annotated

with the statement, “Just in time egress training accomplished.” FA must receive inertial reel egress and aircrew oxygen training to be seated in the ACMC. **(T-2)**

3.12.4. FAs are included in transportation/billeting arrangements. FAs may stay with the party and coordinate billeting with the appropriate agency (only if coordinated with the PIC or MC if assigned first).

3.12.5. FAs may fly in FA uniforms, flight suits, or civilian attire as mission requirements and/or locations dictate.

Chapter 4

AIRCRAFT OPERATING RESTRICTIONS

4.1. Objective. Redundant systems may allow crews to safely perform some missions when a component/system is degraded. The PIC is the final authority in determining the overall suitability of an aircraft for the mission. The PIC will ensure a detailed explanation of the discrepancy is entered in the AFTO Form 781A, *Maintenance Discrepancy and Work Document*. **(T-2)** Include the following maintenance identifiers to effectively communicate aircraft status:

4.1.1. Mission Essential (ME). The PIC will designate an item, system, or subsystem component essential for safe aircraft operation as ME. **(T-2)**

4.1.2. Mission Contributing (MC). The PIC will designate an item, system, or subsystem component not currently essential for safe aircraft operation as MC. (**T-2)** These discrepancies should be cleared at the earliest opportunity. If circumstances change or mission safety would be compromised, re-designate as ME. Do not delay a mission to clear a MC discrepancy.

4.1.3. Open Item (OI). The PIC will designate discrepancies not expected to adversely impact the current mission or any subsequent mission as an OI. **(T-2)** These items are normally cleared at home station.

4.2. Dispatch Deviation Guide (DDG). The DDG applies to all KC-46 models during routine operations to provide guidance for safe operations in non-standard configurations resulting from inoperative equipment and/or degraded systems. The DDG is not to be used for troubleshooting Status level Engine Indication and Crew Alerting System (EICAS) messages in-flight. Status level EICAS messages are used by maintenance for troubleshooting on the ground; however, they may be referenced in the DDG in-flight in order to determine subsequent aircraft status/operational impacts upon landing. The DDG may not include all equipment or systems essential to airworthiness or mission accomplishment.

4.2.1. The DDG is a pre-launch document that lists the minimum equipment/systems to operate the aircraft. The DDG serves as the KC-46 Minimum Equipment List (MEL). For items not listed, the aircraft commander should consult the Non-Essential Furnishing (NEF) list and exercise sound pilot judgment when determining dispatch of the aircraft. **Exception:** The DDG should be consulted in-flight if an aircraft system or component fails after takeoff but prior to entering an ETOPS area of operation.

4.2.2. A PIC who accepts an aircraft with degraded equipment/systems is not committed to subsequent operations with the same degraded equipment. PIC are not committed to operations with degraded equipment accepted by another PIC.

4.3. Responsibilities. The PIC will account for the possibility of additional failures during continued operation with inoperative systems or components. The DDG is not intended for continued operation over an indefinite period with systems/subsystems inoperative. The DDG defines a time interval (e.g., “Repair Category”), which defines the allowable duration of inoperative instrument and equipment items before repair must be accomplished.

4.3.1. All emergency equipment will be installed unless specifically exempted by mission requirements/directives. **(T-3)**

4.3.2. Waiver Guidance. A PIC prepared to operate with a degraded DDG item not already authorized in the DDG will request a waiver through C2 channels. **(T-2)** The PIC will provide the C2 agent with: 1) the nature of request, 2) individual crew member qualification, 3) mission leg(s) requiring the waiver, and 4) the governing directive(s) of waiver request to include volume, chapter, and paragraph. Initiate waiver requests as soon as possible; plan at least a 1-hour waiver process time. **(T-2) Exception:** C2 may request a waiver to Extended Operations (ETOPS) restrictions during sortie planning and prior to aircrew alert. Reference **section 11.8** for ETOPS waiver guidelines.

4.3.3. PIC operating with waiver(s) for degraded equipment will coordinate mission requirements (e.g., revised departure times, fuel requirements, maintenance requirements, etc.) with the controlling C2 agency and/or flight manager. **(T-3)**

4.3.4. When it is necessary to protect the crew or aircraft from a situation not covered by this chapter and immediate action is necessary, the PIC may deviate according to **paragraph 1.4**. Report deviations (without waiver) through channels to MAJCOM/A3 within 48 hours. OG/CCs will collect background information and submit a follow-up written report upon request. **(T-2)**

4.4. Waiver Protocol. Waivers to operate with degraded equipment are granted on a case-by-case basis. The PIC determines the need for a waiver after coordinating with the lowest practical level of command.

4.4.1. DDG Waivers. The WG/CC or equivalent, delegated no lower than the OG/CC, is the waiver authority for all missions.

4.4.2. Other Than DDG Waivers. Determine governing source document (e.g., AFI, Flight Manual, Maintenance Manual) to ascertain the waiver authority. Use C2 channels to notify the appropriate waiver authority. Waivers of this nature may require an extended response time.

4.4.3. Engineering Dispositions (ED). Dispositions are requested when aircraft are damaged and/or established aircraft maintenance manual procedures cannot be followed or do not exist. The on-site maintenance authority is responsible for requesting ED. Most ED allow maintenance to repair the aircraft and return it to unrestricted status; dispositions of this nature do not concern aircrews. However, ED affecting aircrew operations require DDG waiver authority approval.

4.4.3.1. PIC will coordinate dispositions containing flight restrictions, prohibitions, additional operating limits, or modified/nonstandard operating procedures with the appropriate DDG waiver authority (see **paragraph 4.3**). **(T-2)**

4.4.3.2. PIC will not accept dispositions appearing incomplete, in error, or unsafe. **(T-2)** Prior to rejecting a disposition, the PIC will contact the appropriate DDG waiver authority. The waiver authority will attempt to resolve the issue. **(T-2) Note:** Deviations from the flight manual require approval in accordance with the flight manual.

4.5. Command Authorization. KC-46A flight manuals frequently reference command authorization as a requirement to accomplish certain operational procedures. AMC/A3V defines all instances of "Command Authorization", "Command must Authorize" or "Command Guidance"

in the 1C-46(K)A-1 FCOM, 1C-46(K)A-1CL-1 QRH, and 1C-46(K)A-1-2 DDG as WG/CC authorization, written or verbal, delegable no lower than SQ/CC.

4.5.1. It is acceptable for unit commanders to draft blanket approval for specific command authorization required procedures e.g. locations that require TO-B selection for select takeoff weights and/or weather conditions.

4.5.2. Crews operating under OPCON from other than their home station, such as the 618 AOC, will route command authorization requests through that entity.

4.5.3. This definition does not apply to DDG "Command Guidance" defined maintenance repair intervals, which are currently maintained by sustainment engineering, AFLCMC/WLC.

4.6. One-time Flight Clarification. A Red X discrepancy must be downgraded through maintenance channels prior to flight. DDG waiver may still be required. This condition does not preclude carrying cargo and passengers unless stipulated otherwise by the waiver. The priority is to move the airplane to a repair-capable facility. PIC must coordinate with appropriate agencies to ensure repair capability exists at the destination. **(T-2)** One-time flights may include en route stops only when necessary to recover the airplane. **Example:** An airplane departs on a gear-down flight from Djibouti IAP and requires an en route fuel stop (Cairo) before landing at the nearest repair-capable facility, Sigonella NAS.

4.6.1. One-time flight to nearest repair-capable facility: Flight is limited to the nearest (shortest en route time) repair-capable base.

4.6.2. One-time flight to a repair-capable facility: Flight is not restricted to the nearest repair-capable facility.

4.7. Gear-Down Flight Operations. Limit gear-down flight operations to sorties required to move the aircraft to a suitable repair facility. Consider gear-down flight only after the PIC exhausts all avenues to repair the aircraft in place. Consult the Performance Dispatch section of the Flight Crew Operations Manual (FCOM) or MAJCOM-approved planning tools for gear-down flight performance data.

4.8. Passenger Seat Limitations. If a passenger seat is broken (cannot be locked in the full upright position) do not seat passengers in the broken seat for take-off or landing. Make every reasonable effort to repair the broken seat before turning away passengers. Coordinate seat release changes to the appropriate C2 agency to avoid over-booking seats.

Chapter 5

OPERATIONAL PROCEDURES

5.1. Duty Station. Both pilots must be in their seats during flight. One of the pilots may be out of their seat for brief periods to meet physiological needs. With both pilots in their seats, PIC may authorize rest periods for one pilot occupying a primary duty station during non-critical phases of flight (the other pilot will be awake and alert). The pilots and boom operator will be at their duty stations during all critical phases of flight. **(T-3)** The boom has multiple duty stations which include the Air Refueling Operator Station (AROS), Observer 1 position, Observer 2 position during receiver AR, and Main Deck Cargo Compartment (MDCC). The boom operator may allow another individual to occupy their Observer 1 or 2 seat during critical phases of flight with PIC concurrence.

5.2. Flight Deck and ACMC Entry. The PIC is the final authority for flight deck and ACMC entry. PIC may authorize passengers and observers access to the flight deck and ACMC during any phase of flight. The total number of persons permitted is limited to the number of seats with operable seat belts and oxygen regulators. PIC will not allow passengers or observers access to either pilot position. Aircrews will ensure classified or sensitive documents and displays are secured when individuals other than flight crew are in the flight deck. The flight deck door can be closed and locked any time at the discretion of the PIC.

5.3. Take-off and Landing Guidance. An aircraft commander or above will occupy a pilot's seat during all take-offs and landings. **(T-2)** The designated PIC (A-code) is not required to occupy a primary position, but still retains overall authority for conduct of the mission.

5.3.1. An AC or IP will make all take-offs and landings during emergencies and on OPLAN 801X missions, unless conditions prevent compliance. **(T-2)**

5.3.2. Unless the other pilot in the seat is a certified AC or higher, pilot(s) in command (PIC) with less than 100 primary assigned aircraft (PAA) hours since AC certification will make all take-offs and landings under any of the following conditions:

5.3.2.1. Ceiling/visibility less than 300 feet and 3/4 SM visibility (1200 meters) and/or Runway Visual Range (RVR) of 4,000 feet (1200 meters). **(T-3)**

5.3.2.2. Reported braking action less than "Good" or Field Condition (FICON) 4 or less. **(T-3)**

5.3.2.3. Crosswind component greater than 15 knots. **(T-3)**

5.3.3. The Remote Vision System (RVS) camera doors will be closed during take-off, landing, deicing operations, and any other time the AR cameras may be subjected to damage from debris. **(T-2)**

5.4. Outside Observer/Jump Seat Duties. Available crew members will assist in clearing during taxi operations, receiver AR, and any time the aircraft is below 10,000 feet Above Ground Level (AGL).

5.5. Seat Belts.

5.5.1. All occupants will have a designated seat with a seat belt. **(T-2)**

5.5.2. Fasten shoulder harness for critical phases of flight. **(T-3)** Shoulder harnesses are not required during tanker AR and formation above 10,000 ft MSL.

5.5.3. All personnel will be seated with their seat belt fastened when the FASTEN SEAT BELT advisory sign is illuminated, except where exempt below: **(T-3)**

5.5.3.1. Crewmembers performing instructor or flight examiner duties are exempt from seat belt requirements if not occupying a primary crew position; however, those crewmembers will have a seat available with an operable seat belt.

5.5.3.2. Crewmembers performing safety observer duties during receiver AR in the Observer 1, Observer 2, or sitting at the AROS do not require shoulder harnesses.

5.6. Aircraft Lighting. The lighting settings outlined in **Table 5.1** should be utilized unless operational, procedural, or safety requirements dictate otherwise. **(T-3)** Refer to AFMAN 11-202V3, AFMAN 11-218 – *Aircraft Operations and Movement on the Ground* and recommendations found in AIM section 4-3-23 for procedural source documentation.

Table 5.1. Aircraft Lighting Settings.

Lights	Ground	Airborne
Position	Turn to MAX whenever electrical power is applied to the aircraft.	Set IAW Flight Manual (MAX unless directed otherwise).
Anti-Collision/ Rendezvous	Turn on (BOTH) prior to engine start. Turn OFF after engine shutdown.	Set IAW Flight Manual (BOTH unless directed otherwise).
Flash Pattern	Select Flash Pattern 1 for normal operations. Flash Patterns 2-6 may be used for aircraft identification and formation.	
Wing Strobe	Turn ON when the aircraft enters a runway. Turn OFF after exiting the runway.	Set IAW Flight Manual (ON unless directed otherwise).
Wing Illumination	Turn ON when the aircraft enters a runway. Turn OFF after exiting the runway.	Turn ON when operating below 10,000 feet MSL. Above 10,000 feet MSL, utilize as needed.
Taxi	Turn ON when the aircraft is in motion. Turn OFF when the aircraft is stopped.	Turn ON when operating below 10,000 feet MSL. Note: on approach, nose may be omitted until gear down/clearance received.
Runway Turnoff	Turn ON when the aircraft enters a runway. Turn OFF after exiting the runway. Use as needed to increase taxi visibility, especially when turning.	Turn ON when operating below 10,000 feet MSL.
Landing	Turn ON all landing lights after takeoff clearance is received and the aircraft is on the active runway (across the hold line), or when	Turn ON when operating below 10,000 feet MSL.

	commencing takeoff roll at an airport without an operating control tower. Turn OFF after exiting the runway.	Note: on approach, nose may be omitted until gear down/clearance received.
Formation	Set as required. Usage is encouraged at night during AR, mid-mission join-ups, and/or formation operations.	
Covert	See **paragraph 21.12** for NVG lighting requirements. **Note:** Covert exterior lighting is not authorized in the US National Airspace System (NAS) unless above 18,000 feet MSL in accordance with Federal Aviation Administration (FAA) Exemption 7687 or in an approved military operations area (MOA) in accordance with FAA Exemption 7960. **(T-0)**	

5.7. Portable Electronic Devices (PED) and Electronic Flight Bags (EFBs). Parent guidance on PEDs and EFBs is provided in AFMAN 11-202 Volume 3.

5.7.1. Crew members or passengers will not connect unauthorized equipment (personal laptop computers, video equipment, food preparation equipment, radios, CD players, etc.) to the aircraft intercom, PA, radio systems, network connections, or electrical system. **(T-2)** ONLY Government Furnished Equipment (GFE) that is specifically certified for use on the KC-46 aircraft by the AFLCMC Approving Official may be plugged into Military Data Network (MDN)/Local Area Network (LAN) Non-classified Internet Protocol Router Network (NIPRNet) Ethernet ports. Any such devices must follow all conditions and/or restrictions specified by the approving official for use on the aircraft.

5.7.2. Aircrew members will not use uncertified GFE or personal devices with RF transmit/receive capability on aircraft carrying hazard class 1 explosive cargo at any time. **(T-1)** Aircrew members may use certified GFE such as mission planning laptops and PDAs with infrared transmitters.

5.7.3. The following handheld (HH) GPS units meet the requirements of AFMAN 11-202 Volume 3 and may be used with approved laptop computers in flight: Bendix/King® KLX100, Garmin® GPS 35- USB, and Haicom® HI-303III. The use of HH GPS for moving map display is intended as a situational awareness tool and its use is voluntary.

5.7.4. KC-46 power outlets may be used to charge EFBs in flight. EFB cellular, Wi-Fi, and/or Bluetooth™ capabilities may only be used if specifically authorized by the Authority to Operate list or by a CIER. If used, Stratus® GPS/ADS-B recording functionality must be turned off during classified segments of the flight. EFBs and Stratus® receivers must remain outside of a one-meter radius of any system that processes classified data. **(T-2)**

5.7.5. Aeromedical Evacuation (AE) carry-on equipment will only be utilized as stand-alone device(s) in-flight and will not utilize any unapproved wireless capability until mission completion/landing. Approved integrated carry-on equipment with any wired or wireless network devices (i.e., Wi-Fi, Bluetooth, etc.) will be used IAW specific Safe to Fly (STF) authorization. **(T-2)**

5.8. Advisory Calls. The PF will announce intentions for departures, arrivals, approaches, and when circumstances require deviating from normal procedures. **(T-2)** The PM will make all advisory calls except those designated for other crew members. **(T-2)** All applicable callouts will

be made in accordance with the Flight Crew Training Manual (FCTM). **Note:** Automated aircraft advisory calls satisfy this requirement.

5.9. Communications Guidance. The Air Force does not give a promise of confidentiality to aircrews regarding their recorded aircraft crew communications. Crew members are expected to maintain a high degree of flight deck professionalism and crew coordination at all times.

5.9.1. Aircraft Interphone. Crew members will ensure personnel on headset, or within listening distance, are cleared prior to discussing classified information over interphone. **(T-3)** The cockpit voice recorder (CVR) microphone (MIC) switch will be placed in the ENCRYPT position prior to discussing classified or sensitive information. **(T-2)**

5.9.2. Headsets. Crew members must use headsets below FL180, above FL180 during critical phases of flight and anytime flight deck speakers are disabled. **(T-2).** Headsets must be certified as airworthy by AFLCMC and approved by AMC/A3V. When available, a list of approved headsets will be maintained on the AMC Aircrew ePubs SharePoint™. Headsets must be Technical Standard Orders (TSO)-certified, as defined by the FAA. Any Bluetooth™ capability must be turned off. **Note:** Flight deck speakers are disabled when KY-100 cryptographic codes are loaded.

5.10. Runway, Taxiway, and Airfield Requirements.

5.10.1. Mission planners should use 7,000 feet as a planning factor for the minimum runway length when determining potentially suitable destinations. However, aircrew are authorized to operate on runways shorter than 7,000 feet as long as computed take-off/landing distance does not exceed actual usable runway length (LDA, TORA, ASDA, as appropriate) as described in the following paragraphs. Minimum runway width is 147 feet. **(T-3)** Minimum taxiway width is 74 feet. **(T-3)** The Giant Report may approve operations on specific taxiways less than 74 feet (22.5 meters) wide.

5.10.2. Runway Length for Take-off and Landing. Runway available will not be less than computed take-off/landing distance. **(T-2)**

5.10.2.1. Intersection Take-offs. Normally, the PF will initiate take-offs from the beginning of the approved usable portion of the runway. The decision to make intersection take-offs rests solely with the PIC, provided the remaining runway available is not less than computed take-off distance. **(T-2)**

5.10.2.2. During operations on runways partially covered with snow or ice, base take-off computations on the reported RSC for the cleared portion of the runway. A minimum of 50 feet on both sides of centerline should be cleared.

5.10.2.3. Use of Stopways. If approach end stopways are stressed and authorized for normal operations, they may be used to increase the runway available for take-off. Departure end stopways (if stressed and authorized) may also be used to increase ASDA and LDA, if needed.

5.10.2.4. Automated Performance Tool (APT) and Onboard Performance Tool (OPT) takeoff and landing distances are calculated to include a 15% safety margin. PIC may subtract up to 10% of the total landing distance to calculate runway required for landing when operational necessity dictates.

5.10.3. Take-off or Landing over Raised Arresting Cables. The following guidance covers BAK 9, 12, and 13 (Navy designation E-28) arresting cables, it does not include BAK 14 recessed arresting cables:

5.10.3.1. Do not land on (touchdown on) approach end arresting cables (does not include recessed cables). If the aircraft lands before the cable, the crew should contact the tower to have the cable inspected.

5.10.3.2. Do not take-off or land when contact will be made with an arresting cable that has been reported as slack, loose, or improperly rigged by Notices to Airmen (NOTAMs), Automated Terminal Information Service (ATIS), ATC, etc. **(T-3)** Ensure TOLD supports the runway available minus any length needed to avoid the arresting cable, not to be less than the computed landing distance.

5.10.4. Other Airfield Requirements.

5.10.4.1. Consult with MAJCOM Airfield Suitability Branch for suitability guidance. Once a mission is executed, the PIC is responsible for determining airfield suitability based upon operational need. Airfield certification requirements are detailed in AMCI 11-211 – *Destination Airfield Suitability Analysis*.

5.10.4.2. Aircrews and planning agencies will contact their MAJCOM Airfield Suitability Branch for all questions pertaining to airfield weight bearing capacity and will review the Global Decision Support System (GDSS) and ASRR before all off-station operations. Coordinate waivers for GDSS Giant Report and ASRR restrictions to the appropriate MAJCOM waiver authority. The PIC is responsible for waiver compliance. **(T-2)** Crews that have internet access will review airfield suitability (Airfield Detail) in GDSS.

5.10.5. When no RCR is available, refer to the Runway Condition Assessment Matrix (RCAM) 'runway condition description' and use the most conservative correlating RCR; be conservative when dealing with unknown conditions (e.g., forward operating bases (FOBs)). Normally, RCR values are not reported for taxiways and ramps. During periods of reported low RCR, the taxiways and ramps may have an even lower RCR than reported for the runway.

5.11. Participation in Aerial Events. See DAFI 11-209 – *Participation in Aerial Events*.

5.12. Military Data Network (MDN).

5.12.1. MDN consists of NIPRnet, SIPRnet, C2 messaging capabilities, and the keyboard interface. Aircrew should initialize MDN on every operational mission or as required by OPORD, EXORD, etc. MDN use on other missions (e.g., local sorties) is encouraged for aircrew familiarity. A crew member other than the pilot flying will operate the MDN and will only manipulate the network during non-critical phases of flight. **(T-2) Exception:** The MDN may be operated during tanker air refueling if operational necessity dictates.

5.12.2. Aircrew will use MDN communication applications for official use mission requirements only. **(T-2)** MDN will not be used for personal or non-flying/mission purposes (e.g., office duties). Aircrew will ensure that the Inmarsat SwiftBroadband providing MDN connectivity be used in the Background Internet Protocol (IP) configuration setting. Streaming IP services will only be used for missions with roll-on packages requiring dedicated bandwidth (e.g. video teleconferencing, medical telemetrics) which have been pre-coordinated with AMC/A6NC for funding availability. **(T-2)**

5.12.3. NIPRNet Web Content Filtering List (MDN Whitelist). Changes to the MDN NIPRNet Whitelist can be requested by unit Operations Group Standardization and Evaluation (OGV) (or equivalent) routed via AMC/A3V to Air Mobility Command Communications Operations (AMC/A6O). All SECRET Internet Protocol Router Network (SIPRNet) web sites are accessible.

5.12.4. Email. Email capability provides a controlling or supporting C2 agency the ability to push controlled unclassified information (CUI) and SECRET mission documents, imagery, and graphics information to the aircrew as an attachment to an email sent via SIPRNet. While the Mobility Air Forces (MAF) C2 message set and text chat will be the primary means to exchange C2 information during mission execution, email could be used to provide an updated set of aircrew departure papers or to provide updates to information the aircrew previously loaded onto the data transfer devices. Email could also allow the aircrew to coordinate arrival support with non-government agencies at civil locations such as humanitarian support missions.

5.13. Tactical Situational Awareness System (TSAS).

5.13.1. Joint Tactical Air Operations (JTAO). Integration and coordination among all C2 units deployed to a particular theater is paramount for effective JTAO operations. JTAO operations are defined in the JTAO Procedural Handbook. KC-46 crews must be fully trained to execute the Air Tasking Order (ATO), Airspace Control Order (ACO), and Operations Task Link (OPTASKLINK) in a joint environment. The entire system is dependent upon the effective use and control of tactical data links (e.g., Link 16). KC-46 crews must understand their role within the joint data network and how their data can both aid and hamper JTAO. Operate data link equipment in accordance with the written guidance of the MAJCOM Joint Interface Control Officer (JICO) (e.g., OPTASKLINK, OPTASK ID Supplement, and Tactical Operation Data (TACOPDAT)). **(T-0)** During missions, the crew will adhere to the directions of the joint, regional, or sector interface control officers (J/R/SICOs). **(T-0)** Coordination will be performed on the assigned interface control net (ICN)/data link coordination net (DCN) and track supervision nets (TSN). Aircrew participating on these nets must be familiar with directed net procedures and follow the directions of the net control station (NECOS).

5.13.2. Tactical Data Link (TDL) Procedures and Operation. For theater operations and unless otherwise directed, ACs will use TDL as the primary means of passing KC-46 information. **(T-0)** Establish TDL according to CJCSM 6120.01G for the JTIDS Network Library during CONUS operations. Establish data link operations outside the CONUS according to local theater directives and the OPTASKLINK.

5.14. Photography and Videography.

5.14.1. The Aircraft Commander may approve photo or video recording device usage in the ACMC or flight deck. All crew members will stow recording devices while classified or sensitive material are displayed in any form, to include on flight deck or AROS displays. **(T-2)** Cellular, Bluetooth™ and Wi-Fi capabilities must be disabled.

5.14.2. The Aircraft Commander must be notified prior to any media or person(s) taking photographs/videos inside the KC-46. The Aircraft Commander must review and verify the imagery is unclassified. **(T-2)**

5.14.3. Photography/videography of the aircraft is approved so long as it adheres to these guidelines:

5.14.3.1. Images from within the aircraft (on the ground or in flight):

5.14.3.1.1. No photographs or video of the right sidewall accessory panel are authorized. Right sidewall accessory panel must be covered when on the ground if the media or general public will tour the cockpit area. **(T-2)**

5.14.3.1.2. Classified documents, publications, active classified displays and correspondence will be restricted from view. **(T-2)**

5.14.3.1.3. No direct photos or video of the AROS station displays are authorized while powered on. **(T-2)**

5.14.3.1.4. No photos or video of the aircraft cockpit area while any military sensitive information is displayed (e.g., kneeboards, charts, military frequencies, LAIRCM controls, Identification Friend or Foe (IFF), or TSAS display) are authorized. **(T-2)**

5.14.3.2. There are no restrictions on photography/videography from outside the KC-46, documenting external views.

5.14.4. Authorization Procedures for Public Affairs (PA) Official Business. All PA personnel capturing imagery of the KC-46 in the course of official business will coordinate documentation with the appropriate local authorities.

5.14.4.1. Training. PA personnel capturing imagery for release should be briefed on what may/may not be photographed by authorizing personnel to ensure photos/video are captured in a fashion that ensures they are unclassified and publicly releasable in accordance with the local procedures. If collected imagery is not for release and/or classified is documented, imagery must then be reviewed by PAO and government security official (unit OPSEC manager/Aircraft Commander).

5.14.4.2. Escorts. During official business excluding external media, no escort is required. When external media are present, PA escort is required. **(T-2)**

5.14.4.3. Release of Imagery. If it is not clear that imagery collected is suitable for public release, forward up the chain for further review by unit OPSEC manager, MAJCOM, Public Affairs (MAJCOM/PA) and/or the Secretary of the Air Force Public Affairs Office (SAF/PA).

5.14.5. Authorization Procedures for External Media Personnel. All external media personnel requesting to capture imagery of the KC-46, or associated KC-46 equipment, must coordinate their visit with the servicing PAO. The PAO is responsible for notifying the Aircraft Commander, if necessary. **(T-2)**

5.14.5.1. Pre-Brief. Media personnel capturing imagery will be briefed on what may/may not be photographed. The PAO will ensure photos/video are captured in a fashion that ensures they are unclassified and publicly releasable in accordance with local procedures. **(T-2)**

5.14.5.2. Release of Imagery. If it is not clear that photos taken are suitable for public release, forward up the chain for further review via MAJCOM/PA and/or the Secretary of the Air Force Public Affairs Office. The Aircraft Commander will notify MAJCOM/PA

immediately if there is a violation of ground rules or other situation that would result in external media's release of images unsuitable for public release. **(T-2)**

5.14.6. Authorization Procedures for Tours and Special Events. When access to the aircraft area, base, etc. is open to the public (e.g., air shows), photography/videography may be authorized by the owning Aircraft Commander in accordance with this and local regulations.

Chapter 6

AIRCREW PROCEDURES

Section 6A—Pre-Mission

6.1. Aircrew Uniform.

6.1.1. Aircrew will wear the aircrew uniform, as outlined in AFI 36-2903, *Dress and Personal Appearance of Air Force Personnel*, and the appropriate MAJCOM supplement, on all missions, unless otherwise authorized. **(T-2)** When the Foreign Clearance Guide (FCG) requires civilian attire, dress conservatively.

6.1.2. OG/CCs will determine clothing and equipment to be worn or carried aboard all flights commensurate with mission, climate, and terrain involved. **(T-2)**

6.2. Personal Requirements. As a minimum, at least one crewmember will carry a current SIPR Token on all missions where MDN usage is required. **(T-3)**

6.3. Pre-mission Actions. Before transiting areas outside the CONUS, aircrews will review theater-specific information necessary to successfully operate there. **(T-2)** At a minimum, aircrews will do the following:

6.3.1. Include in their review the planning documents AFMAN 11-202 Volume 3, Air Force Tactics, Techniques, and Procedures (AFTTP) 3-3.KC-46, *Combat Aircraft Fundamentals*, and the following:

6.3.1.1. Airspace/Airfield Review. Aircrews will use MAJCOM-approved NIPR and SIPR network websites. The AMC Aircrew Portal and theater-specific websites provide vital links to planning. Include FLIP, Flight Information Region (FIR)/Upper Flight Information Region (UIR)/Air Defense Identification Zone (ADIZ), Area of Responsibility (AOR), and Jeppesen™ procedures as well as study of runways, taxiways, and ramp areas. Check weight bearing capacities. Check adequacy of parking space and if adverse weather is possible, arrange for hangar space (if available). Verify the availability of aircraft stairs if required prior to mission departure. Check for DoD contract fueling/service/AGE availability prior to making any arrangements with airport facilities. If cold weather operations are expected, check snow removal and de-icing capabilities.

6.3.1.2. Airspace/Airfield Tolerances. Airspace classifications, AMC Giant Report, ASRR, NGA produced airport qualification program charts and/or commercially produced airport qualification and familiarization charts to meet the intent of FAA special pilot in command airport guidance.

6.3.1.3. Theater Instrument Procedures. Required instruments and/or procedures for Non-DoD Approaches, International Civil Aviation Organization (ICAO) course reversal approaches, circling, holding, Non-Directional Beacon (NDB) approaches, Host Nation/Jeppesen™ Approaches, and transition altitudes/altimeter setting procedures, terminal GPS coverage [Receiver Autonomous Integrity Monitoring (RAIM) check if applicable]. Notify appropriate MAJCOM Terminal Instrument Procedures (TERPS) office as soon as possible to request reviews of non-DoD procedures (unless using foreign instrument procedures with guidance provided in AFMAN 11-202V3).

6.3.1.4. Oceanic/Organized Track Systems. Consult NAT DOC 007 – *North Atlantic Operations and Airspace Manual* (NAOAM), FAA Oceanic NOTAMs, and FLIP Area Planning (AP) series, to verify MNPS airspace, Communications, Navigation, Surveillance/Air Traffic Management (CNS/ATM) and North Atlantic and Pacific Region Track Systems requirements.

6.3.1.5. Communication and Emergency Procedures. FLIP AP series, *Flight Information Handbook (FIH)*, C2, overwater position reporting, CPDLC procedures, lost communications procedures, emergency procedures, and weather information sources.

6.3.1.6. Border Clearance. Foreign Clearance Guide (FCG), Aircraft Clearance and Personnel Customs, Immigration, Agriculture, Insect and Pest Control, Diplomatic Clearance Log.

6.3.1.7. Flight planning. DD Form 1801, Jeppesen™ Approach Plates and Charts, theater weather conditions, fuel reserves and alternate requirements, ETOPS fuel requirements, DDG/MEL dispatch restrictions, Equal Time Points (ETP)/critical wind factors, and NOTAMs [RAIM - GPS, Air Route Traffic Control Center (ARTCC), en route and international NOTAMs].

6.3.1.8. Special Military Operations. Obtain Altitude Reservations (ALTRVs), AOR procedures, SPINS, ATOs and review "Due Regard" procedures if applicable to the mission.

6.3.1.9. Other Regulatory Requirements. General navigation procedures, aircrew flight equipment, hazardous cargo, crew rest/crew duty time, aircraft records/AFTO Form 781, procedures, Mission Essential Personnel, passenger handling, etc.

6.3.1.10. Location Information. C2 reporting procedures, maintenance problems, aircraft security, embassy/consulate contacts, social customs, billeting, transportation, and cash billing.

6.3.2. Obtain Data Transfer Devices (DTD) loaded with the appropriate mission data for the primary and alternate missions to be flown.

6.3.3. Obtain required customs forms.

6.3.4. Obtain terrain charts for unfamiliar destinations if available.

6.3.5. Compile sufficient spare forms, flight orders, etc. to cover the TDY period.

6.3.6. Passenger Restrictions. Release available seats to the maximum extent possible unless overriding safety, legal or security concerns prohibit space-available travelers from flying on specific missions. Passengers on DV airlift missions will normally be limited to those in the official party. **(T-3)** Authorization for additional passengers must be approved 24 hours in advance. **(T-3)** For AE missions, the PIC should consult with the medical crew director (MCD) to verify the number of aeromedical crew members, patients, and attendants.

6.3.6.1. Space-Available (Space-A) Passengers. For other than White House missions, PIC are authorized to release space-available seats on all mission legs. Coordinate with C2 agency to release available seats to the passenger terminal. PIC will release maximum space-available seats subject to the following restrictions:

6.3.6.1.1. Revenue Missions. These are missions for which the using agency (typically a government agency other than DoD) is reimbursing DoD for use of the aircraft. Space-A Traffic (SAT) must be approved 24 hours in advance by Air Force Special Air Missions Division (AF/CVAM), theater Air Mobility Division (AMD) or Joint Operational Support Airlift Center (JOSAC) (as appropriate) and the using agency contact officer through unit C2 agencies. This is essential to ensure proper funding and reimbursement. Consult C2 to determine mission revenue status if in doubt. Congressional Delegations (CODELs) are not revenue missions.

6.3.6.1.2. White House Support Missions. Space-available passengers will not be permitted aboard White House support mission aircraft without express permission of AF/CVAM. **(T-1)** This is normally due to the security status of the aircraft, which may include positioning and de-positioning legs. When it is necessary to move aircrew members or support personnel on White House support mission aircraft, the White House Military Office (WHMO) will be advised and permission obtained through the unit C2 and CVAM. On de-positioning legs space-available passengers should be permitted if the aircraft is no longer required to maintain an upgraded security status.

6.3.6.2. Billing. On revenue missions, passengers may be subject to being billed commercial first-class airfare by the using agency for the applicable route, depending on that agency's policy. The aircraft commander must ensure that any additional financial liability for the passengers is specified by the using agency on-board contact officer. Aircraft commanders will ensure passengers understand and agree to any reimbursement conditions prior to boarding.

6.3.7. Performance Data Compliance. The airplane must be operated in compliance with the limits and specifications contained in the Airplane Flight Manual (AFM) and FCOM. **(T-0)**

6.3.7.1. AFM and Non-AFM Limits. Limits and specifications are derived directly from Boeing's FAA Approved AFM, including recommended Non-AFM Limits. Flight crew are required to calculate the maximum allowable take-off weight limited by the criteria specified in the aircraft manual. Weight limitations are complied with when MAJCOM-approved performance planning tools are utilized.

6.3.7.2. Only MAJCOM-approved performance data (including special departure procedures) will be used. At a minimum, for each departure, destination, and alternate airport, data will be calculated to enable the flight crew to determine:

6.3.7.2.1. Maximum structural weights (taxi, take-off, landing). The airplane will not take-off at a weight greater than the Maximum Take-off Weight for the elevation and ambient temperature existing at take-off.

6.3.7.2.2. Take-off performance (accelerate-stop, close-in obstacles) that also ensures charting accuracy is accounted for, when necessary, in assessing take-off performance in the event of a critical power unit failing at any point in the take-off. The accelerate-stop distance must not exceed the length of the runway plus the length of any stopway.

6.3.7.2.3. Maximum brake energy and minimum cooling time.

6.3.7.2.4. Climb performance (distant obstacles).

6.3.7.2.5. Landing performance (minimum landing distance, go-around).

6.3.7.2.6. Aircraft engine-out long-range cruise altitude.

6.3.7.2.7. Aircraft engine-out drift down altitudes, as well as specific guidance and procedures that assure terrain clearance.

6.3.7.3. Flight crews will ensure the following factors are considered when calculating and verifying take-off, en route, and landing performance data: **(T-2)**

6.3.7.3.1. Aircraft weight.

6.3.7.3.2. Operating procedures.

6.3.7.3.3. Pressure altitude.

6.3.7.3.4. Temperature.

6.3.7.3.5. Wind.

6.3.7.3.6. Runway gradient.

6.3.7.3.7. Runway contaminant/braking action.

6.3.7.3.8. Obstacle data.

6.3.7.3.9. NOTAMs.

6.3.7.3.10. As applicable, MEL/DDG/CDL information.

6.3.7.3.11. Aircraft configuration (wing flap setting).

6.3.7.3.12. Anti-ice usage.

6.3.7.3.13. As applicable, runway length used for aircraft alignment prior to take-off.

6.3.7.3.14. As applicable, fuel freeze considerations during extended operations.

6.4. Aircrew Publications Requirements. Each primary crew member must carry an EFB with current publications, EFB guidance is provided in AMCI 11-270 *Mobility Air Forces Electronic Flight Bag Program* and *DAF TEMPEST MFR* for DODD 8100.2. Cargo loading publications are required for cargo loading/unloading operations. Units may specify additional publications in their local unit supplement to this manual. Reference AFI 11-215, *Flight Manuals Program*, for guidance on electronic publications. Unit OGV is responsible for maintaining current KC-46 publications on board the aircraft, if required.

Section 6B—Pre-Departure

6.5. Global Command and Control. Pilots will obtain and maintain access to the following global command and control systems prior to operating on 618 AOC (TACC) planned sorties:

6.5.1. Global Decision Support System (GDSS) website. **https://gdss.maf.ustranscom.mil/**

6.5.2. 618 AOC (TACC) website. **https://tacc.us.af.mil/**

6.5.3. Mattermost. **https://chat.il4.dso.mil/** Comply with the Mattermost ChatOps Collaboration for Global Command and Control of AFTRANS-Tasked Forces CONOP.

6.6. Mission Kits. Carry mission kits (**Table 6.1**) on all missions away from home station. Publications and forms may be maintained and carried electronically provided operable in-flight viewing or printing capability exists.

Table 6.1. Aircrew Mission Kits.

Section I – Publications
*DAFMAN 11-401, *Aviation Management*
DoD Manual (DoDM) 4140.25, Volume 3 – *DoD Management of Energy Commodities: Energy Commodity Infrastructure Operations*
*AFJI 11-204, *Operational Procedures for Aircraft Carrying Hazardous Materials*
*AMCI 11-208, *Mobility Air Forces Management*
*Airfield Suitability and Restrictions Report (ASRR)
*AMC Aircrew Border Clearance Guide
*Flight Crew Bulletin (FCB)
AFI 11-289, *Phoenix Banner, Silver, and Copper Operations.*
*AMC Pamphlet 11-3, *Birds Fly Free, AMC Doesn't*
*AFI 24-605 Volume 2, *Air Transportation Operations*
*AMCI 90-903, *Aviation Operation Risk Management (AvORM) Program*
Section II – Forms
*Customs Boarder Protection (CBP) Form 6059B, *Customs Declaration*
*DD Form 2131, *Passenger Manifest*
*CBP Form 7507, *General Declaration (Outward/Inward)*
*Standard Form (SF) 44, *Purchase Order-Invoice-Voucher*
AF Form 457, *USAF Hazard Report*
*AF Form 651, *Hazardous Air Traffic Report (HATR)*
*AFTO Form 781, *ARMS Aircrew/Mission Flight Data Document*
*AF Form 1297, *Temporary Issue Receipt*
**KC-46 Restraint Computation Worksheet*
AMC Form 54, *Aircraft Commander's Report on Services/Facilities*
AMC Form 97, *AMC In-Flight Emergency and Unusual Occurrence Worksheet*
AF Form 711B, *USAF Mishap Report*
*AMC Form 4031, *CRM/TEM Skills Criteria Training/Evaluation*

*AF Form 4075, *Aircraft Load Data Worksheet*
*DD Form 791, *DoD In-Flight Issue Log*
Japanese/Regional Customs Service Forms
Section III – Orders
AF Form 1631, *NATO Travel Order* (when required)
*AF Form 4327a, *Crew Flight (FA) Authorization* (or MAJCOM-prescribed according to DAFMAN 11-401.
Note: *Indicates mandatory for all 618 AOC (TACC) or AMC missions away from home station and as directed by C2 authority.

6.7. Flight Plan Verification.

6.7.1. One of the following methods may be used to verify flight plan waypoint data:

6.7.1.1. Latitude/longitude from current FLIP.

6.7.1.2. Bearing/distance from a flight plan after latitude/longitude are verified for each waypoint.

6.7.1.3. Ground Based NAVAIDs.

6.7.2. The following procedure will be utilized anytime flight plan waypoints are entered into the Flight Management Computer (FMC) and will be followed regardless of method of entry (DTD, CPDLC, AOC C2 Data, manual entry).

6.7.2.1. One pilot independently loads the FMC waypoints as depicted on the DD Form 1801, *DoD International Flight Plan*, or as cleared by ATC. **Note:** Pilots will refer to the ACK message and not the DD Form 1801 when operating in EUROCONTROL airspace.

6.7.2.2. The other pilot independently verifies the route was entered correctly in accordance with the filed flight plan or ATC clearance. Verify the Flight Management Function (FMF)-computed ETA and Fuel Remaining at destination are consistent with the Computer Flight Plan (CFP).

6.7.2.3. Both pilots should visually check that any RNAV departure, arrival, or approach is accurately depicted on the Navigation Display (ND).

6.8. Departure Planning.

6.8.1. Departure planning guidance is provided in AFMAN 11-202 Volume 3.

6.8.2. The MCDU Take-off Page V-speeds and climb performance data will be obtained from any of the following sources. **(T-2)** V-speeds and engine failure procedure must be derived from a single source. Mixing failure procedures from one source with takeoff data from another source invalidates the data. FCOM/Quick Reference Handbook (QRH) performance tab data will only be used when data cannot be obtained from these sources. **(T-2)** Software and databases must be current. **(T-2)**

6.8.2.1. OPT

6.8.2.2. APT

6.8.2.3. Jeppesen™ Runway Analysis (JRA) available from **https://milplanner.com**.

6.9. Minimum Take-off Weather.

6.9.1. Takeoff or landing is prohibited on a contaminated runway when the reported braking action conditions are medium-to-poor or worse, runway condition code 2 or less, or Runway Condition Reading (RCR) 9 or less. **(T-2)** Take-offs are not recommended when slush, wet snow, or standing water depth is more than 1/2 inch (13 mm) or dry snow depth is more than 4 inches (100 mm).

6.9.2. When weather is below CAT I minimums a take-off alternate is required. Do not use CAT II/III minimums to determine if a departure alternate is required.

6.9.3. Airfield and Aircraft Approach Capability. For IFR departures, the approach facility upon which weather minimums are based must be operational at the departure and alternate airports and the necessary aircraft approach equipment must also be operational.

Table 6.2. Takeoff Runway Visual Range (RVR) Minimums.

Mission	Visibility	Remarks
Operational (*Note 1*)	RVR 600 (180 meters)	When less than RVR 1600, but equal to or greater than RVR 600, the crew may take off if mission priority dictates, provided the runway has a minimum of 2 functioning RVR readouts (minimum RVR 600 on all functioning readouts), visual runway centerline markings, high intensity runway lighting (HIRL) and runway centerline lighting is operational. When 3 transmissometers are installed, all are controlling.
All Others (*Note 2)*	RVR 1600 (490 meters)	For runways with more than one operating RVR readout, RVR must read 1600 minimum on all **(T-2)**
Notes: 1. If the runway has only one functional RVR readout, no centerline markings, or no centerline lighting, the minimum RVR is 1600 **(T-2)** 2. In the absence of RVR readouts, reported visibility cannot be any lower than 1/2 SM (800 meters) **(T-2)**		

6.10. Adverse Weather.

6.10.1. The KC-46 is a category III aircraft for turbulence. Crews should confirm the type of aircraft the forecast turbulence applies to, or what type of aircraft reported the encounter, to gain a more accurate picture for their route of flight. Turbulence category charts are found in

Air Force Handbook (AFH) 11-203, Volume 2 – *Weather for Aircrews – Products and Services*.

6.10.1.1. The PIC is responsible for ensuring all passengers are seated, with seat belts fastened, when areas of moderate or greater turbulence are encountered or anticipated. The PIC will ensure the seat belts switch is ON when passengers are on board during these conditions. **WARNING:** Serious injury may occur if passengers do not have their seat belts fastened and the aircraft encounters moderate or severe turbulence.

6.10.2. When performing approaches and landings at locations where temperatures are 0°C or below, refer to AFMAN 11-202 Volume 3 and the FIH Section D, *Temperature Correction Chart*.

6.10.3. Anytime flight operations are directed within the vicinity of volcanic activity/ash, crews must stay alert for pockets of increased ash concentrations. Inadvertent ash penetration may be difficult to recognize, particularly at night or in IMC. Refer to the FCOM for further guidance.

6.10.3.1. If volcanic ash is encountered, immediate action must be taken to protect the aircraft and exit the affected area.

6.10.3.2. Crews that encounter volcanic ash or, when MAJCOM-directed, are planned to operate through low concentrations of volcanic ash will make a write-up in the AFTO Form 781 annotating altitude flown and duration of flight.

6.10.4. Lightning Avoidance. The Boom and CDS Fill Procedure will be accomplished whenever operating within 25 miles of known or suspected lightning, if not previously accomplished.

Section 6C—Pre-flight

6.11. Aircrew Flight Equipment Requirements.

6.11.1. Oxygen. The minimum quantity of oxygen aboard an aircraft before take-off must be sufficient to accomplish the planned flight from the ETP to recovery should oxygen be required. Calculate using the 100% oxygen chart in the performance dispatch section of the FCOM.

6.11.2. Crew members occupying or transiting the cargo compartment will have an Emergency Passenger Oxygen System (EPOS) or portable oxygen walk-around bottle with quick-don mask/helmet available for use in the event of an emergency when oxygen sources are not prepositioned throughout the cargo/passenger compartment.

6.11.3. AFTO Form 46, *Prepositioned Aircrew Flight Equipment.* Ensure all prepositioned Aircrew Flight Equipment (AFE) is serviceable, inventoried, and certified on the AFTO Form 46 prior to departing home station for TDY or deployment and following crew changes while TDY or deployed. Notify the AFE section of any on-board equipment shortages or unserviceable conditions. Record discrepancies on AFTO Form 781A.

6.12. Fleet Service. Ensure the required fleet service items are aboard the aircraft early enough to permit inventory prior to engine start. The crew bunks will not be used as a storage location (e.g., for fleet service items). **(T-2)**

6.13. Cargo Documentation. Proper cargo or mail documentation will accompany each load. **(T-2)** Load Data Information (Applicable to AFRC/ANG completing 618 AOC (TACC)-directed missions). At stations where there is no mobility air transportation function, the aircrew will collect the required load information on each leg and submit it to the first station with such a function. The report will be submitted on AF Form 4075.

6.14. Weight and Balance. The PIC has sole responsibility for aircraft weight and balance after the Boom Operator completes the DD Form 365-4, *Weight and Balance Clearance Form F-Transport/Tactical* transport side (or electronic equivalent), and any pilot validates the data via signature. Aircrew will select the "ALL" AR equipment deployment option within Automated Performance Tool (APT) to account for all curtailments and provide the greatest flexibility for in-flight changes. **(T-3)**

Section 6D—En route

6.15. Flight Progress.

6.15.1. Any input into the active flight plan or change to a navigation steering solution will be verified by both pilots. If not retrieved from the navigation database, check both the coordinate information and the distances between waypoints against the flight plan or FLIP products to the maximum extent possible to avoid navigation errors.

6.15.2. Immediately report Inertial Reference Unit (IRU) malfunctions or any loss of navigation capability that degrades centerline accuracy to the controlling air route traffic control center (ARTCC). See **Chapter 11** for detailed navigation procedures.

6.16. Communications.

6.16.1. Conduct a MAF C2 Message check before take-off if required for mission execution. **(T-3)** Initialize either the SIPRNet or NIPRNet side of the MDN with the MAF C2 system (MEIS and GDSS) based on mission/sortie/route classification. If C2 Messaging is not available, verify that an alternate means of secure C2 communication exists (text chat, voice, email, etc.).

6.16.2. Establish JTIDS network configuration and verify network sync.

6.16.3. Initialize ACARS prior to any flight-managed leg, or if required by mission execution authority.

6.17. In-flight Emergency Procedures. Aircrew guidance for reporting deviations is provided in AFMAN 11-202 Volume 3. Time and conditions permitting, inform passengers of the situation and intentions.

6.17.1. The PIC may initiate a CONFERENCE HOTEL/SKYHOOK when additional expertise is necessary. Communications procedures are as follows:

6.17.2. CONFERENCE HOTEL Boeing KC-46 In-flight Emergency Support. Boeing provides 24-hour support for KC-46 in-flight emergencies. To use this service: Contact C2 and/or obtain a phone patch to the number listed below, tell the operator you have an “IN-FLIGHT EMERGENCY” and identify the base or location in which the phone patching is established. This number is only to be used for in-flight emergency support: Commercial (714) 372-5800.

6.18. Weather Forecasts. Reference AFMAN11-202V3 and applicable MAJCOM supplements for approved weather sources.

Section 6E—Arrival

6.19. Instrument Approach Procedures.

6.19.1. The KC-46 is a category "D" aircraft. If maneuvering at speeds of 166 knots indicated airspeed (KIAS) or more, use category "E" minimums.

6.19.2. Prior to starting any instrument approach, ensure proper sequencing of waypoints to the missed approach waypoint if lateral path is followed. Missed approach climb gradient performance is provided in AFMAN 11-202V3 (all engines operating). If conducting an approach with One Engine Inoperative (OEI), crews should ensure missed approach routing keeps aircraft clear of obstacles. If no OEI missed approach instructions are provided, crews should coordinate with ATC to follow the published takeoff engine failure procedure routing for the intended runway.

6.19.3. Category I ILS and GLS Procedures. Decision Altitude for Cat I and GLS approaches will be as published, but no lower than 200 feet height above touchdown (HAT).

6.19.4. ILS Precision Runway Monitor (PRM) Approaches. Both pilots must be certified to conduct an ILS PRM approach. Refer to AFMAN 11-2KC-46 Volume 1 for certification procedures. Comply with the following operational procedures:

6.19.4.1. Two operational VHF communication radios are required.

6.19.4.2. The approach must be briefed as an ILS/PRM approach.

6.19.4.3. If unable to accept an ILS PRM approach clearance, contact the FAA Air Traffic Control System Command Center (ATCSCC) at 1-800-333-4286 prior to departure time to obtain a pre-coordinated arrival time. Pilots who arrive at a PRM airport unable to accept PRM approach clearance, who did not contact ATC prior to departure, should expect an ATC directed divert to a non-PRM airport.

6.19.4.4. All breakouts from the approach must be hand flown. Autopilots must be disengaged when a breakout is directed.

6.19.5. Established on a Segment of the Approach. When under radar vectors to final approach, when cleared for the approach, or when established on a segment of the approach and the weather is reported or observed to be below approach minimums, the PIC has the option of continuing the approach to the missed approach point (MAP)/DA. **Exception:** Do not continue a CAT II/III ILS if the weather is reported to be below CAT II/III minima unless you are established on glidepath between the Final Approach Fix (FAF) and the Alert Height (AH) or Decision Height (DH).

6.19.5.1. The PIC has final responsibility for determining when the destination is below designated minimums, and for initiating proper clearance request.

6.19.5.2. If the approach is abandoned, level off (or descend if a lower altitude is required for the missed approach procedure). Comply with the last assigned clearance until a new or amended clearance is received.

6.19.5.3. If the approach is continued, sufficient fuel must be available to complete the approach and missed approach and proceed to a suitable alternate with normal fuel reserve.

6.19.6. Holding. An aircraft may hold at a destination that is below landing minimums, but forecast to improve to or above minimums provided:

6.19.6.1. The aircraft has more fuel remaining than that required to fly to the alternate and hold for the appropriate holding time, and the weather at the alternate is forecast to remain at or above alternate filing minimums for the period, including the holding time.

6.19.6.2. Destination weather is forecast to be at or above minimums before excess fuel will be consumed.

6.19.7. Category II/III ILS

6.19.7.1. Certifications.

6.19.7.1.1. The KC-46A is certified to meet the Cat II and III criteria for operations with a Fail Operational (FO) Alert Height (AH) up to 200’ and Fail Passive (FP) Decision Height (DH) of 50’.

6.19.7.1.2. The KC-46A is certified for Cat III FO and FP operations with two engines operating.

6.19.7.1.3. The KC-46A is certified for Cat III FP autoland operations with one engine inoperative if failure occurs after established on the final approach course and in final flap (25 or 30 configuration IAW AFM and FCTM) if LAND 2 remains annunciated.

6.19.7.1.4. The KC-46A is certified to meet the performance requirements for Cat II with one engine initially inoperative, landing flaps 20, the airplane trimmed for the condition and LAND 3 or LAND 2 annunciated. Disconnect the autopilot at or before 100 feet.

6.19.7.2. Authorizations. Category II and III operations are authorized provided applicable qualification and currency requirements are met for both the PF and PM.

6.19.7.2.1. The PIC must have at least 100 hours in command since AC certification to fly a Cat II or III approach. **(T-3)**

6.19.7.2.2. Approaches are authorized to the lowest published ILS RVR minimums, but not lower than those required in the QRH Low Visibility Procedures approach category table. **Note:** Legacy terms Cat IIIa and Cat IIIb are being phased out in favor of publishing the lowest possible approach minimums; for clarification, Cat IIIa requires FP capability (LAND 2) and Cat IIIb requires FO capability (LAND 3).

6.19.7.2.3. Special Authorization (SA) Cat II Operations using autoland to touchdown are authorized. Aircrew are authorized to continue an SA Cat II approach if installed Touchdown Zone (TDZ) or Runway Centerline Lighting System (RCLS) fail or are listed as inoperative in NOTAMs.

6.19.7.3. Limitations and Restrictions. Do not continue a Cat II/III ILS if the weather is reported to be below Cat II/III minima prior to the FAF. An overweight autoland should not be accomplished. Either the left or right seat pilot can accomplish a Cat II approach. Only the left seat pilot will fly the Cat III approach.

6.19.7.4. Training Rules and Limitations. Cat II/III training and evaluations may be conducted with Cat I equipment unless NOTAM or approach plate restricted. Cat II/III approach training: weather must be no lower than 200 foot ceilings and ½ mile visibility (2400 RVR) or Cat I weather minimums, whichever is greater. **Note:** Since Cat I facilities are not flight checked below 100 feet, pilots should not conduct an autoland from a Cat I ILS under IMC unless acceptable aircraft performance was previously demonstrated under VMC; unit OGVs should maintain a list of local airfields with Cat I facilities where acceptable aircraft performance was demonstrated.

6.19.7.5. Preflight Preparation. In addition to normal flight preparation, the following planning and preparation must be performed when Cat II or Cat III approaches are anticipated.

6.19.7.5.1. Destination. Review NOTAMS to make sure that the destination airport meets Cat II or Cat III requirements to include runway and approach lighting, NAVAID availability, and RVR equipment availability. **(T-2)**

6.19.7.5.2. Aircraft Status. Check that required equipment for Cat II or Cat III approaches is operative. The requirement list is provided in the FCOM. Confirm that no AFTO 781 discrepancies affecting equipment required for Cat II or Cat III approaches exist. **(T-2)**

6.19.7.5.3. Jeppesen Low Visibility charts are available via ForeFlight and aircrew should download and/or otherwise obtain prior to flight.

6.19.7.5.4. Clearance. Unless low visibility procedures (LVP) are reported active by ATIS, notify ATC of the intent to fly an autopilot coupled approach or autoland prior to the FAF in accordance AFMAN 11-202V3.

Section 6F—Ground Operations

6.20. Classified Equipment and Material.

6.20.1. Equipment. When classified equipment is on-board or the classified Data Transfer Units (DTUs), AAQ-24 (e.g., LAIRCM), MDN, or TSAS are loaded, ensure the C2 Center or base operations office is aware of protecting classified material and components in accordance with DoDM 5200.01 Volume 3, *DoD Information Security Program: Protection of Classified Information,* and the requirement for aircraft security according to **Chapter 7** of this AFMAN. **(T-0)** At bases not under jurisdiction of the Air Force, ensure the aircraft and equipment are protected. For classified aircraft components which cannot be removed and stored, seal the aircraft. PHOENIX RAVENS will provide security at all AMC RAVEN required locations; otherwise, use guards employed by the host country for flight line/airport area control. **(T-2)** Do not leave classified information unattended or stored in navigation or radio equipment. Ensure classified Data Transfer Devices (DTDs) are removed from the Data Transfer Units (DTUs) upon completion of the sortie.

6.20.2. Material. Ensure COMSEC and other classified materials are turned in at destination and receipts are obtained for COMSEC and classified material. The on-site C2 center will provide temporary storage for COMSEC, and other classified materials during en route, turnaround, and crew rest stops. **(T-2)** Encrypted COMSEC will only be transferred to authorized DoD personnel. **(T-1)** If no U.S. facilities are available, crews will store classified

COMSEC in the installed aircraft secure material locker. **(T-2)** DTDs may always be stored in installed aircraft secure material locker. Place a seal on the locker and secure it with a GSA-approved lock. Aircrew will ensure the aircraft is secure. **(T-3)**

6.21. Unscheduled Landings. When an unscheduled landing or crew rest occurs at a base without a passenger facility, the PIC should immediately advise the appropriate C2 agency and request assistance in arranging substitute airlift for passengers on board. The following procedures apply when obtaining support for service members, in a group travel status, who are transported on AMC KC-46 aircraft flying a Transportation Working Capital Fund (TWCF) mission, which incurs an unscheduled delay due to weather, aircraft maintenance, or foreign diplomatic clearance problems, forcing the members to be lodged at that location until the aircraft can continue its mission:

6.21.1. If the delay is at a location where DoD facilities and AMC TWCF funds are available, payment for lodging (contract or on-base) and other required support is charged to local TWCF funds via the US Government Purchase Card (GPC) account, in accordance with locally established procedures. TWCF payment is applicable for only those service members in a group travel status aboard any KC-46 aircraft delayed at these locations, regardless of the command owning the aircraft, provided the aircraft is flying a TWCF mission (SAAM, CJCS Exercise, Joint Airborne/Air Transportability Training (JA/ATT), or Contingency) with an AMC mission identifier.

6.21.2. If the aircraft delay is at a location where TWCF funds are not available (regardless if DoD facilities are available or not), the KC-46 aircraft commander will utilize SF 44 authority to acquire the necessary meals, quarters, and transportation for only the group travel status passengers. **(T-2)** Upon return to home station, the aircraft commander will turn in the SF 44 to the local accounting liaison/budget office. **(T-2)** Supporting documentation should include a copy of the service members' group travel orders along with applicable invoices/receipts for lodging, meals, and other required support.

6.21.3. This guidance does not apply to those passengers traveling on delayed KC-46 aircraft flying TWCF missions who are authorized per diem on their individual travel orders or in a space-available status.

Section 6G—Miscellaneous

6.22. Cockpit Voice Recorder (CVR). If involved in a mishap or incident, after landing and terminating the emergency, pull the CVR power circuit breaker. This procedure keeps the CVR from recording over itself. If AOR SPINS direct clearing the CVR information, crews will utilize the Erase button on the right sidewall accessory panel during engine shutdown vice pulling the circuit breaker. **(T-2)** The CVR MIC switch must be placed in the ENCRYPT position prior to discussing classified or sensitive information. **(T-2)**

6.23. Airfield Data Reports. Aircrews transiting unfamiliar airfields or airfields where conditions may adversely affect subsequent flight will:

6.23.1. Report airfield characteristics that produce illusions, such as runway length, width, slope, and lighting, as compared to standard runways, sloping approach terrain, runway contrast against surrounding terrain, haze, glare, etc., and previously unknown obstacles, airfield markings, or other safety critical items to MAJCOM Airfield Suitability Branch, or per

an Aviation Safety Action Program (ASAP) submission using the Airman Safety App website at **https://asap.safety.af.mil**. **(T-2)**

6.23.2. Debrief the next C2 center transited. **(T-2)**

6.24. Wake Turbulence Avoidance. Comply with wake turbulence avoidance criteria. Acceptance of traffic information, instructions to follow an aircraft, or a visual approach clearance is acknowledgment that the PIC will ensure take-off and landing intervals and accepts responsibility of providing wake turbulence separation. **(T-2)** Refer to FLIP General Planning (GP) for more information concerning wake turbulence separation.

6.25. Overflying En route stops. The C2 agency may approve a request to overfly a scheduled en route stop (National Guard Bureau Current Operations (NGB/A3X) for ANG-directed missions, AFRC Command Center for AFRC-directed missions).

6.26. Aircraft Systems Operation.

6.26.1. Autopilot. The PF will determine the appropriate level of automation and announce or command the desired level of automation. The level of automation used should be continually assessed with changing flight environments, balanced with aircrew training needs.

6.26.1.1. If Autoland will not be accomplished, autothrottles must be disconnected no lower than 50ft radio altitude.

6.26.1.2. Split Automation. Use of autothrottles with the autopilot disengaged is permitted, provided intent is announced to the crew and autothrottles are disengaged no lower than 50ft radio altitude.

6.26.2. Load and operate MDN, TSAS, GPS, IFF, and secure voice/HAVE QUICK/Data keys to the maximum extent possible.

6.26.3. Encrypted Precise Positioning Service (PPS)-loaded military GPS is authorized as primary navigation for civil and tactical navigation unless directed otherwise by SPINS, command authority, or host nation guidance. If PPS codes are not available, pilots will select CIV GPS on the NAV OPTIONS page.

6.26.4. Zeroize all KC-46 COMSEC equipment after each flight before exiting the aircraft. Aircrew will conduct a visual check of all Information System (IS) equipment on the aircraft to ensure equipment is in place and classified material is removed.

6.27. Use of the E/E Bay Main Deck Access Panel. Passenger use of the E/E Bay Main Deck Access Panel to board or disembark from the aircraft will be at the discretion of the PIC.

6.28. Boom Fill Requirements. Boom fill procedures must be accomplished when expected to fly within 25NM of suspected lightning. Airborne, boom/CDS fill will be accomplished prior to final equipment stowage on every flight, if able.

Chapter 7

AIRCRAFT SECURITY

7.1. General. This chapter provides guidance on aircraft security and preventing and resisting aircraft piracy (hijacking) of the KC-46 aircraft. AFI 13-207-O, *Preventing and Resisting Aircraft Piracy (Hijacking) (FOUO)*, AFI 31-101, *Integrated Defense (ID)*, and specific MAJCOM security publications contain additional guidance. Aircrews will not release information concerning hijacking attempts or identify armed aircrew members or missions to the public. **(T-2)**

7.2. Security Protection Level. The KC-46 is a Protection Level 3 (PL-3) resource. When supporting OPLAN 801X, the KC-46 is a Protection Level 2 (PL-2). Aircraft security at non-United States military installations is the responsibility of the controlling agency.

7.3. Security Guidelines. The following security procedures will implement AFI 31-101, requirements for KC-46 aircraft:

7.3.1. The aircraft will be parked in an established restricted area and afforded protection, specific guidance is provided in AFI 31-101.

7.3.2. When no permanent or established restricted area parking space is available, establish a temporary restricted area consisting of a raised rope barrier, and post with restricted area signs. Portable security lighting will be provided during the hours of darkness if sufficient permanent lighting is not available. **(T-2)**

7.3.3. At non-United States military installations, the PIC determines the adequacy of local security capabilities to provide aircraft security commensurate with this chapter. If the PIC determines security to be inadequate, the aircraft will depart to a station where adequate security is available.

7.3.4. The security force must be made aware of all visits to the aircraft. **(T-2)** The security force POC must be identified to the PIC.

7.3.5. Security support is a continual requirement and is not negated by the presence of aircrew or ground crew members. Security force support terminates only after the aircraft doors are closed and the aircraft taxis.

Chapter 8

OPERATIONAL REPORTS AND FORMS

8.1. See MAJCOM Supplement.

Chapter 9

TRAINING AND OPERATING LIMITATIONS

9.1. General. This chapter outlines training guidance and applies to all KC-46 operational missions, local training, or off-station training flights.

9.2. Passengers on Training Missions. See DAFMAN 11-401.

9.2.1. Do not carry passengers with an unqualified pilot at the controls. **(T-3)** Initial qualification or re-qualification for pilots will not be conducted with passengers on board (N/A with MEPs). **(T-3)**

9.2.2. Mission certification training, evaluations, and off-station trainers may carry passengers only if the aircrew in training is qualified (valid AF Form 8 on file documenting successful completion of an aircraft evaluation including air refueling). Tanker and receiver AR is authorized if the pilot flying is qualified.

9.2.2.1. In order to accommodate training objectives or mission requirements, pilots (including non-current or unqualified pilots) and other aircrew members, when their presence is required by the training syllabus, are authorized to obtain and maintain qualification in a particular MDS aircraft and may occupy a pilot's seat for purposes of conducting training or accomplishing mission requirements when MEP are on board the aircraft. Guidance is provided in DAFMAN 11-401.

9.2.2.1.1. During such times, if the non-current/unqualified pilot or other aircrew member is in a pilot seat, a current and qualified instructor pilot will occupy the other pilot seat.

9.2.2.1.2. Unless specifically authorized in DAFMAN 11-401, pilots and other aircrew members not authorized to obtain or maintain aircraft qualification and will not occupy a seat with a set of controls with passengers or MEP on board.

9.2.3. Touch-and-go landings and multiple practice approaches are prohibited with passengers (N/A with MEPs). **(T-3) Exception:** When approved by the MAJCOM, maintenance and civilian employees, under direct contract to the DoD and engaged in official mission support activities, are considered "mission essential" and may be on board when touch-and-go landings are performed, provided the mission is a designated training flight and an IP or EP is in command. This includes Aircrew Training System (ATS) contractor instructors flying in an official capacity under the requirements of the current ATS contract.

9.2.4. Practice emergency procedures are prohibited with any passengers on board (N/A with MEPs), guidance provided in AFMAN 11-202 Volume 3. **Exception:** Practice emergency separations may be accomplished with passengers on board. Ensure all passengers are seated with seat belts fastened.

9.3. Touch-and-Go Landings. May be accomplished under the direct supervision of any qualified EP, IP or MP.

9.3.1. Limitations.

9.3.1.1. The minimum runway for touch-and-go landings is computed landing distance for the current runway condition using Autobrake 3. **(T-2)** Minimum runway width: 147 ft.

(T-2) Note: If there is a requirement to land beyond a runway barrier, the minimum runway required distances listed above will be calculated after the barrier. **Note:** A minimum of 7,000 ft. will be used for mission planning.

9.3.1.2. Minimum ceiling/visibility:

9.3.1.2.1. IP/EP: 300 ft. and 3/4 miles (4000 RVR). **(T-3)**

9.3.1.2.2. MP: 600 ft. and 2 miles visibility. **(T-3)**

9.3.1.3. Runway must have an RCR of 12 or greater, or a Field Condition (FICON) of 3 or greater for the entire runway. **(T-2)**

9.3.1.4. Do not accomplish touch-and-go landings on slush covered runways.

9.3.1.5. Touch-and-go landings with cargo on board is prohibited. **(T-3)** For local training sorties, the OG/CC may waive this restriction on a case-by-case basis. **Exception:** Airshow box, ATGL, tow bar, engine covers, crew baggage, seat pallets, empty pallet sub-floor or any Roll-On-Roll-Off (RORO) communications relay equipment are permitted during T&G.

9.3.2. When touch-and-go landings will be performed, the following must be reviewed:

9.3.2.1. Abort considerations. **(T-2)**

9.3.2.2. Engine failure, including recognition and corrective action. **(T-2)**

9.3.2.3. Proper use of speedbrakes, autobrakes, flaps, and trim. **(T-2)**

9.3.2.4. Expected aural and visual alerts during configuration changes. **(T-2)**

9.4. Operating Limitations.

9.4.1. Take-offs. Maximum takeoff wind limitations are in accordance with **Table 9.1**. **(T-2)**

9.4.2. Bank Angle. Normally, do not exceed 30 degrees of bank during traffic pattern operations. **Exception:** Up to 45 degrees of bank is authorized for steep turns and tactics maneuvers, to include VFR overhead. **(T-2)**

9.4.3. Landings. Maximum landing wind limitations are in accordance with **Table 9.1**. **(T-2)**

Table 9.1. Wind Limitations.

	Crosswind[1]	Tailwind	Headwind
Takeoff	40	10	N/A
Manual Landing			
NVG	20		
Manual Landing (Cat II)	10[3]		
Autoland (Cat I)	28		25
Autoland (Cat II/III)	15[3]		
Touch & Go	25 (EP/IP) 15 (MP)		N/A[2]

Notes:

[1]Or OPT recommended maximum crosswind, whichever is lower

[2]If performing an Autoland touch & go, comply with Autoland limits

[3]Limit only applies when low visibility operations are in effect.

9.5. Training on Operational Missions. Crews may perform multiple approaches and touch-and-go landings on operational airlift and 618 AOC directed missions provided they coordinate with appropriate agencies.

9.6. Simulated Emergency Flight Procedures.

9.6.1. Do not practice emergency procedures that degrade aircraft performance or flight control capabilities (in-flight). **(T-2)**

9.6.2. In an actual emergency, terminate all training and flight maneuver practice. Training should be resumed only when the PIC determines it is safe.

9.7. Flight Maneuvers.

9.7.1. The following maneuvers or procedures are prohibited for training and evaluation in the aircraft and may only be practiced in the flight simulator. **(T-2)**

9.7.1.1. Rejected take-off.

9.7.1.2. Dutch roll.

9.7.1.3. Simulated emergency rapid descent.

9.7.1.4. Simulated runaway trim malfunctions.

9.7.1.5. Non-normal configuration approach or landing.

9.7.1.6. Full stalls or approach to stall maneuvers including initial buffet/stick shaker.

9.7.1.7. Landing with stab trim cutout.

9.7.1.8. Simulated engine out operations.

9.7.1.9. Unusual attitudes.

9.7.1.10. Bank angles greater than 45 degrees.

9.7.1.11. Tactics maneuvers (except those specified in AFTTP 3-3.KC-46, Tactics Bulletins, or otherwise specifically authorized by MAJCOM/A3).

9.7.2. The air refueling boom envelope limits demonstration is authorized for qualification and continuation training, with a qualified IP in a pilot seat. Aircrew will reference the flight manual and other directives for applicable restrictions. The pilot or IP will alert all crew members prior to accomplishing the maneuver.

9.7.3. When executing a practice instrument missed or low approach, initiate the practice instrument missed approaches no lower than the minimum altitude for the type of approach executed, MDA, DH or AH.

9.7.3.1. For planned go-around from a visual approach or VFR pattern, initiate the maneuver no lower than 100 ft. AGL

9.8. Operational Limitations. The following aircraft equipment and/or procedures are restricted to operational mission necessity only:

9.8.1. Thrust Bump.

9.8.2. Manual Fuel Off-load procedure.

9.8.3. Manual Fuel On-load procedure.

9.8.4. Main Fuel Standpipe Bypass.

9.9. Aerial Refueling Limitations. May be accomplished under the direct supervision of any qualified EP, IP or MP.

9.9.1. For receiver pilot initial qualification or requalification, the receiver instructor/evaluator pilot will be in one of the pilot seats with immediate access to the controls through all phases of the refueling from astern until post air refueling. **(T-2)**

9.9.2. Receiver AAR Training for Unqualified Receiver Pilots. The following procedures apply:

9.9.2.1. The receiver pilot must inform and receive acknowledgment from the tanker. **(T-2)**

9.9.2.2. The boom operator, operating the boom controls must be qualified. **(T-2) Note:** This restriction does not apply during FTU training provided the student boom operator is under direct instructor supervision.

9.9.2.3. A qualified pilot will fly the receiver aircraft if the tanker autopilot is off. (T-2) Note: This restriction does not apply during FTU training provided the unqualified receiver pilot and the unqualified tanker pilot are under direct IP supervision.

9.9.3. Boom Operator Qualification or Training. Unqualified and non-current boom operators must be under direct instructor supervision to conduct AR operations. **(T-3)**

9.10. Instructor or Flight Examiner Briefings. Before all training and evaluation missions, instructors or flight examiners will brief their crew on the requirements and objectives for each student or evaluatee.

9.11. Alert Responses. During alert response, minimum engine oil temperature may be disregarded prior to take-off as long as there is indication of positive oil pressure.

Chapter 10

BIOLOGICAL THREAT ENVIRONMENT CONCEPT OF OPERATIONS

10.1. Overview. All guidance regarding biological threat can be found in the Air Mobility Command continuing Operations in a Biological Threat Environment Concept of Operations found in AMC Aircrew ePubs under “All_Global”.

Chapter 11

NAVIGATION PROCEDURES

11.1. General. This chapter establishes procedures and requirements for worldwide en route KC-46 navigation. It is to be used in conjunction with procedures and requirements set forth in AFMAN 11-202 Volume 3, and FLIP. KC-46A CNS/ATM operational approvals are listed in **Table 11.1**. Since airspace and associated navigational aid equipment capability are rapidly evolving, pilots must maintain an in-depth knowledge of current requirements, guidance, and procedures.

Table 11.1. KC-46A CNS/ATM Operational Approvals.

Airspace/Equipment Type	Aircraft Certified	Operational Approval	Pilot Training Required	Notes
8.33 Radios VHF Voice	Yes	Yes	No	
25 kHz VHF Voice	Yes	Yes	No	
HF Voice	Yes	Yes	No	
SATCOM Voice	Yes	Yes	No	
FANS 1/A	Yes	Yes	No	
FANS-2 (FANS 1+ATN)	Yes	Yes	No	
CPDLC (ATN)	Yes	Yes	No	
ADS-A/C	Yes	Yes	No	
VDL Mode A	Yes	Yes	No	
VDL Mode 2	Yes	Yes	No	
HFDL	Yes	Yes	No	
ACARS	Yes	Yes	No	
SATCOM (INMARSAT™)	Yes	Yes	No	
Mode A/C	Yes	Yes	No	
Mode S (ELS, EHS)	Yes	Yes	No	
ADS-B Out	Yes	Yes	No	
TCAS II	Yes	Yes	Yes	Training incorporated into initial qualification
TAWS	Yes	Yes	No	
Weather Radar	Yes	Yes	No	
RVSM	Yes	Yes	Yes	Training incorporated into initial qualification
Basic-RNP 1, RNP APCH (RNP 2)	Yes	Yes	Yes	Training incorporated into initial qualification
RNP AR (FAA), RNP AR APCH (ICAO)	Yes	Yes	Yes	Min RNP 0.10 DA. Training incorporated into initial qualification
RNAV Dep/Arrival	Yes	Yes	No	

RNP 4	Yes	Yes	No	
RNP 12.6	Yes	Yes	No	
RNAV 10 (RNP 10)	Yes	Yes	No	
RNAV-5 (RNP 5, BRNAV)	Yes	Yes	No	
PNAV 1 & 2 (PRNAV, USRNAV A, B, Q & T)	Yes	Yes	No	
RNAV on Conv Term Proc	Yes	Yes	No	
RNAV	Yes	Yes	No	
RNAV (GPS) or GPS	Yes	Yes	No	
RNAV (RNP)	Yes	Yes	No	
RNAV (AR)	Yes	Yes	Yes	Training incorporated into initial qualification
LNAV	Yes	Yes	No	
VNAV	Yes	Yes	No	
LNAV/VNAV	Yes	Yes	Yes	Training incorporated into initial qualification
B-VNAV	Yes	Yes	No	
GLS CAT I	Yes	Yes	No	
SBAS	Yes	Yes	Yes	Training incorporated into initial qualification
LPV	No	No	N/A	
FM Immunity ILS/VOR	Yes	Yes	No	
NDB	Yes	Yes	No	
VOR	Yes	Yes	No	
ILS Cat I, II, IIIA/IIIB	Yes	Yes	Yes	Training incorporated into initial qualification
SMCGS	Yes	Yes	Yes	Training incorporated into initial qualification
LOC/LDA/SDF/BC	Yes	Yes	No	
NAT HLA (Formerly MNPS)	Yes	Yes	No	
ETOPS	Yes	Yes	Yes	ETOPS 180. Training incorporated into initial qualification
ELT-406 MHz	Yes	No	No	
PBCS	No	No	No	
ASEPS	No	No	No	Requires ADS-B ON and PBCS Letter of Compliance

11.2. Navigation Databases.

11.2.1. Flight Planning Navigation Database. Pilots are responsible for ensuring the accuracy of flight plan waypoints against current aeronautical charts, terminal instrument procedures, or

FLIP documents (e.g., AP/1B). These flight plans may be saved to either classified or unclassified DTDs and loaded directly into the FMF using the FMF DTU.

11.2.2. Aircraft Navigation Database. For enroute operations with expired database, coordinate with mission execution authority, guidance provided in AFMAN11-202V3_AMCSUP. Operation with an expired navigational database must be conducted in accordance with the Dispatch Deviations Guide. All waypoint data retrieved from the FMF with an expired database must be verified using one of the following methods:

11.2.2.1. Latitude/longitude from current FLIP. **(T-2)**

11.2.2.2. Bearing/distance from a flight plan after latitude/longitude are verified for each waypoint. **(T-2)**

11.2.2.3. Ground Based NAVAIDs. **(T-2)**

11.3. Oceanic Flight. Maintaining situational awareness during oceanic flight is essential to the safe conduct of the flight. Situational awareness includes, but is not limited to, positional awareness and accurate fuel updates. **Note:** Use of a MAJCOM-approved oceanic checklist is mandatory, and all items will be interpreted as "will" instead of "should." **Note:** The following information regarding Air Data Inertial Reference Units (ADIRU) also applies to extended flight in non-radar environments where position reporting is required.

11.3.1. In-flight, use all available NAVAIDS or the POS function of the navigation display to monitor ADIRU performance. Immediately report malfunctions or any loss of navigation capability, which degrades centerline accuracy to the controlling ARTCC. The auto-tune capability of the FMC satisfies this requirement of monitoring ground based NAVAIDs when operating properly.

11.3.2. A maximum of one ADIRU advisory (L/C/R IRS) may be present at the oceanic entry point. Periodic crosschecks will be accomplished to identify navigation errors and prevent inadvertent deviation from ATC-cleared routes. Advise ATC of the deterioration or failure of navigation equipment below navigation performance requirements and coordinate appropriate actions.

11.3.3. Loss of one or two ADIRU does not significantly affect navigation accuracy. Operation on one remaining ADIRU should be limited to diversion to the nearest suitable airport.

11.4. North Atlantic High-Level Airspace (NAT HLA) Operations.

11.4.1. Operations within the North Atlantic area's NAT HLA Canadian Airspace, or selected Pacific routes are designed for IRS autopilot-coupled operation (see FLIP AP/2, **Chapter 5** and AFMAN 11-202 Volume 3). When not engaged in AR operations, aircrews will adhere to these procedures. Comply with FLIP for operations in North Atlantic High Level Airspace, Central East Pacific Route System (U.S. West Coast to Hawaii) and North Pacific Composite Route System (NOPAC) between Alaska and Japan.

11.4.2. Malfunctioning equipment that reduces the aircrew's capability to comply with NAT HLA, whether occurring prior to, or within NAT HLA airspace, will immediately be reported to the controlling agency and subsequent agencies throughout the route of flight. Prior to airspace entry, aircrews will return to the nearest maintenance repair facility unless the aircraft has a minimum of two operable and correctly functioning IRUs, unless specifically cleared to

proceed along original, or revised routing by the controlling agency. If subsequent failures occur, advise ARTCC, comply with track restrictions, and use all means available (HF DR, dead reckoning, etc.) to ensure navigation accuracy.

11.4.3. When flying in NAT HLA airspace, exercise special caution to ensure the coordinates of the assigned track and associated landfall and domestic routings are fully understood and correctly inserted into the automatic DR navigation system with appropriate cross-checks. If at any time the route (re-routing, if appropriate) is in doubt, confirm the details with ARTCC facility.

11.4.4. When flying in NAT HLA airspace, crews will utilize Strategic Lateral Offset Procedures (SLOP) to the maximum extent possible. Refer to the North Atlantic Operations and Airspace Manual further information on SLOP.

11.5. Required Navigation Performance (RNP) Airspace. Airspace where RNP is applied is considered special qualification airspace and can be determined by referencing the applicable theater AP publication. The PIC is responsible for a thorough review of the aircraft forms and maintenance logs to ascertain the status of RNP equipment. During flight, immediately notify ATC if any of the required equipment fails after entry into RNP airspace and coordinate a plan of action. Document in the aircraft forms any malfunctions or failures of RNP required equipment, including the failure of this equipment to meet RNP tolerances (e.g., UNABLE RNP or increasing Actual Navigation Performance (ANP)).

11.6. FM Immunity (FMI). The KC-46 is equipped with dual FMI VHF navigation receivers and is fully compliant. Refer to the applicable Area Planning series for more information concerning FMI operations.

11.7. High Latitudes/Grid Navigation/Polar Routes. The KC-46 FMC automatically starts polar operations when the calculated airplane position enters a polar region. Reference FCOM and FCTM for further information. Use of Polar Routes is authorized. Operation of the KC-46 should be limited to between 87 degrees north latitude and 87 degrees south latitude. Review polar route navigation procedures in FLIP (Arctic Control Area, NavCanada, Alaska Supplements, etc.). Ensure alternates qualify and are suitable for use. Comply with all cold weather limitations and procedures in the FCOM (fuel temperature, cold weather operations, etc.). See Polar Operations in the FCOM and FCTM for further information.

11.8. Extended Operations (ETOPS) Procedures - Peacetime. ETOPS source information can be found in ICAO Doc 10085 and FAA AC 120-42B during peacetime and when transiting inter theater.

11.8.1. ETOPS Requirements:

11.8.1.1. Adequate Airfield. To be an ETOPS Adequate Airfield, it must:

11.8.1.1.1. Be suitable per the GDSS Airfield Detail (Giant Report) for KC-46A operations. **(T-3)**

11.8.1.1.2. Have a suitable, FMC accessible, instrument procedure available for the planned approach from earliest to latest divert arrival time (+/- one hour). **(T-3)**

11.8.1.1.3. Be open from earliest to latest planned divert arrival time. **(T-3)**

11.8.1.1.4. Not be on the Special Pilot in Command List or on the Certification Airfield List. **(T-3)**

11.8.1.1.5. Have appropriate fuel available. **(T-3)**

11.8.1.1.6. Not be disqualified due to diplomatic/political considerations. **(T-3)**

11.8.1.2. ETOPS Alternate Airfield. Must meet the Adequate Airfield criteria for ETOPS operations, plus all of the following:

11.8.1.2.1. Meets AFMAN 11-202V3 alternate weather minimums. **(T-3)**

11.8.1.2.2. AFMAN 11-202V3 alternate disqualifying conditions apply. **(T-3)**

11.8.1.2.3. Meet landing performance criteria and RCR/RSC/FICON corrected wind limitations. **(T-2)**

11.8.1.2.4. Have a minimum Aircraft Rescue and Fire Fighting (ARFF) Category 4 (or equivalent). **(T-3) Exception**: for diversion times greater than 180 minutes, minimum ARFF Category 7 is required. **(T-3)**

11.8.1.3. ETOPS Area of Operation (EAO). The KC-46A is certified for 180 minute ETOPS. Specified 180-minute range is 1,236 nautical miles (412 KTAS x 180 minutes). The DDG/MEL may further reduce this time to 120 minutes or 60 minutes for certain inoperative equipment.

11.8.1.4. Computerized Flight Plan. An ETOPS-certified computerized flight plan will be formulated for each flight conducted through an EAO. (T-2) AMC-approved flight planning systems for the KC-46 will automatically identify the EAO and factor it into route planning considerations. The CFP will identify ETOPS Adequate and Alternate airfield(s) used to define the EAO, provide Equal Time Point(s) (ETP), designate the Critical Fuel Point , and calculate the minimum fuel required (critical fuel) from the Critical Fuel Point to the closest ETOPS Alternate using the ETOPS contingency scenarios (ref. ICAO Doc 10085 & AC120-42B for details).

11.8.1.5. Pre-departure Briefing. During the PIC's pre-departure briefing call to the flight manager, the PIC will be briefed on en route and ETOPS airport weather, selected alternates, and whether the route conforms to ETOPS limitations, as applicable. **(T-3)**

11.8.2. Abnormal Extended Range Operations Prior to Flight:

11.8.2.1. Lower-than-Standard Preflight Weather Minima. If a suitable ETOPS Alternate Airfield cannot be found, select a suitable alternate having a ceiling and visibility greater than or equal to the lowest suitable approach minimums available (excluding radar) for the expected runway in use, but not less than a ceiling of 200 feet and a visibility of 1/2 statute mile (800 meters) or RVR 2400 (730 meters), whichever is higher; and winds within the operational limits of the aircraft, corrected for runway conditions. The FM and PIC will evaluate the weather and diversion scenario, and will formulate an understanding of the preferred diversion airports and scenarios that may be used during the portion of the flight affected by airports having non-standard minima.

11.8.2.2. ETOPS Waivers **(T-3)**

11.8.2.2.1. Due to Route. If the flight plan does not result in achieving ETOPS compliance, the flight manager will provide detailed information to assist the PIC in formulating the most appropriate decision. The Mission Detail and/or crew papers will advise the crew of waiver request and/or approval.

11.8.2.2.2. Due to Mechanical. If, during aircraft preflight, an aircraft system component fails which affects ETOPS dispatch, the PIC will notify the flight manager of the system failure and discuss alternate options. The flight manager must evaluate the flight plan and determine if the route can be flown within the new restriction. If unable, the PIC may request an ETOPS waiver with respect to the requirements of the DDG/MEL.

11.8.2.2.3. Waiver Process. C2 may request a waiver to ETOPS equipment or time restrictions during sortie planning and prior to aircrew alert. C2 will use the same format as a PIC waiver request. When requesting a waiver for ETOPS time restrictions, waiver will state the requested diversion time and reason. A waiver must state applicable passenger carrying restrictions. Any ETOPS waivers must be fully briefed to, and have the concurrence of, the PIC before departure.

11.8.3. ETOPS En route Operations.

11.8.3.1. ETOPS Flight Following. Flights planned to operate within an EAO will use a MAJCOM-approved flight following system. **(T-2)** Any ETOPS trained AOC may act as a flight flowing agent.

11.8.3.2. Prior to Entering EAO.

11.8.3.2.1. The FM will contact the aircraft prior to the aircraft entering the EAO with a status of ETOPS alternates. The PIC will provide updated aircraft equipment status/ETOPS suitability. Aircrew will not enter the EAO if a condition prevents ETOPS compliance. **(T-3)** If the crew has not been contacted by the controlling agency 30 min prior to EAO entry, the PIC will initiate contact.

11.8.3.3. Mechanical Status Upon Arrival. Upon arrival at the destination airport, the PIC must notify the FM on the condition of the aircraft. Specific attention should be given to items that could affect the aircraft's ability to meet ETOPS requirements for proper planning of the next flight segment(s).

11.9. Alternate Long-Range Procedures (ALRP) – Contingency Operations. Utilize the following alternate long-range procedures when ETOPS procedures are not operationally feasible (e.g. named exercises, real-world contingency operations). Use of ALRP in lieu of ETOPS must be approved by the mission execution authority (delegable no lower than OG/CC or equivalent). **(T-2) Note:** Lack of prior ETOPS coordination is not sufficient justification for an ETOPS waiver/ALRP approval.

11.9.1. ALRP Requirements. Comply with all items in **section 11.8**, except as outlined below.

11.9.2. ALRP Operating Area (AOA). For ALRP operations, a static 400NM range will be used to approximate 60 minutes. Operations must remain within a 180-minute ALRP range of 1,200 nautical miles **(T-2)** AOA will be determined using ETOPS Adequate Airfield and Alternate Airfield criteria.

11.9.3. Aircraft Equipment & Servicing. DDG ETOPS requirements & restrictions apply to ALRP. Additionally, ETOPS Auxiliary Power Unit (APU) start requirements apply (reference **section 12.6**). Ground servicing functions may be accomplished IAW QRH Special Fueling Operations (SFO) Procedure (OI Section) if aircrew do not have flying crew chiefs on board.

11.9.4. Waivers. For mechanical (DDG) and route waivers, follow waiver requirements in **paragraphs 4.4.1**. & **11.8.2**.

11.9.5. Mission Planning Cell. The MPC will provide the following in lieu of AOC flight management support:

11.9.5.1. Computerized Flight Plan. A computerized flight plan will be generated for each flight conducted under ALRP using an AMC-approved flight planning system. **(T-2)** ALRP Adequate and Alternate airfield(s) will be identified. Critical fuel values will be calculated using QRH Performance Inflight data for the depressurized engine-out scenario.

11.9.5.1.1. Point-to-Point Routing. If route is relatively linear, mission planner will identify ETP(s), designate a Critical Fuel Point, and calculate Critical Fuel value(s).

11.9.5.1.2. Contingency Operations Routing. For Extended Military Operations (EMO) where routing does not lend itself to ETP/CFP designation (i.e. maneuvering throughout an airspace/AOR, likelihood for route retasking, etc.), mission planner will instead identify minimum "joker" critical fuel values at predetermined distance intervals from the designated alternate(s). At a minimum, critical fuel values will be provided for (1) the 400NM range, and (2) a range greater than the farthest operating distance for the scenario (may not exceed 1200NM). Additional intermediate distance intervals may be provided to afford greater mission flexibility and reduce onboard fuel requirements.

11.9.5.1.3. AOA Chart. A chart will be provided to crews, with ALRP range rings/critical fuel values depicted. This may be provided as a TSAS map, ForeFlight overlay, FMC user boundary, or data card/paper chart.

11.9.5.2. Flight Follower. A designated flight follower will retrieve weather and NOTAMs for the designated ALRP Alternate Airfield(s) prior to flight. Once airborne, the flight follower will monitor ALRP airfield status, and relay information to the aircrew via BLOS communications (i.e. SATCOM, NIPR/SIPR chat, JREAP, HF Radio, ACARS).

11.9.6. Aircrew Procedures. Crews will utilize approved ETOPS/EMO checklists/procedures to the maximum extent practical, to include preflight and airborne requirements.

11.9.6.1. The PIC will conduct a pre-departure briefing with the MPC flight follower, verifying ALRP airfield and enroute weather, NOTAMs, critical fuel points/joker fuel values, and any range-limiting maintenance conditions, as applicable. **(T-3)**

11.9.6.2. Once airborne, the PIC will ensure adequate communications capabilities are maintained with the MPC. Crews will monitor the status of the ALRP Alternate Airfield(s) via D-ATIS, ADS-B/FIS-B, MDN, voice, MPC reach-back, or other means. Crews will ensure sufficient fuel is maintained to operate within the designated distance region, and must retrograde prior to dropping below that region's critical fuel value. Once within 400NM, utilize normal fuel reserve requirements.

Chapter 12

AIRCREW MAINTENANCE SUPPORT PROCEDURES

12.1. General. This chapter contains aircrew procedures not contained in the flight manual, other portions of this AFMAN, or other publications.

12.2. Responsibilities. Aircrews may assist the normal maintenance function when critical contingency tasking dictate their use, provided this action does not impact crew duty and crew rest limits specified in **Chapter 3** of this AFMAN.

12.3. Aircraft Servicing and Ground Operations. Aircrews are normally not required to service the aircraft; however, aircrew members current in aircraft servicing may assist maintenance personnel in servicing the KC-46. The aircraft servicing course does not qualify crews to perform maintenance tasks.

12.3.1. Concurrent Ground Operations. Concurrent ground operations (simultaneous refueling or defueling while maintenance operations are being performed) will be in accordance with T.O. 00-25-172, *Ground Servicing of Aircraft and Static Grounding/Bonding* and applicable KC-46 aircraft maintenance manuals for approved concurrent maintenance actions. In accordance with T.O. 00-25-172, movement into or within the safe area must be under control of the chief servicing supervisor. Individuals must properly ground themselves before boarding the aircraft or handling fuel-servicing equipment.

12.3.2. Engine Running Defueling. Defueling ("Hot Defuel") will be conducted in accordance with the aircraft flight manual by crews that have been authorized and certified according to AFMAN 11-2KC-46 Volume 1 and AFI 11-235 – *Specialized Refueling Operations*. Hot defueling training must be conducted at locations approved for Forward Arming and Refueling Point (FARP) operations in accordance with AFI 11-235 or hot pit refueling in accordance with AFI 21-101 – *Aircraft and Equipment Maintenance Management*.

12.3.3. Lavatory and Potable Water Servicing. The latrine and Air Transportable Galley and Latrine (ATGL) (if applicable) will be serviced or verified to a level that will allow for mission completion prior to any take-off from a location with compatible fleet service equipment. An AFTO Form 781 write-up will be made if the water system is serviced with non-potable water and the galley will be isolated prior to servicing with non-potable water.

12.4. Aircraft Recovery Away from a Main Operating Base. When an aircraft will land at a base other than the home station and follow-on tasking includes planned or potential ETOPS operations, two ETOPS qualified maintainers will accompany the aircraft. **(T-2)** The PIC is responsible for ensuring the aircraft is turned to meet a subsequent mission tasking.

12.4.1. The PIC is responsible for the recovery items including:

12.4.1.1. Parking and receiving.

12.4.1.2. Aircraft servicing, including Aircraft Ground Equipment (AGE) usage.

12.4.1.3. Supervision of minor maintenance within local capability.

12.4.1.4. Minor configuration changes to meet mission tasking.

12.4.1.5. Securing the aircraft before entering crew rest.

12.4.1.6. Coordinating aircraft security requirements.

12.4.1.7. Documenting AFTO Form 781-series forms.

12.4.2. Aircrews are not qualified to accomplish the required ground inspections. In those instances where maintenance personnel are not available, the aircrew will enter a red dash symbol and a discrepancy that reflects that the applicable maintenance inspection (e.g., pre-flight, thru-flight, basic post flight) is overdue in the AFTO Form 781A. **(T-2)**

12.4.3. Lightning strike. Maintenance personnel trained in KC-46 maintenance procedures must perform required inspections following a lightning strike. **(T-2)**

12.5. Aircraft Autoland Currency. Aircraft autoland currency will be maintained by accomplishment of an autoland every 30 days. Aircraft maintenance will notify the aircrew that an autoland is required for currency on aircraft. If an autoland cannot be performed and aircraft is scheduled for deployment or HHQ tasked mission, maintenance will accomplish a ground check of the autoland system. Any lapse of autoland system currency will be annotated in the aircraft's AFTO 781 series forms and G081. The autoland status of the aircraft will be annotated in the aircraft's AFTO Form 781A. In the event that an autoland cannot be accomplished prior to currency requirement, an AFTO Form 781A entry will be entered that states: AUTOLAND OPERATIONAL CHECK OVERDUE under a Red Dash. All other autoland reporting documentation will be in accordance with T.O. 00-20-1, *Aerospace Equipment Maintenance Inspection, Documentation, Policies, and Procedures.* **(T-2)**

12.6. Verification Flight of an ETOPS APU. Following certain maintenance events of an APU and every 120 days as part of the ETOPS APU start program, maintenance will request that a Verification Flight of the APU be performed via a discrepancy in the AFTO Form 781A. Use the following procedures when an ETOPS verification flight of the APU is to be performed.

12.6.1. If the APU start verification is to be performed on a non-ETOPS flight:

12.6.1.1. The APU start should be attempted after at least a 2-hour cold soak and prior to the top of descent, or if above FL300 start should be attempted prior to top of descent (cold soak not required).

12.6.1.2. Three in-flight start attempts are allowed in order to achieve a successful start.

12.6.1.3. A successful start is defined as stable operation for at least one minute.

12.6.2. If the APU start verification is to be performed on an ETOPS flight, the start should be attempted on the return leg of the mission. An APU start verification may be completed after entering ETOPS and just prior to descent as described below.

12.6.2.1. Start the APU prior to pushback and shut it down 2 hours prior to the top of descent if outside of ETOPS airspace. If above FL300 shut the APU down just prior to top of descent.

12.6.2.2. After a 2-hour cold soak at cruise altitude, attempt an APU start.

12.6.2.3. Three in-flight start attempts are allowed in order to achieve a successful start.

12.6.2.4. A successful start is defined as stable operation for at least one minute.

12.6.3. Overdue Inflight Start. If APU start is overdue and an ETOPS flight must be accomplished, depart and cold soak the APU, then conduct an inflight start prior to the EEP.

If APU start fails, the aircraft cannot enter ETOPS. If flight will reach EEP within approximately 60 minutes after takeoff (e.g. island/remote airfields), depart with the APU running, shut APU down 2 hours prior to top of descent, then attempt the inflight start prior to top of descent.

12.6.4. Record the results in the AFTO Form 781A:

12.6.4.1. APU in-flight start successful (Y or N).

12.6.4.2. Number of attempts.

12.6.4.3. Altitude.

12.6.4.4. Total Air Temperature (TAT) degrees Celsius.

Chapter 13

CARGO AND PASSENGER HANDLING PROCEDURES

13.1. General. The boom operator coordinates on/off-loading with ATOC or shipping agencies, plans loads, and supervises on/off-loading operations. Performs pre/post flight checks of aircraft and systems, and computes aircraft weight and balance, ensures safety and comfort of passengers and troops, and security of cargo, mail, and baggage during flight. **(T-2)**

13.2. Air Transportable Galley/Lavatory (ATGL). AFLCMC/WNZ has conducted preliminary crash testing of the ATGL, alternatively referred to as a comfort pallet or portable lavatory. The results of a 3G impact revealed a potential for contents being displaced from stowage locations in the ATGL galley, service tables coming loose, and additional equipment dislodging from its intended stowage compartments. As a result of the preliminary crash testing the following usage instructions/restrictions apply:

13.2.1. Coffee pots will be emptied and stowed when not in use and/or during all critical phases of flight. **(T-2)**

13.2.2. Boom operators will conduct a hands-on inspection of ATGL J-bolts fastening the capsule to the pallet during aircraft pre-flights. J-bolts will not be missing, loose, or damaged (cracks, warping, etc.). **(T-2)** The ATGL will not be used as a galley/lavatory if any bolts are missing, loose, or damaged and cannot be re-torqued or replaced in accordance with applicable Technical Orders. **(T-2)** To facilitate movement of the ATGL to a repair facility, secure the ATGL with 5,000 pound tiedown straps. Do not use the tiedown rings attached to the lower edge of the ATGL. **(T-2)**

13.3. Pre-Mission Duties.

13.3.1. Cargo Missions.

13.3.1.1. Duty Boom Operator Operations. Duty Boom Operator can be used as a means of flow control at stations with limited aerial port personnel and/or when units are deployed as part of an Expeditionary Air Refueling Squadron or tactical/contingency operation. They do not relieve the primary aircrew boom operator of aircraft pre-flight and cargo security check requirements. The duty boom operator ensures items loaded on aircraft do not exceed aircraft limitations and adequate restraint is applied to cargo to prevent movement. The duty boom operator is required to restrain cargo for flight limits. They will accomplish a basic cargo loading pre-flight and all appropriate loading preparation checklists prior to conducting loading operations and will ensure the flight crew receives sufficient copies of all required cargo load documentation. **(T-2)** They will ensure the oncoming flight boom operator receives all required briefings on the aircraft load to include hazardous materials briefings. **(T-2)** The boom operator performing this function must have crew rest prior to performing these duties.

13.3.1.2. Fleet Service.

13.3.1.2.1. Ensure the required fleet service items are on-board the aircraft early enough to permit inventory prior to engine start.

13.3.1.2.2. Annotate inventory changes on appropriate MAJCOM approved form or documentation. For 618 AOC or AMC directed missions, use AMC Form 12-1, *Air*

Transportable Galley/Lavatory (ATGL) Unit Checklist, Section III. Place item nomenclature, increase/decrease amounts, station, date, and reason for change.

13.3.2. Passenger Missions. Maximize passenger seat availability on all missions. The maximum number of passengers may be limited by the aircrew complement (see **Table 3.1**), amount of aircrew flight equipment, operable seats with seat belts, aircraft configuration and latrine capacity. PIC is the final authority for seat release.

13.3.2.1. Manifesting. Sufficient copies of the passenger manifest must be given to the boom operator prior to passenger boarding.

13.3.2.1.1. For seat pallets, ensure all latch pawls, anti-rattle handles, locking pins and ramps are serviceable and properly configured prior to loading passengers.

13.3.2.1.2. When planning any KC-46 mission that includes more than 10 passengers, a dedicated baggage pallet is required.

13.3.2.1.3. Seat belt extensions are approved for use in the KC-46. Tie-down straps will not be used to restrain passengers in aircraft seats. **(T-2)** If a passenger is unable to secure his/her seatbelt, notify passenger service immediately to determine if a seat belt extension is available. PIC will not allow passengers to fly unless they can be seated in the seat with seat cushions installed and seat belts securely fastened. **(T-2) Note:** Do not utilize crew bunks for storage of any items.

13.3.2.2. Air stairs will be utilized to the maximum extent possible for passenger and troop on/off-loading. **(T-2)** Once passengers have been on-loaded, the air stairs may be released and a maintenance stand repositioned at the door only after PIC coordination/approval.

13.3.2.3. Passenger use of the E/E Bay Main Deck Access Panel to board or disembark from the aircraft will be at the discretion of the PIC.

13.3.2.4. Ensure a seat is available on a seat pallet for each passenger monitor. The aft wall-mounted seats are for crew use only and will not be utilized for seat release unless directed by the PIC.

13.4. Passenger Handling.

13.4.1. Passengers will not be assigned seats in the ACMC unless trained in KC-46 egress (inertial reel) and aircrew oxygen equipment from a MAJCOM-approved training course. The *AMC ACMC Briefing Guide* satisfies this requirement. Only US Government employees are permitted to occupy seats in the ACMC for takeoff and landing. **(T-3) Note:** ACMC seats should not be released for Space-A, unless specifically authorized by the PIC.

13.4.2. The maximum allowable number of passengers in the MDCC is limited to the number of operable passenger seats and seat belts when all doors are available for emergency egress and a minimum 20-inch continuous aisle way is maintained directly to all doors from the passenger seating.

13.4.3. All passenger hand-carried items must be of a size to fit under the seat and must not obstruct the safety aisle(s). Any items that do not fit under a seat or obstruct an aisle way will be stowed with checked baggage and secured for flight. **(T-2)**

13.4.4. To assist in emergency evacuation of passengers, extra crew members or maintenance personnel knowledgeable of emergency evacuation procedures will occupy the seats closest to

doors/hatches which provide immediate access to emergency door controls for all take-offs and landings. **(T-2)** Passengers who meet the criteria in **paragraph 13.4.5** may be used if extra crew members or maintenance personnel are not available. They will be briefed on emergency evacuation procedures/duties in accordance with the KC-46 Flight Manual. **(T-2)**

13.4.5. Ensure only adult, English-speaking passengers are seated next to emergency exits. Do not seat any passenger with infants, children under 15 years old, or physically challenged persons in seats adjacent to emergency exits. The boom operator will demonstrate emergency door/hatch operation to persons seated next to emergency exits. **(T-2) Note:** Do not physically open an over wing hatch except in the event of an emergency.

13.4.6. If passengers or MEPs are seated in the ACMC, crews must verify security clearance levels before taking out or displaying classified material (SIPR MDN, SKL kit, etc). Ensure classified material and equipment remain secured and is not displayed when unauthorized personnel have access to the ACMC and flight deck.

13.4.7. Latrine Capacity versus Personnel Loading. PIC will consider the current capacity of latrine facilities when carrying passengers. **(T-2)**

13.4.8. In-flight Procedures:

13.4.8.1. Discourage passengers from congregating around ATGL, galley, lavatory or aircraft equipment storage bulkhead.

13.4.8.2. When the ATGL is not available, passengers will use the forward lavatory. The passenger monitor responsible for passenger handling will coordinate with the additional crew member (ACM), boom operator, or pilots for passenger movement through the cargo area (if applicable), ACMC, and to and from the forward latrine. Passengers will be monitored at all times while transiting these areas. Passengers will have EPOS available during transit and may temporarily occupy an available ACMC seat in flight while waiting to use the aircraft lavatory. **(T-2)** When more than 15 passengers are carried, a total of two crew members will be dedicated to passenger handling. **(T-3)**

13.4.8.3. Passengers may visit the flight deck, ACMC, or AROS only when approved by the PIC. Passengers must be escorted by a crew member to and from these areas. No more than two passengers at a time may visit the flight deck, ACMC, or AROS when assigned seats in the MDCC. The boom operator will be notified when passengers are in transit between the MDCC and the ACMC. The total number of individuals seated on the flight deck or in the ACMC at any one time will not exceed the number of seats with seat belts and operable oxygen regulators. **(T-3)**

13.4.8.4. When passengers are carried, they will be monitored for the entire flight. **(T-3)**

13.4.8.5. Notify the PIC of any unusual circumstance relating to the passengers.

13.4.8.6. Passengers will not occupy the crew bunks at any time.

13.5. Loaded Weapons. Weapons are considered loaded if a magazine or clip is installed in the weapon. This applies even though the clip or magazine is empty.

13.5.1. Personnel who will engage an enemy force immediately on arrival (actual combat) may carry basic combat loads on their person. Weapons will remain clear with magazines or

clips removed until immediately prior to exiting the aircraft. **(T-2)** The troop commander will coordinate with the boom operator prior to directing personnel to load any weapons. **(T-2)**

13.5.2. Personnel who will not immediately engage an enemy force will store basic ammunition loads in a centralized palletized location for redistribution on arrival at the objective. **(T-2)** Magazines or clips will not be inserted into weapons. **(T-2)**

13.6. Weight and Balance. Accomplish weight and balance for this aircraft according to T.O.1-1B-50 – *Aircraft Weight and Balance,* and Addenda A of this AFMAN. The unit possessing the aircraft maintains the primary weight and balance handbook containing the current aircraft status and provides a supplemental weight and balance handbook for each aircraft. **Note:** The supplemental handbook should be enclosed in a wear-resistant binder (preferably metal), stenciled "Weight and Balance" with the airplane model and complete serial number on the cover or a spine.

13.6.1. The supplemental handbook will include the AFMAN 11-2KC-46 Volume 3 Addenda A, *KC-46 Aircraft Configuration,* sufficient copies of DD Form 365-4, and a certified copy of the current DD Form 365-3, *Chart C, Basic Weight and Balance Record*. Chart C will include the aircraft basic weight, basic moment, and center of gravity. **(T-2)**

13.6.2. The boom operator will file the completed DD Form 365-4 (paper or electronically), at the departure airfield (provide to maintenance, base operations, or transient alert support agencies for filing) and maintain a physical or electronic copy for the duration of the flight unless local Standardized Form F filing procedures are published. **(T-2)**

13.6.3. The weight and balance section of the unit possessing the aircraft will provide the information required to maintain current and accurate documents to the appropriate agency.

13.6.4. The primary method of completing weight and balance data is the Automated Performance Tool.

13.7. Emergency Airlift of Personnel. Apply the following procedures to ensure a safe, efficient loading method for the emergency airlift of personnel and Aeromedical Evacuation (AE) of litter patients from areas faced with enemy siege, hostile fire, for humanitarian evacuations, or when directed by the MAJCOM C2.

13.7.1. Emergency airlift normally is accomplished without the use of individual seats or safety belts. The maximum number of personnel who may be airlifted by seating them on a pallet sub-floor in the cargo compartment will vary. Seat personnel in rows facing forward and load in small groups of 8-10 per pallet so they may be positioned and restrained by connecting the pre-positioned tie-down straps from the left and right outboard pallet rings. Load personal effects/baggage in any safe available pallet position.

13.7.2. The maximum altitude for emergency airlift will not exceed FL250. **(T-2)**

13.8. Rucksacks. The following procedures apply to loading of rucksacks.

13.8.1. During administrative (training) deployments, rucksacks may be loaded on deploying vehicles or palletized.

13.8.2. During tactical deployments into a FOB/OB, rucksacks not loaded on vehicles will be carried by the individuals onto the aircraft. **(T-2)** Individuals will not place rucksacks in positions that obstruct the aisle way. **(T-3)** Allocate pallet space on the load plan for loading rucksacks.

13.8.3. Rucksacks will not be floor loaded. **(T-2)**

13.9. Human Remains. Transport human remains on KC-46 aircraft in accordance with AFI 24-605 Volume 2 and AMCI 11-208 guidance.

13.10. Cargo and Material Handling Equipment (MHE) Issues.

13.10.1. Lithium Batteries and Pyrotechnic Material (Class/Division 1.3G). Non-regulated lithium batteries may be transported on KC-46 aircraft in accordance with AFMAN 24-604, *Preparing Hazardous Materials for Military Air Shipments*. Shipper's Declaration of Dangerous Goods is not required, ship as general cargo, and "NON-HAZARDOUS" must be annotated on the Military Shipment Label and/or container marked "Non-Regulated." Metal lithium batteries are non-rechargeable batteries also known as Primary Lithium batteries. These batteries are packed in accordance with requirements of UN3090 and UN3091 (contained in equipment or packed with equipment) and will only be transported on KC-46 aircraft on AFMAN 24-604, Chapter 3 authorized missions. Lithium Ion/Polymer batteries are rechargeable batteries also known as Secondary Lithium batteries. These batteries are packed in accordance with requirements of UN3480 and UN3481 (contained in equipment or packed with equipment). The cells are limited to 20 wattage hours and batteries are limited to 100 wattage hours. In both cases, existing aircraft Halon fire extinguishers are suitable for lithium battery transport.

13.10.2. Hazardous Materials (HAZMAT) in ISU-90 Containers. Load plans must allow in-flight access in event of an emergency, or hazardous materials will be removed from the container. **(T-2)** Some containers have built-in HAZMAT access panels; however, when these containers are utilized, any hazardous materials must be positioned to permit access through the panel. **Exception:** See AFMAN 24-604 for hazardous cargo not required to be accessible in-flight. Hazardous materials in the upper compartment of the container are inaccessible unless the adjacent pallet position is left empty to facilitate opening the doors. If the person responsible for the container is not on board, the key or combination for locks on containers must be on the container adjacent to the lock. MAJCOM inspectors and aircrew are authorized access on all cargo containers except when waived by MAJCOM/A3 for security reasons.

13.10.3. Weissenfel MB-1 Chain™ and 1998 Davis™ MB-1 Devices™. The Weissenfel MB-1 chain™ will not be used. **(T-2)** The Weissenfel MB-1 chain™ can be identified by the word W-ITALY stamped on the chain hook. The 1998 Davis MB-1 tiedown device™ will not be used. **(T-2)** These devices can be identified by a stamp reading contract number SPO470-98-C-5103. Remove any Weissenfel MB-1 chain™ or 1998 Davis MB-1 device™ from the aircraft. Examine chained palletized cargo for these chains and devices. If they are found, replace them with other chains and devices. Return the chains and devices to maintenance or the aerial port activity.

13.10.4. Davis Aircraft Products™ MB-1 and CGU-4/E Cargo Aircraft Tiedowns. Do not fully extend any Davis aircraft tiedown devices at any time. Davis devices modified by the previously authorized repair kit must be adjusted so there is a minimum of 3 threads visible between the white spacer contacting the anti-rotation bar and the adjusting nut located on the inside of the tiedown main body frame. Unmodified Davis devices must be adjusted so there is a minimum of 3 threads visible between the anti-rotation bar and the adjusting nut located on the inside of the tiedown main body.

13.10.5. Commercial Cargo Straps. Do not use commercial cargo straps. The only authorized cargo straps are the CGU/1b, 5k air cargo strap, PN 1670-00-725-1437, strap, webbing universal tiedown, PN 5340-00-980-9277 (army version of the AF CGU/1b, 5k strap) and the 10,000-pound restraint assembly cargo, NSN 1670-00-406-2657.

13.10.6. Ratchet device stamped: PECK & HALE, LLC™, CGU-1/B 5000 LBS CAP. 94658 6MRW/1465B with white unmarked strap will not be used. **(T-2)** Remove any deficient devices found on the aircraft and turn them in to aerial port personnel for final disposition.

13.10.7. Removal/Addition of Aircraft Equipment. Missing or removed items that are considered part of the normal aircraft configuration, such as cargo loading rails or locks, do not constitute a non-standard configuration. If these items are on-board but strapped to a pallet or are completely removed from the aircraft, make an adjustment to the aircraft weight and balance computation.

13.10.8. Commercial Cargo Loaders. Commercial Cargo loaders that are capable for use with a Boeing 767 are also suitable for use with KC-46A. As a planning factor, the loader must be capable of reaching a height of 170” above the ground.

Chapter 14

FUEL PLANNING AND CONSERVATION

14.1. General. This chapter is designed to assist pilots and planners in fuel planning for KC-46 missions. The Computer Flight Plan (CFP) is the primary pre-flight reference. The planning procedures in this chapter apply to all MAJCOM AOC flight managed missions in addition to local missions. Missions should be planned at altitudes, routes, and airspeeds to minimize fuel usage.

14.2. Fuel Conservation. It is Air Force policy to conserve aviation fuel when it does not adversely affect training, flight safety, or operational readiness. Aircrew and mission planners will manage aviation fuel as a limited commodity and precious resource. **(T-3)** Fuel optimization will be considered throughout all phases of mission planning and execution. **(T-2)**

14.2.1. Fuel Loads. Excessive ramp and recovery fuel adds to aircraft gross weight and increases fuel consumption. Do not ferry extra fuel beyond optimum requirements for safe mission accomplishment and training objectives. **(T-3)**

14.2.2. Cost Index (CI). Aircrews will utilize MAJCOM provided tools (MAFPS, JMPS, etc.) to assist in flight profile optimization. In lieu of these tools, aircrews should enter a CI value of 70 which approximates Long Range Cruise (LRC). Higher or lower values may be entered in order to meet mission requirements. Per FCOM, maximum range cruise can be obtained by entering a CI of "0", with ECON selected; conversely minimum time speed schedule may be obtained by entering a CI of "999". **Note:** A high CI will program maximum flight envelope speeds, near V_{MO}/M_{MO} limits and care must be taken to avoid over speeding aircraft limits.

14.2.3. APU Usage. APU usage is recommended to minimize power disruptions. APU usage is not to be used for convenience for extended periods of time.

14.2.4. Engine Start. Delay engine start on all departures whenever practical to minimize fuel consumption.

14.2.5. Taxi. Engine out taxi (EOT) is permitted during pre-flight and post-flight ground operations in accordance with FCOM procedures. Do not conduct engine out taxi operations in icing conditions or when Runway Condition Code is less than 5, reported braking action is less than "Good" or RCR is less than 14. Crews are authorized to shut down an engine during post flight operations when mission requirements do not allow for the normal cool down time (i.e. special fueling operations or brake temperature considerations).

14.2.6. Departure Planning. Consider use of opposite direction runway to reduce taxi and expedite departure routing if winds allow.

14.2.7. Take-off. Consider a rolling take-off as well as reduced power when able. This saves fuel and engine wear. Retract landing gear and flaps on schedule.

14.2.8. Weather Deviations. Attempt to coordinate for off-course deviation early so gross maneuvering is not required.

14.2.9. When time between air refueling exceeds 10 minutes, the boom/hose(s) should be stowed.

14.2.10. The aircraft should be flown with neutral rudder and aileron trim so that the yoke is centered with no rolling tendencies; however, excessive trim does not affect airworthiness.

Flying the aircraft with rudder and aileron trim settings other than zero increases fuel burn by 0.3% per unit of trim (e.g., if the aircraft were flown with 1 unit of aileron trim and 2 units of rudder trim the total fuel penalty would be 0.9%).

14.2.11. This penalty does not apply to sustained One Engine Inoperative (OEI) flight. Performance data for OEI flight assumes the aircraft is trimmed to a no-slip condition.

14.2.12. Approach. Fly most direct routing to arrival approach consistent with mission requirements.

14.2.13. Holding. If holding is required, hold clean at the most fuel-efficient altitude and request a large holding pattern. Hold at endurance or FMC recommended holding speeds, conditions permitting.

14.2.14. Parking. Consider using shortest taxi route and avoid double blocking when able.

14.3. Fuel Requirements and Planning Procedures. Aircrew should employ the following aviation fuel optimization measures without compromising flight safety or jeopardizing mission/training accomplishment. This section augments AFMAN 11-202 Volume 3 fuel requirements.

14.3.1. Required Ramp Fuel Load (RRFL). Minimum fuel required at engine start to complete tasked mission. RRFL will consist of all fuel required for engine start, taxi, APU operation, take-off, hold down, en route, en route reserve, contingency, air refueling, decompression (depressurization), early descent, descent, approach and landing, alternate, transition, and holding/minimum landing. **(T-3)**

14.3.1.1. Using all available planning tools and guidance in this chapter, PIC will determine the RRFL. When actual fuel load exceeds the RRFL by more than 5,000 lbs., defuel the aircraft to the RRFL. **(T-3)**

14.3.1.2. Identified extra fuel may be added to RRFL:

14.3.1.2.1. When fuel availability is limited or not available at en route stops.

14.3.1.2.2. For known holding delays in excess of standard.

14.3.1.2.3. For anticipated off course weather avoidance.

14.3.1.2.4. When reliable wind data or receiver profiles are not available.

14.3.1.3. Airlift missions. Plan Long Range Cruise (LRC) and optimum altitude.

14.3.1.4. Tanker Mission. Plan to and from the AR track or anchor at LRC and optimum altitude.

14.3.1.5. Time permitting, if the PIC believes the fuel load is insufficient to execute the mission, the PIC will contact the flight manager to identify and resolve the differences. When the PIC and flight manager do not reach an agreement, the PIC is the final authority for adding additional fuel. **(T-2)**

14.3.1.5.1. Tankering fuel for convenience is prohibited. MAJCOM C2 or 618 AOC (TACC)-sanctioned tankered fuel is deemed operationally necessary and will be included in the RRFL. **(T-3)**

14.3.1.6. Force Extension/AR. If during mission planning it is determined that scheduled AR is not needed for operational or training purposes, attempt to get it cancelled through appropriate C2 channels.

14.3.1.7. Time permitting, when there is a conflict between an on-time departure and defueling, the AOC, deputy director of operations (DDO), or MAJCOM C2 equivalent will determine which takes precedence. **(T-2)** The OG/CC will make this determination when serving as mission execution authority. **(T-2)**

14.3.1.8. Required Ramp Fuel for ETOPS missions. Block to block fuel must be greater than or equal to: fuel required to fly to the ETP, experience a simultaneous engine failure and loss of cabin pressure, and proceed from the ETP to a recovery field at 10,000 feet or 13,000 feet (if sufficient crew oxygen is available) using single engine cruise procedures. If extra fuel is required, it will be added as identified extra. **(T-2)**

14.3.2. Start Engines, Taxi, and APU operation. Normally 1000 pounds. When anticipating more than 15 minutes ground operation time, add 100 pounds for each minute in excess of 15 minutes, not to exceed 3,000 pounds. If extended APU operations are anticipated, plan 300 pounds per hour (pph).

14.3.3. Take-off. Fuel used from the start of take-off roll (brake release) to the start of climb (1,000 feet). Normally 1.5 minutes and 1,500 pounds.

14.3.4. En route. Fuel from start of climb segment at the departure location to Begin Descent Point at destination.

14.3.5. Air Refueling. Scheduled off-load minus scheduled on-load. If scheduled on-loads are not completed it may be impossible to complete the mission.

14.3.6. Identified Extra. Fuel which may be added for unplanned contingencies such as late receivers, increased off-loads, ATC delays, unplanned holding, weather avoidance, hold down, early descent etc. Additionally, this block may include transition fuel at destination minus alternate and landing fuel, unusable fuel, or tankered fuel for subsequent sorties. If subsequent sortie is an Engine Running Crew Change (ERCC), the first sortie's forecasted thunderstorms, hold down, early descent, alternate, holding, and contingency fuel will all be subtracted from the tankered fuel. **(T-2)**

14.3.6.1. Use 3,000 pounds if forecasted thunderstorms are scattered or numerous along the route of flight, 1,500 pounds if forecast thunderstorms are few along the route of flight, and 800 pounds if forecast thunderstorms are isolated along the route of flight. Thunderstorm forecasts will be based on AFMAN 11-202V3 approved weather sources.

14.3.6.2. MAJCOM C2 and local missions add 15 minutes (3,000 lbs.) of hold down fuel for departures from airfields maintained on the AMC/A3V website. **Note:** Hold down fuel is added as a departure bias and will be burned at the top of climb.

14.3.6.3. MAJCOM C2 and local missions add 15 minutes (3,000 lbs.) of early descent fuel for airfields maintained on the AMC/A3V website. **Note:** Early descent fuel is added as an arrival bias and will be burned on the last leg.

14.3.6.4. Transition. Plan fuel for transition training at the destination or authorized en route locations for training sorties. Compute the flight plan at 12,000 pph (this includes fuel for the initial approach).

14.3.7. Minimum Planned Fuel at Begin Descent Point. Consists of fuel required for descent, approach and landing, alternate/missed approach, and holding/minimum landing fuel. Additional fuel may be added to allow crews some flexibility when dealing with unplanned contingencies (e.g., late receivers, extra receivers, increased off loads, weather avoidance, ATC delays). When dealing with unplanned contingencies, crews will still plan to touchdown with minimum landing fuel. **(T-3)** Units may develop standard alternate fuel requirements for local training missions; however, these fuel requirements will not be less than those specified in this AFMAN. **(T-3)** Local supplements will not dictate a standard "IAF" or "Top of Descent Fuel". **(T-3)**

14.3.7.1. Descent, Approach and Landing. MAFPS calculates Descent Fuel as the higher of 1,500 pounds or the calculated value from the Begin Descent Point to Initial Approach Fix. Approach and Landing Fuel is 15 minutes and 3000 pounds. Both values are placed in their respective MAFPS Flight Plan Fuel Summary section lines.

14.3.7.2. Alternate. Fuel for missed approach and flight from intended destination to alternate aerodrome. Use Time and Fuel to Alternate, or Specific Range charts.

14.4. In-flight Optimization.

14.4.1. Cruise Altitude. After take-off, aircrews should determine and request to cruise at their optimum altitude. Optimum altitude can be calculated with the FMC performance functions.

14.4.2. Cruise Speed. Aircrews should fly ECON speed (CI70) as their normal cruise speed. Deviations are acceptable to meet mission requirements (i.e. RTA, air refueling, etc.). Use of VNAV is encouraged to maximize use of the Cost Index function.

14.5. Computer Flight Plan. Only AMC-validated computer flight planning software is approved for use in producing CFPs. The CFP normally serves as the fuel log.

14.6. Drag Degradation. Drag degradation with WARP hoses deployed and slats and flaps extended can increase fuel consumption by nearly 10 percent. These and any other external configuration changes (e.g., gear-down flights), will require modifications to increase standard fuel planning numbers. Consult drag index chart and gear-down data in the performance manual.

Chapter 15

AIR REFUELING

15.1. General. This chapter establishes air refueling guidelines applicable to KC-46 aircraft and aircrews and is supplemental to those prescribed by the flight manual and other applicable directives. Comply with procedures and limitations specified in ATP3.3.4.2, *Air-to-Air Refueling,* and the United States Standards Related Document (US SRD).

15.2. AR Limitations. The following limitations apply:

15.2.1. AR altitudes. AR operations will normally be conducted above 12,000 feet MSL, or 10,000 feet AGL, whichever is higher. **(T-2)** For operational necessity, AR operations may be conducted within the ATP-3.3.4.2 (D) US SRD defined AR envelope.

15.2.1.1. AR operations based at or above 12,000 feet MSL, which momentarily fall below 10,000 feet AGL, but no lower than 5,000 feet AGL, due to over flight of mountain ridges, peaks, etc., are permissible. **Note:** Unless operational requirements dictate (i.e. GIN BEAR).

15.2.1.2. If refueling must be accomplished below 10,000 feet AGL, limit refueling time to the minimum required to meet operational requirements and then immediately recover to normal refueling altitudes. Crews must ensure thorough knowledge of terrain features when operating below 10,000 feet AGL.

15.2.1.3. Pilots will fly no lower than an altitude that provides at least 5,000 ft. of clearance above the highest obstruction or terrain within 5 nautical miles either side of the planned course centerline. **(T-2)** NOTE: Unless operational requirements dictate (i.e. GIN BEAR).

15.2.2. Refueling During Missions. AR will not be accomplished during missions under the following conditions unless operational necessity dictates. **(T-2)**

15.2.2.1. Conditions result in marginal control of either aircraft or boom (in the opinion of either the PIC or boom operator).

15.2.2.2. Marginal Remote Vision System (RVS) capability (in the opinion of the boom operator).

15.2.2.3. Either tanker or receiver (except B-52) has less than the full number of engines operating.

15.2.2.4. Tanker aircraft is unable to retract the landing gear.

15.2.2.5. Boom pressure refueling.

15.2.3. Tanker Autopilot. Tanker pilots will notify receiver pilots when the autopilot is not used. **(T-3)** Verbal notification and acknowledgement between the tanker and receiver will take place prior to conducting autopilot-off training.

15.2.4. AR Without Tanker Disconnect Capability. Without tanker disconnect capability means the boom operator cannot trigger an immediate disconnect using either the normal disconnect system or the independent disconnect system (IDS). AR (as tanker with any receiver or as receiver) will not be conducted after a known loss of both normal tanker disconnect capability and IDS with any receiver. **(T-2) Exceptions:** Fuel emergency

situations, OPLAN 801X missions, contingency missions, JCS alert, receiver over water deployment or re-deployment, operational reconnaissance missions, prime nuclear airlift force (PNAF) support missions under normal conditions when the refueling is essential for home base recovery, or when authorized in the mission directive.

15.2.5. Manual Boom Latching (MBL) (also referred to as Emergency Boom Latching (EBL), Override Boom Latching (OBL), and amplifier override). Normal tanker disconnect capability is inoperative. MBL with IDS system operative may be accomplished without restrictions. Without operable IDS, training and evaluation in MBL procedures may only be accomplished under the following conditions:

15.2.5.1. Direct IP supervision on board receiver aircraft (if other than fighter type). **(T-3)**

15.2.5.2. Limit contacts to minimum required. **(T-3)**

15.2.5.3. As a receiver against a tanker without IDS (e.g. KC-135) or when the tanker's IDS is inoperative, a demonstrated receiver-initiated disconnect capability must exist. **(T-3)**

15.2.5.4. Do not accomplish boom limit demonstrations, or practice emergency separations while in contact. **Note:** The boom operator and receiver pilot must coordinate all actions required by applicable directives and checklists when making AR contacts during the situations listed above. **(T-3)**

15.2.6. Reverse AR into a KC-46 is not permitted.

15.2.7. Practice Emergency Separations.

15.2.7.1. Prior to accomplishment of a Practice Emergency Separation, coordination between the tanker pilot, boom operator, and receiver pilot is mandatory. Coordination must include information on when the separation will occur and who will give the command of execution. **(T-3)** Tanker pilot coordination may be accomplished over interphone with the boom operator.

15.2.7.2. Practice Emergency Separations may be accomplished with passengers on board. Ensure all passengers are seated with seat belts fastened.

15.2.8. Limits Demonstration. Prior to conducting limits demonstrations without IDS or with inoperative IDS, disconnect capability must be verified by a boom operator initiated disconnect. **(T-2)**

15.2.9. If a change of receiver pilot control is made, the receiver aircraft will move back to at least the astern position (except for immediate assumption of control by the instructor/evaluator pilot). **(T-2)**

15.2.10. If a tanker or receiver seat change takes place, the receiver will move back to at least 100 feet in trail of the tanker and to a point where the receiver pilot can maintain visual contact with the tanker until the seat change is complete. **(T-2)**

15.2.11. Operator Fatigue. If boom operator or receiver pilot fatigue becomes a factor during AR operations, the receiver will maintain no closer than the astern position until fatigue is no longer a factor (operator judgment).

15.2.12. Weather limitations.

15.2.12.1. Terminate refueling if moderate turbulence is encountered.

15.2.12.2. Discontinue refueling if in-flight visibility is insufficient to continue safe refueling operations.

15.2.13. AR will not be conducted with an Automatic Load Alleviation System (ALAS) malfunction or ALAS inoperative.

15.2.14. Remote Vision System. Air refueling after loss of any cameras which results in poor visibility will be at the discretion of the boom operator.

15.2.14.1. Failure of 3D Vision System. Boom A/R without stereo vision is prohibited. **(T-2)**

15.2.14.2. Panoramic Cameras/Displays failure. Wing Aerial Refueling Pod (WARP) air refueling will not be conducted when an associated camera or display fault results in a loss of visuals for the left/right WARP and receiver. **(T-2)**

15.2.14.3. Remote Vision System (RVS) Scene Selection. Prior to performing air refueling, the boom operator must find the most suitable scene selection for safe operations. If at any time during closure to the contact position the boom operator deems the preset scene selection as unacceptable for air refueling, they must return the receiver to pre-contact and select a more suitable scene before continuing air refueling operations. If the scene selection degrades to an unsatisfactory degree while the receiver is in the contact position, the boom operator will disconnect from the receiver, attain safe separation, re-evaluate the current (clouds, lighting, background, etc.) and adjust the scene selection prior to clearing receiver in for another contact. **(T-2)**

15.2.15. Flight Deck Remote Vision System Display/Pan View. This display is for pilot situational awareness only. If displaying Pan View on the flight deck large display system creates any distraction to either pilot, its use must be discontinued. Pilot action should not normally be taken based solely on the information that is interpreted from the Pan View display without coordination from the boom operator.

15.2.16. Sensitive Receivers. When refueling the following receivers using LWIR, A/V Record Mode will either be in OFF or SECRET. **(T-2)** Non-essential personnel will not be seated on the flight deck or at the AROS when these receivers are inside of 1 NM from the tanker: B-2, F-22, and F-35. **(T-2)** Do not store SECRET A/V data for more than 30 days. **(T-2)**

15.2.17. Lighting. Aircraft lighting will be set in accordance with **Table 5.1**., KC-46 Flight Manual and ATP3.3.4.2 US SRD. **(T-2)**

15.2.18. Aerial Refueling Operator Control Display Unit (AROCDU). Air refueling flight training with an unqualified or non-current boom operator with an inoperable AROI position CDU is prohibited. **(T-2)** The AROI position does not have sufficient control authority over or access to the air refueling system(s) for air refueling training.

15.2.19. Boom Flight Controls. Air Refueling flight training with an unqualified or non-current boom operator with any AROI Telescope Control Stick (or stick switches) fault or AROI Flight Control Stick (or stick switches) fault is prohibited. **(T-2)** The AROI position does not have sufficient control authority over the air refueling boom, telescope, or stick switches during air refueling operations.

15.2.20. Remote Vision System. Air Refueling flight training with an unqualified or non-current boom operator with a Panoramic or Primary camera/displays fault resulting in loss of AROI position visibility, for the AR system in use, during air refueling operations is prohibited. **(T-2)** The AROI position does not have sufficient visual systems for conducting air refueling training with the associated faulted system.

15.2.21. Boom Overlays. Air refueling flight training with an unqualified or non-current boom operator with a vision system fault resulting in loss of AROI position Boom Overlays is prohibited. **(T-2)** The AROI position does not have sufficient visual systems for conducting boom air refueling training.

15.3. Emergency AR. When an emergency AR requirement arises, units tasked will attempt to fill the requirement from available unit resources. **(T-2)** Use unit training sorties as the first priority and generated alert sorties as second priority. If no capability exists, notify the controlling agency of the requirement and unit shortfall. The following procedures apply for unit C2 personnel:

15.3.1. Units will not routinely preposition additional aircraft to satisfy potential emergency AR requirements. **(T-2)**

15.3.2. Time permitting, coordinate emergency AR requirements with receiver parent MAJCOM.

15.3.3. The unit command post should coordinate or direct unit actions.

15.3.4. Identify unit sortie when notified of an emergency air refueling requirement.

15.3.5. Coordinate with the OG/CC.

15.3.6. Notify MAJCOM C2 of the requirement and proposed actions.

15.3.7. Notify the squadron or aircrew of the requirement. Provide Air Refueling Control Time (ARCT), rendezvous information, altitude, receiver call sign, and communication plan.

15.3.8. Advise the receiver of planned actions.

15.3.9. Notify the ARTCC liaison of the requirement.

15.4. Air-to-Air Refueling with Foreign Aircraft. ATP 3.3.4.2. (D) and US Standards Related Document (US SRD) serves as the source document for air refueling information among participating countries.

15.4.1. KC-46 will only accomplish AR with those aircraft having a valid air refueling clearance in accordance with ATP 3.3.4.2. (D), US SRD. Receiver aircraft not previously certified for refueling operations (includes foreign variants of US-produced aircraft) must be certified for technical and operational compatibility in accordance with USAF regulations prior to refueling. (N/A AFMC). **(T-2)**

15.4.2. AR with foreign aircraft must be tasked by proper C2 authority. Opportune AR of foreign aircraft is prohibited unless directed by C2. **(T-2)**

15.5. Altitude Reservation (ALTRV).

15.5.1. ALTRV Procedures. Prior to accomplishing a mission requiring an ALTRV, crews will review their respective AFTTP 3-3.KC-46, FLIP General Planning (GP), and Area

Planning (AP) to ensure compliance. **(T-3)** These publications are the main source of information for aircrews, but other pertinent information regarding ALTRVs may exist for the specific country or countries in which the ALTRV is established.

15.5.2. ICAO Airspace. Fundamentally, ICAO acknowledges ALTRVs, but they do not recognize them in official publications. Refer to AFTTP 3-3.KC-46 Chapter 10 for details.

15.5.3. Country-specific Aeronautical Information Publications (AIP) contain useful information for operating within their airspace boundaries. FLIP AP documents incorporate the procedures in the AIP and remain the primary source of worldwide aeronautical information for MAF crews. References for country-specific AIPs and Central Air Reservation Facilities (CARF) can be found in AFTTP 3-3.KC-46 Chapter 10.

15.6. Coronet East Mission Overflights in France. Aircrews must explicitly follow pre-coordinated mission profiles on missions that transit French airspace. **(T-2)** Although ALTRVs are not formally recognized in the French ATC system, pre-coordinated Coronet East Missions are afforded a certain degree of additional protection while in French airspace. In exchange for this special handling, it is essential aircrews adhere to pre-coordinated routes and altitudes to avoid problems (including the portion of the flight to/from the ALTRV). Failure to do so creates difficult diplomatic situations and jeopardizes future authorization for US military over flights of France. Aircrews will not request any maneuvers that have not been coordinated in advance with French ATC. **(T-2)** Examples of these maneuvers include formation split up and rejoin (unless pre-coordinated). During the portion of the flight to/from the ALTRV, tanker and receivers must remain in formation at a single altitude while in French airspace. **(T-2)** If a request (even if pre-coordinated) is denied by the controller, follow their instructions.

Chapter 16

MISSION PLANNING

16.1. General. This chapter standardizes procedures for planning, briefing, and reviewing all missions. The PIC is ultimately responsible for the accuracy of the mission materials. Unit mission planning facilities should possess essential mission planning material.

16.1.1. Mission planning is normally conducted the day before the mission. Operations group commanders may elect to use a "same day mission plan" option.

16.1.2. Theater Indoctrination Folders (Part IV of Flight Crew Information File) should provide additional information for aircrew and planning staff review. (N/A NGB and AFRC).

16.2. Mission Planning. The first steps in planning are to analyze the tasking, gather all pertinent information, and decide what additional support is required. Having this information on hand before developing the detailed plan will save time in the long run. Planners will thoroughly study en route threats, terrain, ingress and egress routes, target areas, operations and communications security (OPSEC and COMSEC), political and cultural characteristics, climatology, and any other factors that enhance mission success. **(T-2)** Runway/tactics and meteorology and/or climatology requirements will be identified early because this information may not be readily available. Mission support requests will also be processed as soon as possible to allow coordination and planning. **(T-2)** The level of coordination is dependent on available time and means of communication. Aircrews will be ready to operate in the joint arena with little or no face-to-face coordination. **(T-2)**

16.2.1. Air Tasking Order (ATO) Analysis. ATO contents are discussed in AFTTP 3-1.IPE, *Integrated Planning and Employment*. An ATO will task elements of composite forces, provide mission objectives and general guidance, and indicate actions required by individual situations. **(T-2)** The Air Mobility Element (AME) will normally publish an ATO or air movement schedule (AMS) governing airlift missions planned for the next 24 hours. **(T-2)** ATOs and AMSs are normally accompanied by special instructions (SPINS) which provide detailed instructions for composite forces. A standardized ATO format for theater-assigned forces can be found in AFTTP 3-1. *General Planning*. Airspace control procedures may be implemented in the ATO, SPINS, or published in a separate Airspace Control Order (ACO). Planners and aircrew will understand and comply with all aspects of current airspace control procedures. The following items must be extracted from the ATO:

16.2.1.1. Mission number. **(T-2)**

16.2.1.2. Security classification. **(T-2)**

16.2.1.3. Tasking organization. **(T-2)**

16.2.1.4. Concept of operations and mission description to include type of mission, assault zone description, required aircraft and aircrews, and participating forces and units. **(T-2)**

16.2.1.5. Schedule of events (SOE). **(T-2)**

16.2.1.6. Rules of engagement (ROE). **(T-2)**

16.2.1.7. Communications & Electronic Operating Instructions (CEOI). **(T-2)**

16.2.1.8. Special Instructions (SPINS). **(T-2)**

16.2.1.9. Command and control instructions. **(T-2)**

16.2.1.10. Scheduled air refueling support. **(T-2)**

16.2.1.11. Airspace management procedures, to include IFF/squawks, airspace control center coordination, air defense network procedures, prohibited/ restricted area procedures, and route de-confliction.

16.2.2. Schedule of Events. After receiving formal mission tasking, planners construct a schedule of events checklist to assist in keeping the mission, from planning through execution, on schedule. Some mission events (e.g., ARCTs, available CAF support, etc.) will be specified in the tasking document. **(T-2)**

16.2.3. Intelligence/Tactics Requirements. Current intelligence is vital. Incomplete or outdated information reduces the probability of success and survivability. Intelligence and tactics personnel will be integrated into the planning cell. **(T-2)**

16.2.4. Operation Order (OPORD). An OPORD usually covers overall concepts of operations and mission requirements to be flown during a future time period (such as a week or more).

16.2.5. Meteorology/Climatology Analysis. Weather information will be included in both planning and briefing functions for all missions. General Planning contains an outline for meteorology/climatology analysis.

16.2.6. Mission Support. Planners need to identify, request, and coordinate additional mission support above that provided in the OPORD and ATO/SPINS. The point of contact for coordination is the AMD and the Director of Mobility Forces staff.

16.2.7. Evasion Plan of Action (EPA). AFTTP 3-3.KC-46 includes suggested EPA planning information.

16.2.8. Plan approaches in accordance with AFTTP 3-3.KC-46 and the airfield identification procedures published in the OPORD or SPINS. Where multiple options are available, select the approach which best minimizes exposure to the threat while still allowing a high probability of landing on the first approach. Remain unpredictable. Plan to intercept the glide path no later than 3/4 of a mile prior to the touchdown zone. For tactical approaches limit bank angles to 30 degrees below 1,000-feet AGL.

16.3. Briefings.

16.3.1. Mission Planning Pre-Brief. The purpose of the mission planning pre-brief is to familiarize all crew members with the general aspects of the mission, paying special attention to potential CRM/TEM issues for all crew positions. During the briefing, indicate what preparation has been accomplished and what is yet to be accomplished. Reference AFTTP 3-3.KC-46 for inclusive items.

16.3.2. Pre-Deployment Briefing. Prior to deployments, the operations officer, mission commander, or designated representative should assemble the crew and brief description and purpose of the mission, tentative itinerary, aircraft configuration, special equipment, fuel load, clothing required, anticipated housing and messing facilities, sufficient money to defray individual's anticipated expenses, personal equipment/field equipment requirements, special clearance requirements, and flying safety.

16.3.3. Tactical Aircrew Coordination. Assign specific in-flight duties, such as PF, PM, Boom Operator, and observer (as required).

16.4. Mission Debriefings. Hold immediately after the mission if practical. Include the following:

16.4.1. Aircrews will attend the operations and maintenance debriefings as directed by unit or mission commander. **(T-3)** Maintenance debrief should be conducted as soon as possible after flight.

16.4.2. Intelligence/Tactics debriefings will be accomplished in accordance with the Mobility Intelligence Reporting Directive. **(T-2)** Intelligence/Tactics debriefings should be accomplished as soon as practical after mission recovery.

16.4.3. Individual Aircrew Debrief. Mission critiques and debriefings are perhaps the most important learning tool available to aircrews and will be done after each mission. All crew members will attend. Use this time to review the entire mission. Review mission objectives, training objectives, and overall crew member CRM/TEM skills, PM skills, and Verbalize, Verify, Monitor (VVM) duties, as applicable. Additionally, review/ascertain causes/solutions for Flight Path Management (FPM) issues and Undesired Aircraft States (UAS) that may have occurred.

16.4.4. For formation flights, a post-mission debrief should be conducted by the mission commander or formation leader.

Chapter 17

EMPLOYMENT

17.1. General. Refer to AFTTP 3-3.KC-46, *Combat Fundamentals KC-46*, for additional guidance on tactics training, specific maneuver descriptions, and tactical maneuver procedures. AFTTP 3-3.KC-46, Chapter 12, *Proficiency Exercises*, details the tactics maneuvers required for tactics certification. All crew members must complete tactics certification in accordance with AFMAN 11-2KC-46 Volume 1. **(T-2) Note:** Certain technical information was intentionally omitted or generalized to keep this chapter unclassified. Users should be aware that written additions to any portion of this document could cause the manual to become classified.

17.1.1. Each unit will have a tactics ground training program developed by tactics and intelligence staffs tailored to the unit's wartime tastings. **(T-2)**

17.1.2. Crews will follow guidance in AFTTP 3-1.KC-46 and AFTTP 3-3.KC-46 when performing tactical arrivals and departures, or when operating into locations with a hostile threat environment, except as noted in this chapter. **(T-2)**

17.2. Responsibilities. The tactics training program is a coordinated effort between the unit's intelligence office, wing/group training office, and wing/group weapons and tactics flight, in order to ensure continuity and the unit's specific mission tasking is addressed. The unit tactics officer is responsible for developing procedures for timely dissemination of tactical information to unit aircrew members. Reference AMCI 11-207, *Weapons and Tactics Program*, for the Tactics Reference Library.

17.3. Tactical Checklists. Initiate the Combat Entry Checklist so it will be completed prior to entering the tactical area. **(T-2)** Execute the Combat Exit Checklist after vacating the tactical area.

17.3.1. As a minimum, the PF, PM and boom operator will remain on interphone from initiation of the Combat Entry Checklist until completion of the Combat Exit Checklist, unless crew duties require otherwise. **(T-2)**

17.3.2. During accomplishment of tactical checklists, do not change IFF or CALLSIGN until appropriate FIR boundaries have been transited or as directed by ATC.

17.4. Ground Operations. Crews should spend minimum time on the ground when accomplishing tactical ground operations. Preparation and a thorough briefing enhance your ability to operate quickly and safely. Brief appropriate ground personnel and subsequent aircrews on unexpected hazards encountered during take-off or landing (e.g., dust, winds, hostile activity).

17.5. Tactics Flight Training.

17.5.1. Tactical Maneuvers. Accomplish tactical maneuvers in accordance with procedures provided in AFTTP 3-3.KC-46 and AFI 11-214, *Air Operations Rules and Procedures*. Once certified, tactical maneuvers may be flown on continuation training and operational missions with passengers on board. Notify passengers prior to conducting tactics maneuvers training.

17.5.2. Objectives. Accomplish all flight maneuvers with strict adherence to aircraft limitations as defined in KC-46 flight manuals and this AFMAN.

17.5.3. Flight Training Limitations and Restrictions.

17.5.3.1. Limitations. The following limitations apply to all in-flight tactics training:

17.5.3.1.1. Aircraft tactical arrival and departure (TAD) training is limited to four-ship formation, VMC, 45 degree angle of bank maximum, and 500’ AGL minimum ingress/egress altitudes. **(T-2)**

17.5.3.1.2. Aircraft scram training is limited to VMC, 45 degree angle of bank maximum, 10,000’ AGL minimum altitude. Scatter turns are limited to three-ship formations. **(T-2)**

17.5.3.1.3. Limit formation in-place turns to a maximum of 45 degrees of bank and 180 degrees of turn. **(T-2)**

17.5.3.2. Intercept Training Restrictions/Procedures. See AFI 11-214.

Chapter 18

AIRCRAFT FORMATION

18.1. General. This chapter covers basic formation procedures and operations. All procedures described apply to all KC-46, KC-135 and KC-10 aircraft. If any conflict in guidance occurs between dissimilar aircraft, follow the more conservative guidance. The broad term "formation" as used does not differentiate between specific tactics of en route formation or visual formation. Specific references to each tactic must be made to ensure complete understanding.

18.1.1. All formation flights will be planned, briefed, and critiqued in accordance with the applicable flight manual, this AFMAN, ATP-3.3.4.2 and AFTTP 3-3.KC-46. **(T-2)**

18.1.2. Dissimilar aircraft formation may be conducted with participating OG/CC (or equivalent) approval (Sq/CC for 509 WPS). Dissimilar formations tasked by an AOC with execution authority assumes this authority. At a minimum, comply with this AFMAN, AFTTP 3-1, AFTTP 3-3, and ATP 3.3.4.2 (and appropriate National SRDs). Units planning formation flights with foreign military aircraft will request approval from MAJCOM/A3 prior to the planned flight(s). **(T-2)** An MOU will be signed by all OG/CCs (or equivalent) or higher authority involved. **(T-3)** Dissimilar formation does not include mixed tanker formations between KC-46, KC-10s or KC-135s.

18.2. Specified Times. The formation leader determines the sequence of events (SOEs) and mission times based on mission requirements. Local SOEs for formation training missions may be established for use at home station. Changes in briefing or mission timing will be relayed to all formation members at the earliest opportunity.

18.3. Weather Minimums. Comply with weather minimums for take-off and landing established in AFMAN 11-202 Volume 3 and **Chapter 6** of this instruction.

18.4. Communications and Radio Procedures. Radio and interphone discipline are critical factors in maintaining formation integrity. The formation leader will ensure all formation members have a complete understanding of the radio monitoring plan. All formation members should make every effort to accomplish HAVE QUICK and SECURE VOICE radio operations on all local formation training missions.

18.4.1. Formation will not be flown on training sorties without inter-plane voice communications capability. **(T-2)**

18.4.2. When radio silent operations are required, the formation leader will pre-brief all formation members on specific procedures for frequency changes (e.g., timing, visual signals, etc.). **(T-2)**

18.4.3. Visual signals may be used as an alternate or secondary means of communication between aircraft.

18.5. Launch, Departure, and Level-Off.

18.5.1. Non-collocated Units. If aircraft depart from separate bases and then rendezvous for formation activity, the formation lead should make every effort to conduct a telephone briefing with joining tanker and receiver formation leaders. If this is not possible, after detailed sortie study, the coordination and briefing between the appropriate lead planning agencies or mission

commanders will satisfy formation briefing requirements. **(T-3)** At a minimum, radio contact will be established between all formation aircraft no later than 15 minutes prior to join up. **(T-3)** The formation lead will ensure altitude separation for aircraft in the formation or joining the formation. Coordination of these formations will include designation of mission commander responsibilities for all phases of the formation operation. **(T-3)** Each unit will develop post take-off separation procedures and departure separation plans with the local controlling agency. **(T-2)** Each plan must consider emergency aspects, aircraft performance capabilities, terrain features, penetration of weather after take-off, and local ATC restrictions. Procedures should also be developed for items such as aborts, lost communications, Emissions Control (EMCON), and the recovery of formation aircraft.

18.5.2. Taxi Procedures. Follow the taxi sequence established in the briefing. Maintain safe interval and a safe speed during taxi.

18.5.3. Take-off Timing Interval. Defined as the time between initiation of take-off power for each successive aircraft in the formation. Normal take-off timing interval is 60 seconds between KC-46 and other non-KC-46 aircraft in the formation. **(T-2)** Normal minimum timing interval between like-model KC-46 aircraft is 30 seconds. **(T-2)** Take-off interval may be extended and sequence may be varied as necessary depending on aircraft acceleration and performance, training requirements, weather, airfield conditions, and mission requirements. Take-off interval may be reduced when approved by the execution authority and crews are certified for Minimum Interval Take-off Procedures. **Note:** For dual runway operations, take-off timing can be reduced by half of the required timing of single runway operations.

18.5.4. Formation Take-off Procedure (Hold-Line through Take-off). Tankers and tanker formations should plan on the receiver(s) taking off first. Any aborting aircraft will make an abort call over the ATC radio frequency being used by the formation. **(T-2)** An additional radio call announcing an abort over the formation interplane frequency is recommended. At bases with dual runway operations, aborting aircraft will identify the runway in use. **(T-2)**

18.5.5. Departure. Baseline climb and descent speed contracts and standards are described in AFTTP 3-3.KC-46. Planned climb speeds apply to the lead aircraft only. Following aircraft may exceed/lag these speeds as necessary to accomplish the rejoin and maintain proper formation position. Climb speed schedules which result in any formation aircraft climbing with slats extended will be avoided. **(T-2)**

18.5.6. Buddy Departures (Tanker Snake/Formation Climb Procedures). Buddy departures may be used by collocated tanker and fighter or bomber units. The intent of this type of departure is to facilitate the join-up of receivers with their mated tankers.

18.5.7. Level-Off. An altitude block will be obtained for all intermediate and final level-off altitudes. **(T-2)** Block altitudes will provide a minimum of 500-foot separation between aircraft. If ARTCC will not approve a block altitude, then request IFR separation or hard IFR altitudes for each aircraft in formation.

18.6. En route Formation. Reference the AFTTP 3-3.KC-46 and ATP3.3.4.2 regarding formation positions and situations in which to use them. The primary means of maintaining proper formation position are TCAS under IMC and visual or TCAS under VMC. When visual conditions permit, minimize radio transmissions. Heading and airspeed changes need not be announced. In IMC, the formation leader should ensure all formation members are aware of heading and airspeed

changes, either through thorough pre-briefing, or use of inter-plane communications. Aircrews will monitor the position of all other aircraft and, on inter-plane, notify any aircraft excessively out of position.

18.6.1. Autopilot Operations. The autopilot should be used to reduce fatigue and aid in altitude separation. Consideration should be given to placing an aircraft with no operable autopilot in last position in the formation for missions with extended duration in formation.

18.6.2. Visual Station-Keeping. Refer to AFTTP 3-3.KC-46 for visual station-keeping techniques. During operational situations requiring EMCON 3 or 4, and marginal visibility prohibits normal formation spacing, a compressed trail formation may be used. Formations may be compressed using fluid trail as defined by AFTTP 3-3.KC-46.

18.6.3. Formation Navigation Procedures. Cell lead is responsible for the navigation of the entire formation.

18.6.4. Navigation coordination between aircraft within the formation is encouraged unless operational (e.g., EMCON) restrictions or AR requirements limit communication. Do not jeopardize formation tactics or integrity for this purpose. However, formation wingmen should inform lead immediately of any suspected navigation errors.

18.7. Lost Wingman Procedures. Follow the procedures described in AFTTP 3-3.KC-46, Chapter 5.

18.8. Formation Position Changes. Follow the procedures described in AFTTP 3-3.KC-46, Chapter 5.

18.9. Formation Break-Up and Recovery. Formation separation procedures will be thoroughly planned and briefed by the formation leader. **(T-2)** Do not initiate formation separation procedures without ATC approval. ATC coordination should be made as early as practicable prior to formation break-up.

18.9.1. If formation descent and arrival is desired, lead will thoroughly brief descent profile, airspeed reduction, and configuration procedures. **(T-2)**

18.9.2. Formation Landing. 7,000 ft. of runway spacing must be maintained between formation members.

18.10. Mission Debriefing and Critique. A complete mission debriefing and critique should be conducted by the formation leader following the mission.

Chapter 19

AEROMEDICAL EVACUATION

19.1. Mission.

19.1.1. This chapter applies to Air Force KC-46 Aircrews, Aeromedical Evacuation Crew Member (AECM), and all management levels concerned with AE operations of KC-46 aircraft. All operators involved will use this chapter in conjunction with AFMAN 11-2AE Volume 3, *Aeromedical Evacuation (AE) Operations Procedures* for all KC-46 AE missions. **(T-2)**

19.1.2. Use of KC-46 aircraft for AE transport of ill or injured DoD members and their dependents is authorized.

19.1.3. CRM/TEM between AE crews and flight crews is paramount to the success of this challenging mission.

19.2. Aircraft Configuration.

19.2.1. On opportune or dedicated AE missions, configure the aircraft during pre-flight, prior to patient arrival. **(T-2)**

19.2.2. Litter Support Provisions. There are two sets of Integral Litter Stanchions on each aircraft. Each set has one utility panel with an associated emergency oxygen port and electrical cannon plug outlet. There are 18 floor brackets for 9 Litter Station Augmentation Set (LSAS) positions. **Note:** The LSAS positions have electrical cannon plug outlets but DO NOT have emergency oxygen ports. Emergency Passenger Oxygen Systems (EPOS) will be utilized. **(T-2)**

19.2.3. Available litter spaces and ambulatory seating will depend on the aircraft cabin's mission configuration.

19.2.4. Therapeutic Oxygen. Therapeutic oxygen is not an integral system on the KC-46 aircraft. Use the PTLOX/NPTLOX systems.

19.2.5. Integral patient emergency oxygen is only available on the Integral Litter Stanchion sets. This emergency oxygen does not provide eye protection in the event of heavy smoke/fumes in the cargo compartment, therefore patients will have EPOS readily available.

19.2.6. The aircraft should be configured at home station with 5 extra MA-1 portable walk-around bottles with harnesses (if available). EPOS will be used as a last resort.

19.2.7. Do not secure aircraft or medical equipment adjacent to an emergency exit in a manner that will prevent or impede egress.

19.2.8. Life Preservers. Use the Adult/Child life preserver units (LPUs) for patients.

19.2.9. Coordinate with the boom operator prior to securing excess AE equipment and in-flight kits.

19.2.10. During pre-flight, the Charge Medical Technician (CMT) will provide the boom operator with equipment weights using AMC Checklist Insert Guide and provide weights for each Flight Station/Litter Station.

19.2.11. Enplaning/Deplaning. Air stairs are the preferred method to enplane/deplane ambulatory patients. If litter patients are on board, use the High Deck Patient Loading Platform (HDPLP) or Patient Loading System (PLS) to enplane/deplane all litter and ambulatory patients. If the HDPLP is not available, request MHE support (Halverson Lift, Tunner, Hi-lift truck). Planning must take into consideration the limitation of MHE platforms (e.g., exposure to weather, loading time, loading considerations).

19.3. Passengers and Cargo.

19.3.1. For patient comfort and to permit in-flight rest for patients use the following for missions over 4 hours in duration:

19.3.2. Minimum of 2 litters must be available for ambulatory patients. **(T-3)**

19.3.3. One seat must be reserved for every 3 litter patients. **(T-3)**

19.3.4. An emergency litter will be set up on all AE missions. **(T-3)**

19.3.5. A maximum of 25 PTLOX/NPTLOX serviced units may be transported simultaneously without HAZMAT certification. Processing through aerial port is not required. If shipping more than six PTLOX containers as cargo, do not cover the containers with plastic. This will prevent potential accumulation of high oxygen concentration levels. **WARNING:** Ensure the cargo floor is free from any oil or petroleum products.

19.3.6. Hazardous cargo will not normally be transported aboard AE missions. **(T-2)**

19.4. Crash/Fire/Rescue. Do not use MHE or HDPLP during ground evacuations as they may interfere with crash/fire/rescue efforts.

19.5. AE Call Sign/Use of Priority Clearance.

19.5.1. AE Priority. The PIC may request "AIREVAC priority" for preferential ATC handling if a delay will affect a patient's well-being. PIC will request priority handling if AE missions are experiencing long delays during take-off or landing phases, which will affect a patient's condition.

19.5.2. The PIC needs to consider cabin temperature control during pre-flight, taxi, and flight when determining the need to request AIREVAC priority handling throughout all phases of the mission.

19.6. Engine Running Offload/Onload (ERO) Procedures. Not authorized. **(T-2)**

19.7. Aerial Refueling.

19.7.1. All personnel will be seated with seat belts fastened during AR. **(T-2)** If urgent patient care is necessary, AECMs may stand but will secure themselves to the litter using straps to mitigate the potential of falling during AR operations.

19.7.2. Practice emergency separations are prohibited on AE missions while patients are on-board. **(T-2)**

19.8. Aviation Operational Risk Management (AvORM). Refer to AMCI 90-903, Chapter 5, for risk management procedures. The current AECM AvORM worksheet is located at: **https://gdss.maf.ustranscom.mil/orm/appstart.aspx**.

Chapter 20

NIGHT VISION GOGGLE OPERATIONS

20.1. General. NVG operation enables the KC-46A fleet to operate from airfields that would otherwise be limited to day-use only or have lighting deficiencies and cannot guarantee uninterrupted worldwide operations. NVG use aids aircrews in maintaining situational awareness and identifying and mitigating threats. This capability is not to enable low level operations or assault landings, but is used for normal landings to light-limited airfields. This chapter provides guidance for KC-46A aircrews tasked to execute NVG operations. Where not specifically stated in this chapter, all operational restrictions for NVG operations are identical to those contained in the other chapters of this AFMAN. Key NVG terms listed below.

20.1.1. NVG Airland Pilot. A current and mission ready pilot certified to perform take-offs, approaches, landings, and taxi operations on NVGs at airfields marked with standard overt/covert lighting patterns or airfield markings.

20.1.2. NVG Airland Procedures. NVG Airland operations include NVG take-offs, approaches, landings, and ground operations on infrared-lighted, "covert" and normally lit airfields.

20.1.3. Aviators' Night Vision Imaging System (ANVIS). Night vision devices which amplify ambient light that is mounted to a standard or approved special-use helmet. ANVIS devices are required for all night NVG operations. They are commonly referred to as NVGs (currently includes AN/AVS-9G-TG).

20.1.4. Airfield Marking Pattern (AMP). In general, there are four standard types of airfield marking patterns described in DAFMAN 13-217, *Drop Zone and Landing Zone Operations* as AMP-1 through AMP-4. For NVG operations, a runway must be lit with an authorized covert or overt lighting system. **(T-3)** Crews are authorized to take-off and land with a minimum of AMP-3 lighting pattern or normal white light overt lighting. **(T-3) Note:** If AMP-3 or higher lighting pattern is used and no normal overt runway markings exist, the aircrew will be thoroughly briefed and be familiar with the covert lighting pattern dimensions and how they relate to calculated aircraft landing performance data. **(T-3)** No portion of the covert lighting will be inoperative. **(T-3)** Properly trained and certified aircrew may operate using AMP-4.

20.2. Mission. After proper training and certification, NVG aircrews are capable of overt and covert operations into and out of airfields with and without instrument approaches. Where multiple approach options are available, aircrew will select the approach which best minimizes exposure to the threat, maximizes obstacle and terrain clearance, and remains unpredictable while allowing a high probability of landing on the first approach. Where not specifically discussed in this chapter, follow guidance in **Chapter 16** and **Chapter 17**. **WARNING**: NVGs are one tool for enhancing situational awareness (SA) in the low-light environment. Crew members should use all means available (autopilot, flight instruments, navigational systems) to maintain situational awareness. Because NVGs do not turn “night into day," crew members must be aware of the limitations of NVGs.

20.3. Training. Accomplish aircrew training according to AFMAN 11-2KC-46 Volume 1 and current AFMAN 11-2KC-46V1 RTM before NVG use. NVG Airland approaches and landings may be flown from either seat.

20.4. Mission Planning. Accomplish in accordance with this chapter, **Chapter 16** of this AFMAN, and AFTTP 3-3.KC46 Attachment 5.

20.4.1. Planning considerations.

20.4.1.1. Approaches flown into an airfield using NVG Airland procedures. Regardless of the procedure that is planned and flown, it must allow the aircraft to stabilize and align to the final approach in order to comply with stabilized approach guidance in the KC-46A Flight Crew Training Manual.

20.4.1.2. To assist in alignment and runway acquisition, select an approach corridor that maximizes geographic points on the run-in that can be readily identified using NVGs based on moon illumination and topography. This corridor should be selected to minimize exposure to the briefed threat and maximize terrain and obstacle clearance.

20.4.1.2.1. A visual approach to a runway may include, but is not limited to, a random steep approach. See AFTTP 3-3.KC-46 for a more detailed description.

20.4.1.2.2. During construction of the visual approach, special emphasis should be placed on terrain and obstacle avoidance for both the approach segment and the go-around segment.

20.4.2. Mission Briefings. The PIC will ensure aircrew members receive a pre-mission briefing specifically emphasizing NVG-related items.

20.4.2.1. Briefing Guidance. Conduct briefings before all operations. Crews should augment briefings with aircrew brochures, mission flimsies and visual aids. Base briefings on the particular mission, crew capabilities, crew rest, and other pertinent factors. Normal take-off and landing emergency procedures will be thoroughly briefed as well as actions to take in the event of NVG failure.

20.4.2.2. Supplement the briefing guide located in **Chapter 16** as required. Add the following when appropriate:

20.4.2.2.1. ATC procedures.

20.4.2.2.2. Flight deck and aircraft preparation.

20.4.2.2.3. Crew coordination items (navigation, approach, landing, interphone procedures, etc.).

20.4.2.2.4. Approach procedures.

20.4.2.2.5. IRU, GPS, and FMC procedures.

20.4.2.2.6. Backup approach procedures.

20.4.2.2.7. Ground operations (taxi/parking plan, on-load/off-load, scanning responsibilities, etc.).

20.4.2.2.8. Lighting plan.

20.4.2.2.9. NVG emergency procedures (inadvertent IFR, sudden light exposure, battery or goggle failure). Include procedures covering NVG failure on take-off, approach, landing or go-around.

20.4.2.2.10. Weather (lowest forecast altimeter, ceiling, moonrise/set and illumination, sunrise/set).

20.4.2.2.11. Emergencies. Determine, in advance, specific crew duties and procedures for aircraft emergencies, inadvertent weather penetration, and the threat environment. Plan and brief details such as who will fly the aircraft, who will transition from NVGs, who will perform emergency actions, what maneuvers will be flown, flight deck lighting, etc.

20.5. Minimum Operational Equipment. The following equipment is required for NVG operations:

20.5.1. ANVIS-9 NVGs mounted on a standard or approved special-use aircrew helmet. The ANVGMS is authorized for use on the KC-46. Each crew member must carry spare batteries for their own NVG. **(T-2)** These may be contained in the NVG kit. **Note:** All crew members will pre-flight their own NVGs in an NVG test lane or Hoffman 20/20 test unit before use. **(T-3)** If carried, pre-flight spare NVGs. **Note:** Crew members must take careful note of diopter settings during eye lane focusing. Rough handling may disrupt these settings during pre-flight. Ensure the correct diopter settings are checked during donning.

20.5.2. Aircraft equipment in accordance with **Chapter 4** of this manual and the KC-46 DDG. **(T-2)**

20.5.3. Night Vision Goggle (NVG) Lighting.

20.5.3.1. NVG Aircraft Preparation. The flight deck of the KC-46 is specifically designed for NVG operations and little preparation is required for flights requiring NVGs. During the exterior walk-around inspection, a pilot will ensure necessary exterior IR lighting appears operable.

20.5.3.2. During combat/contingency operations, the tactical situation may dictate the use of all, some, or none of the aircraft exterior lights as determined by the mission commander. Lights-out or covert external lighting operations during peacetime in the US National Airspace System will only be conducted in warning, restricted, or host-nation approved areas in accordance with AFMAN 11-202 Volume 3 unless a letter of agreement exists with the FAA. **(T-2)** Use the following guidance for aircraft exterior lighting configurations when operating outside of special use airspace and in the US National Airspace System. Lights should be set as required for AR. **Note:** At least one aircraft in a formation will comply with single aircraft lighting restrictions. **(T-2) WARNING:** Immediately discontinue use of NVGs when exterior lights on another aircraft create excessive distractions or degrade performance of NVGs to the point where safe flying operations cannot be maintained.

20.5.3.2.1. Covert Mode Switch: External off.

20.5.3.2.2. Position Lights: MAX.

20.5.3.2.3. Formation Lights: On, intensity as required.

20.5.3.2.4. Anti-Collision/Rendezvous Lights: On, upper/lower for single ship operations or for the last aircraft in the formation unless it causes distractions, and flash pattern 1 unless in formation or required for aircraft identification.

20.5.3.2.5. Flight Deck Lighting. AFTTP 3-3.KC-46 will be used as the baseline for proper NVG flight deck setup. **(T-3)** Units may supplement this information. The only approved lighting system is the indigenous KC-46A NVIS flight deck lighting. In no case will NVGs be used without operable NVIS-compatible lighting and displays. **(T-2)**

20.6. NVG Considerations. Generally, all crew members requiring NVGs should be on or off goggles at the same time. Items such as terrain or weather which are obvious to a pilot on NVGs may not be visible to a non-NVG pilot. These differences in visual capabilities can cause problems in communicating information within the flight deck. For the same reasons, mixing different types of NVGs (AN/AVS-9 with AN/AVS-6, AN/AVS-6 with AN/PVS-5, etc.) within the flight deck is not recommended.

20.7. Ground Operations. Operations will not be conducted in a "blacked-out" (no overt or covert lighting) environment without NVGs. **(T-2)** However, mission requirements may dictate aircrews to taxi using NVGs on airfields without lights or equipped with overt or covert lights. If taxiing or accomplishing ground ops on taxiways/runways/ramps without overt lighting, the PIC will ensure aircraft or environmental lighting provides clear definition of taxiway/runway/ramp edge. Comply with all taxi restrictions in **Chapter 5** and the GDSS Airfield Detail/Giant Report. For landings on infrared (IR) lit runways, crews must be NVG qualified, use NVGs, and employ aircraft overt or covert lighting. **(T-2)** See **paragraph 20.5.3.2** for lighting restrictions.

20.8. Take-off Procedures (Minimum Lighting Take-off).

20.8.1. Complete all briefings and prepare for departure while on/off-load operations are in progress. The pilot flying the take-off will provide a departure briefing that includes departure headings, pertinent terrain features, Go/No-Go and aborted take-off procedures, and altitudes for obstacle and terrain clearance. **(T-3)** Use IR landing lights to assist in maintaining runway alignment.

20.8.2. During acceleration and take-off, the PM and the safety observer should monitor outside as the pilot flying transitions from outside references to instruments.

20.8.3. During departure and missed approaches, the PM will periodically announce deviations in airspeed and actual rate of climb. **WARNING**: Due to NVG limitations, normal visual cues do not provide a reliable means of determining accurate aircraft climb/sink rates during climb out. This may result in the aircraft developing an unplanned sink rate while in close proximity to terrain with a corresponding GPWS "Sink Rate" warning. Instrument cross checks during the take-off by the PF, PM, and safety observer may mitigate this risk.

20.8.4. NVG Malfunctions during Take-off. During an NVG take-off, if the PF experiences NVG failure, the take-off may be continued at the discretion of the PIC. The PIC will brief NVG failure on take-off procedures. **(T-3)** The PM will be ready to immediately assume aircraft control if the PF experiences spatial disorientation or an NVG malfunction. **(T-2)** **WARNING:** Aborted/rejected take-offs pose a special problem while conducting NVG operations, especially when the result of pilot flying NVG failure during the take-off. Aircrew should develop a plan to mitigate the hazards specific to a Go/No-Go decision.

20.9. En route Procedures.

20.9.1. Either the PM or PF will verify the aircraft flight path using instruments. **(T-3)**

20.9.2. Duties permitting, the boom operator or ACM maintains an outside scan, identifies checkpoints, ensures clearance from terrain obstructions and other aircraft, provides appropriate time advisories, and keeps the PIC informed of special use airspace.

20.10. NVG Air Refueling Operations. Pilots may use NVGs during air refueling rendezvous to acquire the tanker but must remove goggles no later than one nautical mile from the tanker. **(T-2)**

20.11. Approach and Landing Procedures.

20.11.1. Both pilots will wear NVGs during approaches and landings when covert runway lighting is used. **(T-2)** All crew members must place special emphasis on obstacle clearance, airspeed control, rate of descent, AGL altitude, distance from the runway, and flare and ground roll distances. Covert or overt landing lights must be used for all covert landings. **(T-2)** Covert exterior lighting is not approved in the US National Airspace System. **See paragraph 20.5.3.2**.

20.11.2. NVG Approach Weather Minimums. Current and qualified NVG aircrews, to include FTU instructor pilots conducting NVG approaches with student pilots enrolled in an FTU syllabus, may fly IFR approaches with weather at approach minimums. Maximum crosswind component for landing using NVGs is 20 knots. **(T-3)**

20.11.3. NVG Non-current (overt lighting only; covert NA). Pilots who have received training in NVG use but are not NVG certified may use NVGs for airfield acquisition but remove them before landing. A PF who is NVG non-current or not qualified will remove NVGs no later than 5 minutes prior to landing. **(T-3)** A PM who is NVG non-current or not qualified will remove NVGs as soon as the airfield is acquired but no later than 10 NM from the runway. **(T-3)** Additional crew members may continue to use NVGs through block-in for situational awareness and safety of flight.

20.11.4. The boom operator or ACM will monitor pilot and copilot primary flight displays, aid in and confirm airfield acquisition, and aid the pilots in accomplishing checklists. The boom operator or ACM will confirm landing configuration.

20.11.5. When accomplishing visual approaches, all crew members will ensure terrain/obstacle clearance by any means possible.

20.11.6. If an altimeter setting is unavailable, compare radar and pressure altimeters to a known elevation to determine an updated altimeter setting. Update altimeters as close as possible to the objective area. Typically, this will be conducted prior to the IAF. If an update is impossible, use lowest forecast altimeter setting.

20.11.7. Do not initiate a descent until the aircraft position is positively identified and adequate terrain clearance is assured. It is essential for the aircrew to verify ANP before beginning the approach to ensure the best possible course guidance into the airfield. **WARNING:** Due to NVG limitations, normal visual cues do not provide a reliable means of determining accurate aircraft climb/sink rates during descent. This may result in the aircraft developing an unplanned sink rate while in close proximity to terrain with a corresponding GPWS “Sink Rate” warning. Instrument cross checks during the approach by the PF, PM, and safety observer may mitigate this risk.

20.11.8. Approach Considerations. Whenever possible, utilize visual approach course guidance in the FMC to provide increased SA cues and help identify the runway environment and descend from the DA/MDA/DDA to touchdown.

20.11.9. When identifying the landing runway with either covert or overt lighting, the first crewmember will state they have the “Box and One” or “runway” in sight. The second crewmember to sight the landing zone will state they have the “Box and One” or “runway” in sight and the clock position. The PF will then acknowledge the accuracy of the stated clock position and confirm the runway is visually identified.

20.11.10. The pilot flying the approach and landing will verbally confirm the runway in sight before descending from the DA/MDA for IFR/IMC or 500ft for visual/tactical approaches. **(T-3)** In the event the pilot making the landing is not the one flying the approach, transfer aircraft control no later than 1 mile prior to the MAP for instrument approaches or 500ft AGL/2NM from the runway for visual approaches.

20.11.11. The PM and the boom operator/ACM will closely monitor bank angles, airspeed, altitude, and sink rate on final approach. **(T-3)** Starting at the “500" call the PM will call deviations trends in airspeed and vertical speed following normal stabilized approach criteria. **(T-3)**

20.12. Transition to Minimum Lighting Procedures. For non-NVG landings, cease NVG usage 5 minutes prior to landing to regain adequate night visual acuity.

20.13. Touch-and-go Operations. The PF will maintain runway alignment and execute flight manual procedures. The PM will back up the PF on throttle setting. During rotation and take-off, the PM should monitor outside as the PF transitions from outside references to instruments.

20.14. Go-Around and Missed Approach Procedures. Execute a go-around or missed approach if:

20.14.1. The aircraft does not meet stabilized approach guidance.

20.14.2. The pilot landing the aircraft does not have the touchdown zone or box in sight at the MAP.

20.14.3. Advised by any flight deck crew member or the controlling agency.

20.14.4. Either the PF or PM experience an NVG failure below 300’ AGL.

20.14.5. The coordinated or briefed runway lighting configuration is absent.

20.14.6. Runway not confirmed IAW **paragraph 20.11.10**.

20.15. NVG Failure during Approach and Landing. If the PF or PM experience an NVG failure or other malfunction at or below 300 feet AGL, perform a go-around. PIC will brief NVG failure procedures IAW **paragraph 20.4.2**. **(T-3)**

20.16. NVG Inadvertent Weather Penetration Procedures. Undetected meteorological conditions represent one of the most dangerous conditions facing a crew using NVGs. The onset of "scintillation" (a loss of scene detail) or changes in the appearance of halos represent the best clues to the possibility of inadvertent weather penetration. If inadvertent IMC is encountered,

confirm the aircraft is at a safe IFR altitude or immediately start a climb to a safe IFR altitude and cease NVG use until VMC can be attained.

JAMES C. SLIFE, Lt Gen, USAF
Deputy Chief of Staff, Operations

Attachment 1

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Abbreviations and Acronyms

AC—Aircraft Commander

ACC—Air Combat Command

ACM—Additional Crew Member

ACMC—Aircrew Member Compartment

ACO—Airspace Control Order

AE—Aeromedical Evacuation

AECM—Aeromedical Evacuation Crew member

AETC—Air Education and Training Command

AFB—Air Force Base

AFDS—Automatic Flight Director System

AFE—Aircrew Flight Equipment

AFH—Air Force Handbook

AFI—Air Force Instruction

AFM—Airplane Flight Manual

AFMAN—Air Force Manual

AFMC—Air Force Material Command

AFPD—Air Force Policy Directive

AFRC—Air Force Reserve Command

AFTTP—Air Force Tactics, Techniques, and Procedures

AGE—Aircraft Ground Equipment

AGL—Above Ground Level

ALAS—Automatic Load Alleviation System

ALRP—Alternate Long-Range Procedures

ALTRV—Altitude Reservation

AMC—Air Mobility Command

AMCI—Air Mobility Command Instruction

AMD—Air Mobility Division

AME—Air Mobility Element

ANG—Air National Guard

AOA—ALRP Operating Area

AOC—Air Operations Center

AOR—Area of Responsibility

APT—Automated Performance Tool

APU—Auxiliary Power Unit

AR—Air Refueling

ARCT—Air Refueling Control Time

AROCDU—Aerial Refueling Operator Control Display Unit

ATC—Air Traffic Control

ATGL—Air Transportable Galley and Latrine

ATIS—Automated Terminal Information Service

ATO—Air Tasking Order

ATOC—Air Terminal Operations Center

ATOCONF—Air Tasking Order/Confirmation

BRNAV—Basic Area Navigation Airspace

C2—Command and Control

CCMD—Combatant Command

CDT—Crew Duty Time

CFP—Computer Flight Plan

CFR—Code of Federal Regulation

CI—Cost Index

CMT—Charge Medical Technician

COMAFFOR—Commander Air Force Forces

CRM—Crew Resource Management

CVR—Cockpit Voice Recorder

DAFI—Department of the Air Force Instruction

DAFIF—Digital Aeronautical Flight Information File

DDA—Derived Decision Altitude

DDG—Dispatch Deviation Guide

DH—Decision Height

DIRMOBFOR—Director of Mobility Forces

DTD—Data Transfer Device

DTU—Data Transfer Unit

EBL—Emergency Boom Latching

ED—Engineering Disposition

EFB—Electronic Flight Bag

EICAS—Engine Indication and Crew Alerting System

EMCON—Emissions Control

EOT—Engine Out Taxi

EPA—Evasion Plan of Action

ERCC—Engine Running Crew Change

ETA—Estimated Time of Arrival

ETOPS—Extended Operations

ETP—Equal Time Point

FAF—Final Approach Fix

FCB—Flight Crew Bulletin

FCG—Foreign Clearance Guide

FCOM—Flight Crew Operations Manual

FCTM—Flight Crew Training Manual

FDP—Flight Duty Period

FICON—Field Condition

FIH—Flight Information Handbook

FIR—Flight Information Region

FLIP—Flight Information Publications

FM—Flight Manager

FMC—Flight Management Computer

FMF—Flight Management Function

FOB—Forward Operating Base

FPM—Flight Path Management

FRAG—Fragmentary Order

GDSS—Global Decision Support System

GFE—Government Furnished Equipment

GPS—Global Positioning System

HATR—Hazardous Air Traffic Report

HAZMAT—Hazardous Materials

HIRL—High Intensity Runway Lighting

ICAO—International Civil Aviation Organization

IFF—Identification Friend or Foe

IRS—Inertial Reference System

JA/ATT—Joint Airborne/Air Transportability Training

JCS—Joint Chiefs of Staff

JMPS—Joint Mission Planning System

JOSAC—Joint Operational Support Airlift Center

JRA—Jeppesen™ Runway Analysis

JTAO—Joint Tactical Air Operations

JUH-USMTF—Joint Users Handbook—US Message Text Format

KTAS—Knots True Air Speed

LPU—Life Preserver Unit

LRC—Long Range Cruise

LSAS—Litter Station Augmentation Set

LVP—Low Visibility Procedures

MAF—Mobility Air Forces

MAFPS—Mobility Air Forces Automated Flight Planning Service

MAJCOM—Major Command

MAP—Missed Approach Point

MBL—Manual Boom Latching

MC—Mission Capable

MCD—Medical Crew Director

MCP—Mode Control Panel

MDCC—Main Deck Cargo Compartment

MDN—Military Data Network

MDS—Mission Design Series (e.g., KC-46)

ME—Mission Essential

MEL—Minimum Equipment List

MEP—Mission Essential Personnel

MOB—Main Operating Base

MPF—Mission Planning Folder

MSL—Mean Sea Level

NAF—Numbered Air Force

NAS—National Airspace System

NAT HLA—North Atlantic Track High Level Airspace

ND—Navigation Display

NDB—Non-Directional Beacon

NGB—National Guard Bureau

NIPRNet—Non-Classified Internet Protocol Router Network

NM—Nautical Mile

NMR—Non-Mission Ready

NOTAM—Notice to Airmen

NPTLOX—Next-Generation Portable Therapeutic Liquid Oxygen

NVG—Night Vision Goggles

OPORD—Operations Order

OPR—Office of Primary Responsibility

OPTASKLINK—Operations Task Link

PA—Public Affairs

PACAF—Pacific Air Forces

PF—Pilot Flying

PFPS—Portable Flight Planning System

PIC—Pilot In Command

PM—Pilot Monitoring

PMSV—Pilot to Metro Service

PTLOX—Portable Therapeutic Liquid Oxygen

QRH—Quick Reference Handbook

RCR—Runway Condition Reading

RNP—Required Navigation Performance

ROE—Rules of Engagement

RRFL—Required Ramp Fuel Load

RVR—Runway Visual Range

RVS—Remote Vision System

RVSM—Reduced Vertical Separation Minimums

SA—Situational Awareness

SAAM—Special Assignment Airlift Mission

SID—Standard Instrument Departure

SIPRNet—SECRET Internet Protocol Router Network

SMGCS—Surface Movement Guidance and Control System

SOC—Senior Officer Course

SPINS—Special Instructions

STAN/EVAL—Standardization and Evaluation

TAT—Total Air Temperature

TDL—Tactical Data Link

TEM—Threat and Error Management

T.O.—Technical Order

TOLD—Take-off and Landing Data

TSAS—Tactical Situational Awareness System

UAS—Undesired Aircraft State

USAFE—United States Air Forces Europe

USAFE-AFAFRICA—United States Air Forces Europe/Air Forces Africa

VVM—Verbalize, Verify, and Monitor

Office Symbols

618 AOC—618th Air Operations Center (Tanker Airlift Control Center) (618 AOC (TACC))

AF/CVAM—Air Force Special Air Missions Division

AMC/A3—Air Mobility Command Air, Space and Information Operations Directorate

AMC/A3V—Air Mobility Command Aircrew Standardization and Evaluation Division

AMC/A3VK—Air Mobility Command Tanker Aircrew Standardization and Evaluation Branch

AMC/A6O—Air Mobility Command Communications Operations

DO—Director of Operations

DDO—Deputy Director of Operations

MAJCOM/A3—Major Command Air, Space and Information Operations Directorate

MAJCOM/A3V—Major Command Aircrew Standardization and Evaluation Division

MAJCOM/PA—Major Command Public Affairs

NAF/CC—Numbered Air Force Commander

NGB/A3X—National Guard Bureau Current Operations

OG/CC—Operations Group Commander

OGV—Operations Group Standardization and Evaluation

SQ/CC—Squadron Commander

WHMO—White House Military Office

Terms

Note—The following is a list of common mobility terms and associated abbreviation. Additional terms common to the aviation community may also be found in FAR, Part 1 and DoD FLIP *General Flight Planning*, Chapter 2.

Adequate Airfield—An airfield used for ETOPS planning. Must be listed in the AMC ASRR as suitable for the MDS with suitable runway, taxiway, and ramp length, width and weight bearing capacity (WBC); lighting for night operations. An airfield, which upon arrival, will not exceed Maximum on Ground (MOG). Airfield must be open from one hour prior to earliest planned divert time to one hour later than latest planned divert time. Airfield must not be on special pilot in

command list or on the certification airfield list, not be disqualified due to diplomatic/political considerations, and have appropriate fuel available.

Aeromedical Evacuation (AE)—AE provides time-sensitive en route care of regulated casualties to and between medical treatment facilities, using organic and/or contracted aircraft with medical aircrew trained explicitly for this mission. AE forces can operate as far forward as aircraft are able to conduct air operations, across the full range of military operations, and in all operating environments.

Aeromedical Evacuation Crew Member (AECM)—Qualified Flight Nurse (FN) or Aeromedical Evacuation Technician (AET) performing AE crew duties.

Airlift—Aircraft is considered to be performing airlift when manifested passengers or cargo is carried.

Air Route Traffic Control Center (ARTCC)—A facility that provides Air Traffic Control (ATC) services to aircraft operating on IFR flight plans within controlled airspace, principally during the en route phase of flight.

Air Traffic Control (ATC)—A service provided by an appropriate authority to promote the safe, orderly and expeditious use of the air transportation system and to maximize airspace utility.

Augmented Crew—Basic aircrew supplemented by additional qualified aircrew members to permit in-flight rest periods and longer mission duration.

Border Clearance—Those clearances and inspections required to comply with federal, state, and local agricultural, customs, immigration, and immunizations requirements.

Charge Medical Technician (CMT)—AET responsible for ensuring completion of enlisted aeromedical crew duties.

Command and Control (C2)—Exercise of direction and authority over assigned forces by a properly designated command echelon in the accomplishment of the mission.

Command and Control (C2) Center—Each C2 center provides supervision, guidance, and control within its assigned area of responsibility. For the purpose of this AFMAN, C2 centers include 618 AOC (TACC), theater AOC Air Mobility Division, Contingency Response Groups (CRG), air mobility control centers, fixed and deployed unit command posts, and tanker task forces.

CONFERENCE HOTEL/SKYHOOK—Communication conference available to help aircrews solve in-flight problems that require additional expertise.

Contingency Mission—Mission operated in direct support of an OPORD, OPLAN, disaster, or emergency.

Contingency Response Groups (CRG)—Command and control center deployed in theater where detailed planning, coordinating, and tasking for theater tanker and airlift operations are accomplished. The AME receives direction from the director of mobility forces (DIRMOBFOR). The AME is the focal point for communications and the source of control and direction for theater tanker and airlift forces.

Cost Index (CI) —The ratio of the time-related cost of an airplane operation and the cost of fuel. The value of the CI reflects the relative effects of fuel cost on overall trip cost as compared to time-related direct operating costs.

Crew Resource Management (CRM)—CRM/TEM is a management system designed to prevent aviation accidents and incidents through a better understanding of human factor concepts and the thorough use of all available resources, both inside and outside the aircraft.

Critical Phase Of Flight—Taxi, Take-off, air refueling (tanker or receiver inside of pre-contact), formation below 10,000 ft., approach (inside of the final approach fix or glideslope intercept), or landing.

Deviation—A deviation occurs when take-off time is not within -20/+14 minutes of scheduled take-off time.

Direct Instructor Supervision—Supervision by an instructor of like specialty with immediate access to controls (for pilots, the instructor must occupy either the pilot or copilot seat).

Director of Mobility Forces (DIRMOBFOR)—Individual responsible for theater mobility force management. The Air Force component commander exercises operational control of assigned or attached mobility forces through the DIRMOBFOR. The DIRMOBFOR monitors and manages assigned mobility forces operating in theater. The DIRMOBFOR provides direction to the Air Mobility Division in the AOR to execute the air mobility mission and will normally be a senior officer familiar with the AOR.

Distinguished Visitor (DV)—Passengers, including those of friendly nations, of star or flag rank or equivalent status, to include diplomats, cabinet members, members of Congress, and other individuals designated by the DoD due to their mission or position (includes BLUE BARK and COIN ASSIST).

Double Blocking—When an aircraft is required to block-in at one parking spot, then move to normal parking for final block-in. The extra time required for double blocking will be taken into account during mission planning/scheduling. To compensate for double blocking on departure, the aircrew "legal for alert time" may be adjusted to provide additional time from aircrew "show time" to departure. When double blocking is required on arrival, the aircrew's entry into crew rest will be delayed until post flight duties are complete.

Due Regard—Operational situations that do not lend themselves to ICAO flight procedures, such as military contingencies, classified missions, politically sensitive missions, or training activities. Flight under "Due Regard" obligates the PIC to be his or her own air traffic control (ATC) agency and to separate his or her aircraft from all other air traffic. See FLIP General Planning, Section. 7.

Electronic Flight Bag (EFB)—An electronic information management device intended to help aircrews perform in-flight and mission management tasks more quickly, easily and efficiently with less paper and consequently less weight. The EFB is a general-purpose computing platform intended to replace paper-based reference materials. It is individually issued to aircrew members for the use and display of ePubs/eFLIP, perform necessary aircrew functions such as calculate take-off and landing data, manage patient care, and exchange information with operations information systems.

Equal Time Point (ETP)—Point along a route at which an aircraft may either proceed to destination or first suitable airport or return to departure base or last suitable airport in the same amount of time based on all engines operating. For ETOPS purposes, a point along a route at which an aircraft may, if using single ETOPS alternate airfield, either proceed to last adequate airfield, ETOPS alternate airfield, or first adequate airfield. When using multiple ETOPS alternate airfields, the ETP will also be the point along a route at which an aircraft may proceed to the last ETOPS alternate airfield or the next ETOPS alternate airfield.

Extended Operations (ETOPS)—For twin engine aircraft, those flights conducted over a route containing a point further than 60 minutes flying time at the one-engine inoperative cruise speed (under standard conditions in still air) from a suitable en route alternate.

Extended Military Operations (EMO)—Military flight operations conducted in ETOPS airspace that do not follow traditional Point A-to-Point B routing.

ETOPS Alternate Airfield—An airfield used in ETOPS planning that meets Adequate Airfield criteria plus meets AFMAN 11-202V3 conditions for a destination alternate; has a suitable instrument procedure available for the planned approach from earliest to latest planned divert arrival time (+/- one hour); meets landing performance criteria and RCR corrected wind limitations; and has a minimum Aircraft Rescue and Fire Fighting (ARFF) Category 4 (for diversion times up to 180 minutes) or Category 7 (for diversion times greater than 180 minutes).

ETOPS Area of Operations (EAO) —The airspace between 60 minutes from an Adequate Airport and maximum diversion time from an ETOPS Alternate Airport. These times are determined using the single-engine drift-down speed and altitude in still air. Flight in the EAO requires use of ETOPS Procedures. EAO applies to any geographical area meeting the time constraints, not just over water. An ETOPS compliant flight plan will identify the EAO with entry and exit points. This definition applies to flight planning and does not in any way limit the authority of the pilot in command during flight.

ETOPS Critical Fuel Point—The point along the intended route of flight while in the EAO at which the ETOPS diversion fuel requirement to an ETOPS Suitable Alternate Airport is largest.

ETOPS Entry Point—The point on the route of an ETOPS flight where the aircraft enters the EAO.

ETOPS Exit Point—The point on the route of an ETOPS flight where the aircraft exits the ETOPS AOO.

ETOPS Maximum Diversion Time—The maximum time that a route can be planned from an ETOPS Alternate Airfield, using the approved one-engine inoperative cruise speed under standard atmospheric conditions in still air. The KC-46 maximum diversion time is 180 minutes. This may be reduced based on aircraft maintenance status.

Execution—Command-level approval for initiation of a mission or portion thereof after due consideration of all pertinent factors. Execution authority is restricted to designated command authority.

Flight Path Management (FPM)—The planning, execution, and assurance of the aircraft's guidance, trajectory, and energy state--in flight or on the ground.

Fuel Reserve—Amount of usable fuel that must be carried beyond that required to complete the flight as planned.

Global Decision Support System (GDSS)—AMC's primary execution command and control system. GDSS is used to manage the execution of AMC airlift and tanker missions.

Ground Time—Interval between engine shut down (or arrival in the blocks if engine shutdown is not scheduled) and next take-off time.

Hazardous Cargo or Materials (HAZMAT)—Articles or substances that are capable of posing significant risk to health, safety, or property when transported by air and classified as explosive (class 1), compressed gas (class 2), flammable liquid (class 3), flammable solid (class 4), oxidizer and organic peroxide (class 5), poison and infectious substances (class 6), radioactive material (class 7), corrosive material (class 8), or miscellaneous dangerous goods (class 9). Classes may be subdivided into divisions to further identify hazard (e.g., 1.1, 2.3, 6.1, etc.).

Instructor Supervision—Supervision by an instructor of like specialty.

Joint Airborne/Air Transportability Training (JA/ATT)—Continuation and proficiency combat airlift training conducted in support of DoD agencies. Includes aircraft load training and service school support. AMC headquarters publishes JA/ATT tasking in AMC OPORD 17-76, Annex C, Appendix 1.

Loading Time—Specific time established jointly by the commanders concerned when aircraft loading will begin.

Local Training Mission—A mission scheduled to originate and terminate at home station (or an off-station training mission), generated for training or evaluation, and executed at the local level.

Maintenance Status—See Below

A-1—No maintenance required.

A-2 (Plus Noun)—Minor maintenance required, but not serious enough to cause delay. Add nouns that identify the affected units or systems (e.g., hydraulic, ultra-high frequency (UHF) radio, radar, engine, fuel control, generator, boom or drogue, etc.). Attempt to describe the nature of the system malfunction to the extent that appropriate maintenance personnel will be available to meet the aircraft. When possible, identify system as mission essential (ME) or mission contributing (MC).

A-3 (Plus Noun)—Major maintenance. Delay is anticipated. Affected units or systems are to be identified as in A-2 status above.

A-4—Aircraft or system has suspected or known biological, chemical, or radiological contamination.

Medical Crew Director (MCD)—FN responsible for supervising patient care and AEMCs assigned to AE missions. On missions where a FN is not on board, the senior AET will function as MCD.

Mission—Movement of aircraft from a designated point of origin to a designated destination as defined by assigned mission identifier, mission nickname, or both in the schedule, mission directive, OPORD, OPLAN, or FRAG order.

Mobility Air Forces (MAF)—Forces assigned to mobility aircraft or MAJCOMs with operational or tactical control of mobility aircraft.

Mobility Air Forces Automated Flight Planning Service (MAFPS)—An Air Force level system which is the follow on replacement for the Advanced Computer Flight Plan (ACFP). The system brings an improved user interface to the customer and runs in Microsoft Windows.

Off-Station Training Flight—A training flight that originates or terminates at other than home station that is specifically generated to provide the aircrew experience in operating away from home station. Off station trainers will not be generated solely to transport passengers or cargo.

Operational Control (OPCON)—Functions of command and control involving composition of subordinate forces, authority to approve allocation of assets to specific missions, assignment of tasks, designation of objectives, and authoritative direction necessary to accomplish the mission. This is a higher authority than the command that performs specific mission functions.

Operational Missions—Missions executed at or above 618 AOC (TACC) level. Operational missions termed "CLOSE WATCH" include CORONET missions. Other operational missions such as deployment, re-deployment, reconnaissance operations, Readiness Exercises (RE), AMC channel or SAAM, and JA/ATT missions may be designated "CLOSE WATCH" as necessary.

Operational Necessity—A mission associated with war or peacetime operations in which the consequences of an action justify the risk of loss of aircraft and crews.

Operational Risk Management (ORM)—ORM is a logic-based, common sense approach to making calculated decisions on human, materiel, and environmental factors before, during, and after Air Force operations. It enables commanders, functional managers and supervisors to maximize operational capabilities while minimizing risks by applying a simple, systematic process appropriate for all personnel and Air Force functions.

Operations Order (OPORD)—Directive from a commander to subordinate commanders to announce the plan, state intentions, provide necessary information and instructions for a situation and assign specific tasks to subordinate commands.

Operations Plan (OPLAN)—A plan for a single or a series of connected operations to be carried out simultaneously or in succession, based on stated assumptions; a directive to permit subordinate commanders to prepare supporting plans and orders.

Pilot Flying (PF)—The pilot who is in direct maneuvering control of the aircraft. The PF is primarily responsible to control and monitor the aircraft’s current/projected flight path and energy state (including autoflight systems, if engaged).

Pilot Monitoring (PM)—The pilot at the flight controls who is not in direct maneuvering control of the aircraft, yet is primarily responsible to support the PF by actively monitoring the aircraft's current/projected flight path and energy state.

Positioning and De-positioning Legs—Positioning legs are performed to relocate aircraft for the purpose of conducting a mission. De-positioning legs are made to return aircraft from bases at which missions have terminated.

Scheduled Take-off Time—Take-off time is established in the schedule or OPORD. For air aborts and diversions, this will be engine shut down time (or arrival in the blocks if engine shutdown is not scheduled) plus authorized ground time. Early deviation does not apply to aborts or diversions unless the mission is formally rescheduled by current operations. Scheduled take-off time may be adjusted to make good an ARCT. Notify controlling agency prior to take-off to adjust the scheduled take-off time.

Special Assignment Airlift Mission (SAAM)—Funded airlift that cannot be supported by channel missions because of the unusual nature, sensitivity, or urgency of the cargo or that requires operations to points other than the established channel structure.

Stopway—An area beyond the takeoff runway no less wide than the runway and centered upon the extended centerline of the runway, able to support the airplane during an aborted takeoff, without causing structural damage to the airplane, and designated by the airport authorities for use in decelerating the airplane during an aborted takeoff.

T-Alert—An alert posture only for use by specific tanker units that are tasked with an enduring JCS-directed alert posture. T-Alert is not the same as other alert postures (ALFA, BRAVO, etc) and has specific crew rest and tour length restrictions.

Threat and Error Management (TEM)—TEM is a systems approach that builds multiple layers of defense logically designed to identify, prevent and trap threats and/or mitigate inevitable threats, errors, and undesired aircraft states.

Training Mission—Mission executed at the unit level for the sole purpose of aircrew training for upgrade or proficiency. Does not include operational missions as defined in this AFMAN.

Transportation Working Capital Fund (TWCF)—Part of the Air Force Working Capital Fund (AFWCF). Normally used to cover costs that can be recovered from customers. Examples include TDY costs, site surveys of TALCE or airlift unit deployment bed down locations, airlift unit level mission planning expenses, and support or contract costs for deployed TWCF units/personnel.

Undesired Aircraft State (UAS)—Operational conditions where an unintended situation results in a reduction of safety margin. A UAS is a result of ineffective TEM practices.

Urgent Patient Care—Patients who must be moved immediately to save life, limb, or eyesight, or to prevent complication of a serious illness.

Verbalize, Verify, and Monitor (VVM)—A proven monitoring and cross-checking CRM/TEM technique. Using VVM, aircrew members, 1) verbalize their intentions prior to acting on them, (2) verify that the intended actions have been made, and (3) monitor those actions to ensure the intended outcome(s) have occurred, thereby mitigating threats and trapping errors. VVM is typically a closed-loop system of communication designed to significantly reduce automation selection errors between the PF and the PM, however all crew members are encouraged to actively participate.

Wing Air Refueling Pod (WARP)—Hose and drogue refueling system that can be installed on the outboard portion of the wings.

618th Air Operations Center (618 AOC)—Operations center that controls tanker and airlift forces worldwide through a network of computer systems. The 618 AOC is organized into geographic cells consisting of East, West, and Emergency Action Cells. The 618 AOC contains the following functions: Mobility Management, Global Channel Operations, Operations Management, Current Operations, Global Readiness, Weather, Logistics Readiness Center, Aerial Port Control Center, International Clearances, and Flight Plans.