DEPARTMENT OF THE AIR FORCE
WASHINGTON, DC

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MEMORANDUM FOR DISTRIBUTION C
MAJCOMs/FLDCOMs/FOAs/DRUs

FROM: ACC/A3M
22 Rickenbacker Rd, Bldg 10
Joint Base Langley-Eustis, VA 23665

SUBJECT: Department of the Air Force Guidance Memorandum to Air Force Manual 11-2ERQ-4, Volume 3, *E/RQ-4 Operations Procedures*

By Order of the Secretary of the Air Force, this Air Force Guidance Memorandum immediately implements AFMAN 11-2ERQ-4, Volume 3, *E/RQ-4 Operations Procedures*. Compliance with this Memorandum is mandatory. To the extent its directions are inconsistent with other Department of the Air Force publications, the information herein prevails, in accordance with Department of the Air Force Instruction (DAFI) 90-160, *Publications and Forms Management* and Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Processes and Procedures*. This guidance is applicable to the Regular Air Force. This memorandum updates icing guidance.

Ensure all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Instruction (AFI) 33-322, *Records Management and Information Governance Program*, and disposed of in accordance with the Air Force Records Disposition Schedule (RDS) located in the Air Force Records Management System.

This memorandum becomes void after one year has elapsed from the date of this memorandum, or upon the publication of an interim change or rewrite of AFMAN 11-2ERQ-4V3 whichever is earlier.

ADRIAN L. SPAIN
Lt Gen, USAF
Deputy Chief of Staff for Operations

Attachment

Attachment

The below changes to AFMAN 11-2E/RQ-4 Volume 3, *E/RQ-4 Operations Procedures* are effective immediately.

4.5. Icing. Pilots should not conduct flight into forecast moderate or higher icing. Transit icing as quickly as possible and reference T.O. checklists. Pilots should make every effort to avoid icing and take into consideration contingency logic plans when mission planning. It is imperative that pilots remain cognizant of their C-1 (lost link) route profile commands, orbit locations, and altitudes to prevent prolonging flight into icing conditions. Pilots will utilize all available resources to analyze the extent and severity of icing before executing flight into known or forecasted icing conditions. **(T-1)**

See DAFMAN 90-161, paragraph 7.9. for further guidance on guidance memorandums.

BY ORDER OF THE SECRETARY OF THE AIR FORCE

AIR FORCE MANUAL 11-2ERQ-4, VOLUME 3

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E/RQ-4 OPERATIONS PROCEDURES

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This manual implements Air Force Manual (AFMAN) 11-202, Volume 3, *Flight Operations*. It prescribes standard operational procedures for the United States Air Force (USAF) RQ-4 remotely-piloted aircraft (RPA) systems. This publication applies to Regular Air Force, and the Air Force Reserve. This publication does not apply to the United States Space Force or the Air National Guard. Failure to observe the prohibitions and mandatory provisions in paragraphs **1.6** and **2.3.4** of this publication by military members is a violation of Article 92 of the Uniform Code of Military Justice (UCMJ). The use of the name or mark of any specific manufacturer, commercial product, commodity, or service in this publication does not imply endorsement by the Air Force. Major Commands (MAJCOMs)/direct reporting units (DRUs)/field operating agencies (FOAs) are to forward proposed MAJCOM/DRU/FOA-level supplements to this volume to the United States Air Force Flight Standards Agency (AFFSA/A3OF), through Air Combat Command High Altitude Reconnaissance Operations Branch (ACC/A3MR), for approval prior to publication in accordance with AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*. Copies of MAJCOM/DRU/FOA-level supplements, after approved and published, will be provided by the using MAJCOM/DRU/FOA to AFFSA/A3OF, ACC/A3MR, and the user MAJCOM/DRU/FOA offices of primary responsibility (OPR). Field units below MAJCOM/DRU/FOA level will forward copies of their supplements to this publication to their parent MAJCOM/DRU/FOA OPR for post publication review.

SUMMARY OF CHANGES

This interim change revises AFMAN11-2RQ-4V3 by clearly codifying how the Global Hawk Operations Center (GHOC) is organized, how it functions and delineates required personnel. **Paragraph 1.2.3.4** has been changed, and **paragraph 1.2.3.4.1** through **paragraph 1.2.3.4.5** are added as supporting paragraphs. A margin bar (|) indicates newly revised material.

Chapter 1

GENERAL GUIDANCE

1.1. Overview. This manual provides procedural guidance for operation of the RQ-4 remotely piloted aircraft system and applies to all aircrews and all management levels concerned with operation of the RQ-4. Use this manual in conjunction with aircraft flight manuals, Department of Defense (DOD) Flight Information Publication, DoD Foreign Clearance Manual/Guide, and applicable Joint and USAF directives. Pilots will comply with Joint Order 7610.4U, *Special Operations*, Chapter 12, Section 9, Unmanned Aerial Systems (UAS) Operations in the National Airspace System (NAS), where applicable. (**T-0**).

1.2. Roles and Responsibilities. This manual, in conjunction with other governing directives (as supplemented), prescribes procedures for operating EQ-4/RQ-4 aircraft under most circumstances. Unless otherwise indicated, the procedures in this manual universally apply to RQ-4 and EQ-4 systems and crewmembers. It is not a substitute for sound judgment, or approval to override any existing aircraft limitation. Procedures not specifically addressed may be accomplished if they enhance safe and effective mission accomplishment.

1.2.1. Commanders. Commanders at their respective Tier levels are responsible for complying with guidance in this Manual. EQ-4/RQ-4 flying unit wing commanders, delegated no lower than the Operations Group Commander (or equivalent), are responsible for providing local operating guidance to supplement the requirements of this Manual.

1.2.2. Pilot in Command (PIC) Authority. The Pilot in Command, regardless of rank, is responsible for, and is the final authority for the operation of the EQ-4/RQ-4 aircraft. Pilots will use best judgement to safely conduct flying operations.

1.2.3. Aircrew Responsibility

1.2.3.1. Pilot in Command. For a crew with more than one qualified pilot, identify the Pilot in Command prior to assumption of aircraft control. The Pilot in Command has responsibility and authority as defined in AFI 11-202V3. The Pilot in Command may change during missions as pilots cycle in and out of the cockpit. Whenever a new pilot assumes Pilot in Command authority, they shall ensure a positive handoff of aircraft control occurs. (**T-3**).

1.2.3.1.1. For normal terminal area operations utilizing a launch and recovery element (LRE) and mission control element (MCE), the Pilot in Command will be the LRE pilot until completion of the "Ground Station Handoff" checklist for departures, and upon completion of the "Ground Station Handoff" checklist for arrivals. (**T-3**).

1.2.3.2. Sensor Operator. The sensor operator is responsible for mission collection planning, mission management, sensor monitoring and tasking, monitoring collection quality, and data dissemination. Additionally, the sensor operator is responsible for assisting the pilot, as required, with conducting checklists and monitoring aircraft systems and operating airspace.

1.2.3.3. Hawkeye. A Hawkeye is an individual who provides observation and communication to air crew and controllers and is required for all normal ground operations to act as a safety observer during aircraft movement. The waiver authority for Hawkeye is

the Operations Group Commander. Hawkeye maintains two-way voice communications with the Pilot in Command and appropriate air traffic control/ground controllers and should alert the Pilot in Command of any unsafe situation. Hawkeye duties may be accomplished by any Squadron Commander certified individual, to include non-rated personnel. If non-rated personnel will be used for Hawkeye duty, Squadron Commanders will develop and certify a training program for non-RQ-4 pilots certified for Hawkeye duties. A copy of the training plan will be provided to the Operations Group Commander.

1.2.3.3.1. Hawkeye go/no-go considerations:

1.2.3.3.1.1. Hawkeye is essential ground personnel. Hawkeye duties should comply with AFI 11-202V3 crew rest and crew duty day requirements, to include non-rated personnel performing Hawkeye duties. Hawkeye operations without crew rest or beyond duty day limitations require Squadron Director of Operations approval.

1.2.3.3.1.1.1. Hawkeye should not normally be utilized to accomplish T.O. checklists or other T.O. pilot duties (see section **3.6.1**). If operational requirements drive the need for Hawkeye to perform these duties, the Hawkeye shall be a current and qualified RQ-4 pilot and shall comply with AFI 11-202v3 crew rest and crew duty day limitations. (**T-2**).

1.2.3.3.1.2. If a Hawkeye is classified as duties not including flying status, a DD Form 2992 must include remarks stating that the Hawkeye is approved to perform Hawkeye duties. Hawkeye will not perform the Before Exterior Inspection checklist or any other T.O. pilot duties if not medically cleared to perform flight duties.

1.2.3.4. Global Hawk Operations Center. The Global Hawk Operations Center (GHOC) is a squadron-level mission center normally manned by qualified pilots and sensor operators, command, control, communications, and computer (C4) support, intelligence, weather, operations supervision, and Squadron Aviation Resource Management personnel to provide operational support to the pilots and sensor operators actively executing a mission. Squadron commanders will ensure the Global Hawk Operations Center is sufficiently manned to support mission execution. **(T-3).**

1.2.3.4.1. The Squadron Operations Supervisor oversees all aspects of the operational flying, ground, and mission support elements. They direct MCE, LRE, and GHOC personnel support actions to ensure efficient mission execution. The GHOC Operations Supervisor is a single seat requirement, filled by an experienced pilot with certification in accordance with AFI 11-418, *Operations Supervision*.

1.2.3.4.2. Command, Control, Communications and Computers (C4) personnel provide direct mission C4 support during operational missions. They troubleshoot mission equipment outages and provide immediate resolution to mission C4 issues to ensure the fluid execution of mission objectives. The C4 crew seat directly supports GHOC maintenance, Legacy Video Mirroring, and SpecView® systems. The GHOC C4 is a single seat requirement filled by a qualified, Client Systems Technician, Air Force Specialty Code 3D1X1.

1.2.3.4.3. Intelligence support provides mission intelligence support to the MCE and LRE throughout the mission's duration. The GHOC Intelligence is a single seat requirement, filled by a qualified intelligence analyst.

1.2.3.4.4. The GHOC Pilot monitors the mission and provides command and control support to the MCE and LRE pilots throughout the mission's duration. The GHOC Pilot is a single seat requirement filled for each combat line by a qualified pilot with at least Basic Mission Qualification (BMC) qualification.

1.2.3.4.5. The GHOC Sensor Operator monitors the mission and provides command and control support to the MCE Sensor Operator throughout the mission's duration. The GHOC sensor operator is a single seat requirement filled for each combat line by a qualified sensor operator with at least a BMC qualification.

1.2.4. Supplements. Comply with applicable supplements to all guidance referenced in this manual. Develop additional supplements in accordance with AFI 33-360, *Publications and Forms Management*.

1.3. Key Words Explained.

1.3.1. "Will," "Shall" and "Must" indicates a mandatory requirement.

1.3.2. "Should" is used to indicate a preferred, but not mandatory, method of accomplishment.

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

1.3.4. "Note" indicates operating procedures, techniques, etc., considered essential to emphasize.

1.4. Deviations and Waivers. Do not deviate from the guidance in this AFMAN, except when a valid waiver exists or when deemed necessary by the Aircraft Commander to ensure crew safety or safe aircraft operations during a situation not covered by this AFMAN and immediate action is required.

1.4.1. Deviations. The Pilot in Command is to report deviations or exceptions taken without waiver through proper channels to ACC Stan/Eval who in turn, notifies the respective Reconnaissance Wing as appropriate of follow-on actions. (**T-1**).

1.4.2. Waivers. HQ ACC/A3M is the waiver authority for all other provisions in this AFMAN unless specifically noted via the tiered waiver notation (for example, **T-0**, **T-1**, **T-2**, **T-3**). Consult AFI 33-360 for explanation of tiered waiver notations. Waiver requests are submitted in electronic form and include the rationale for the waiver to HQ ACC/A3M. Forward all requests through the chain of command to ACC/A3MR for approval. Waivers, if approved, are good for a maximum of one year from the effective date or up to 30 days after the approving commander's tour length, whichever is shorter.

1.5. Requisitioning and Distribution. Unit commanders provide copies of this AFMAN for all aircrew members and associated support personnel. This publication is available digitally at **http://www.e-publishing.af.mil**.

1.6. Compliance with other Operating Provisions. Aircrew will comply with operating provisions specified in Federal Aviation Administration (FAA) Certificates of Waiver, Certificates of Authorization or Memoranda of Agreement for operations within or through the United States

(US) National Airspace System (NAS). (**T-0**). Aircrew will comply with operating provisions specified in host-nation agreements for operations within another nation's airspace. (**T-0**).

1.7. Phase Manuals. Training units may develop phase manuals from procedures contained in relevant documents. Phase manuals may expand on basic procedures, but they will not be less restrictive than flight manuals and applicable AFIs. (**T-1**). Operational units may use phase manuals to augment mission qualification and continuation training.

1.8. EQ-4 Nomenclature. RQ-4 aircraft modified to carry the Battlefield Airborne Communications Node (BACN) payload have been provided the mission design series nomenclature of EQ-4. Unless otherwise noted all references to RQ-4 in the AFMAN apply to EQ-4 operations as well.

1.9. Minimum Flight Crew.

1.9.1. Pilot. The minimum flight crew is one pilot.

1.9.2. Sensor Operator. A current and qualified sensor operator is required in the cockpit when necessary to monitor or control sensors, or when deemed necessary by the Pilot in Command.

1.9.2.1. The SO is not required for EQ-4 BACN sorties.

1.10. Maintenance Personnel.

1.10.1. One qualified Crew Chief and one qualified Vehicle Test Controller operator are required for ground operations prior to aircraft taxi and after landing during aircraft normal shutdown.

1.10.2. A communications technician will be immediately available to each participating cockpit crew conducting operations. (**T-3**).

Chapter 2

MISSION PLANNING & BRIEFING

2.1. General. The global and dynamic nature of RQ-4 operations often requires RQ-4 mission crew element aircrews to fly in different theaters and areas of responsibility from day-to-day. This provides great flexibility in supporting the warfighter, but drives increased risk because main operating base aircrews must be generally knowledgeable of such a large number of governing directives (for example, operations plans and orders, special instructions, air operations directives, airspace control plans, air tasking orders, airspace control orders, and other theater specific rules of engagement and sensitive reconnaissance operations track guidance). To minimize this risk, dedicated mission planning time is required to ensure the aircrew is fully prepared to safely execute the assigned mission in accordance with all governing directives. This dedicated mission planning should normally be conducted the day prior to mission execution as an entire crew.

2.2. Responsibility. The responsibility for mission planning rests with each individual Aircraft Commander. The operations and intelligence functions of the unit will support mission planning efforts. Units may utilize mission planning teams or planning cells to supplement Aircraft Commander planning requirements. The Pilot in Command is ultimately responsible for ensuring all mission planning materials are current and command guidance is followed.

2.2.1. Units will maintain dedicated mission planning facilities where all information and materials required for flight planning are available. (**T-2**).

2.2.2. Units will retain current operational arrangements, standard operating procedures or similar named documents that allow access with foreign airspace for reference and mission planning. (T-2)

2.3. Mission Planning Procedures.

2.3.1. The Pilot in Command is responsible for verifying required mission planning items, and briefs the crew prior to assuming aircraft command. Pilots are to ensure the best available route, sensors, and altitudes are used for collection and threat avoidance. (**T-3**). Aircrew who have not been briefed are not to fly missions and/or events.

2.3.1.1. Exception: Aircrew relief for brief physiological breaks. Breaks for aircrew relief should be no longer than 10 minutes, and should only be used for physiological needs (for example, lavatory, leg stretch, etc.), and not for other means (for example, food, phone call, etc.)

2.3.1.1.1. Aircrew providing relief for physiological breaks must have crew rest and will receive a handover brief sufficient to cover current mission situation, route, contingencies, collection plan, and any other required information.

2.3.2. All crewmembers are to be present during mission planning. (**T-3**). The Pilot in Command directs mission flight planning to include:

2.3.2.1. Tactics, techniques, and procedures to employ the aircraft efficiently.

2.3.2.2. Reviewing all crewmember training requirements and currencies and schedule outstanding items.

2.3.2.3. Reviewing aircrew and aircraft restrictions for each activity planned.

2.3.3. If operationally necessary, mission elements and events may be modified the day of a flight or while the aircraft is airborne as long as changes do not compromise flight safety. Pilots in command are to ensure all crewmembers acknowledge any changes. (**T-3**).

2.3.4. Crews are to complete sufficient mission planning prior to flight to ensure safe mission accomplishment. (**T-3**). As a minimum, planning will cover weather, fuel requirements, takeoff and landing data, mission objectives, relevant airspace restrictions and prohibited areas enroute and on station, threat study (to include available sources for threat warning), departure and arrival procedures (to include thorough contingency route planning), possible emergency and divert airfields applicable to the phase of flight, communications, and collection plans. (**T-3**). Crews will also ensure they cover all applicable theater documents for their mission (to include the Sensitive Reconnaissance Operations Book; Air Tasking Order; Air Control Order; Special Instructions; Reconnaissance, Surveillance Target Acquisition, and Track Messages). (**T-3**).

2.3.5. Operations within or through the US National Airspace System. Crews are to ensure the projected flight path, including emergency and divert contingencies, meets the specifications of the FAA-approved Memorandum of Agreement and/or Certificate of Waiver or Authorization. (**T-0**). For sensor operations within the US NAS the Pilot in Command shall ensure a Proper Use Memorandum and radio frequency authorization is approved prior to collection. (**T-0**).

2.4. Mission Planning Requirements.

2.4.1. Day prior mission planning requirements. Dedicated day prior mission planning should be the norm for all mission crew element sorties and will be conducted by the entire crew flying that segment. (**T-3**). In some cases, dedicated day prior mission planning shall be required because of the complexity of the mission, the level of military risk, the level of political sensitivity, the potential for negative strategic influence, or other operational considerations. Some examples that shall drive the need for day prior mission planning include, but are not limited to, the usage rate of a sensitive reconnaissance operations track / operational area, individual crew member certifications, the complexity of sensitive reconnaissance operations track execution requirements or track restrictions, heightened tensions, the high risk nature or sensitivity of a particular sensitive reconnaissance operations track, etc. As a general guide, operational sorties that require Secretary of Defense (SecDef) level or Presidential approval authority as well as exercise and aircraft transfer sorties require day-prior mission planning. Day prior mission planning is always required under the following conditions:

2.4.1.1. When conducting sensitive reconnaissance operations (as defined by CJCSI 3250.01, *Policy Guidance for Intelligence, Surveillance, and Reconnaissance and Sensitive Reconnaissance Operations*) based on the increased level of risk inherent in sensitive reconnaissance operations. (**T-1**).

2.4.1.2. First use of an Operations Area or Airborne Reconnaissance Reporting Area (as defined in CJCSI 3250.01) by any member of the crew, to include instructors/evaluators, even if other crewmembers have previously flown in the particular area. (**T-2**).

2.4.1.3. When conducting sensitive reconnaissance operations or Combatant Command intelligence, surveillance, reconnaissance (as defined by CJCSI 3250.01) where any

member of the crew has not flown in the assigned Operations Area or Airborne Reconnaissance Reporting Area in the last 45 days. (**T-2**).

2.4.1.4. Aircraft transfer sorties and exercise sorties. (**T-3**).

2.4.2. Combatant Command intelligence, surveillance, reconnaissance sorties. Day prior mission planning should be performed for all Combatant Command intelligence, surveillance, reconnaissance operations, but may not be required in all cases due to lower overall risk as compared to sensitive reconnaissance operations sorties. The Operations Group Commander has responsibility to identify which Combatant Command intelligence, surveillance, reconnaissance operations require day prior mission planning. As a guide, the Operations Group Commander should consider the complexity of Operations Area track execution requirements and track restrictions as well as the complexity of the governing special instructions, rules of engagement, etc. when determining day prior mission planning requirements. The Operations Group Commander will provide written notification to the supported MAJCOM / Air Operations Center identifying which combatant command intelligence, surveillance, reconnaissance sorties require dedicated day prior mission planning for their awareness.

2.4.3. Day prior mission planning exceptions.

2.4.3.1. Non-mission portions of operational sorties. Dedicated day prior mission planning is desired, but may not be required for aircrews who will only accomplish "transit operations." The Operations Group Commander is the determining authority for day prior mission planning for transit operations. Transit crews who have not accomplished day prior mission planning shall not conduct mission operations in an intelligence, surveillance, reconnaissance Operations Area or an Airborne Reconnaissance Reporting Area (as defined in CJCSI 3250.01). (**T-1**). In cases where sorties are extended for any reason (weather delays, late takeoff, etc.) and crew changeover is required and the incoming crew did not accomplish the required day prior mission planning, the sortie shall be terminated early to ensure crews who have not accomplished required mission planning do not operate in the intelligence, surveillance, reconnaissance Operations Area / Airborne Reconnaissance Reporting Area. (**T-1**).

2.4.3.2. Local Formal Training Unit and Continuation Training Sorties. Day prior mission planning should be the norm for all Formal Training Unit and Continuation Training sorties. The Operations Group Commander is the determining authority for day prior mission planning requirements for local Formal Training Unit and Continuation Training sorties. For Formal Training Unit sorties accomplished on operational missions, day prior mission planning is required. (**T-1**). See **paragraph 2.4.4** for further guidance in regards to day prior mission planning.

2.4.3.3. Launch and Recovery Element (LRE) launch and recovery operations. Routine launch and recovery operations may not require day prior mission planning. As a guide, new or infrequent launch and recovery operations should utilize day prior mission planning. Squadron Commanders will determine mission planning requirements for launch and recovery operations.

2.4.4. Mission planning time for day-prior mission planning. Squadron commanders shall provide sufficient dedicated mission planning time to accomplish crew mission planning and

mission briefing. (**T-3**). This period is normally 6 hours for mission crew element crews, but may be reduced in proportion to the planned sortie complexity and amount of staff and computer prepared mission data available to the crew. However, in no case will less than 4 hours be allocated to allow the crew to review mission data and complete an aircrew mission briefing. Mission planning must be accomplished as a crew. (**T-2**). Unit staff will ensure other activities, such as recurring academic training, training device periods, additional duties, etc., do not interfere with time allotted for mission planning and aircrew mission briefing. (**T-3**).

2.4.4.1. "Show and go" sortie execution in-lieu of day-prior mission planning. An alternate method that squadron commanders may utilize to accomplish the day prior mission planning requirement for crews is to utilize a squadron mission planning cell. A mission planning cell must be manned with a minimum of one qualified pilot and sensor operator plus adequate unit level intelligence and weather support. (**T-2**). The mission planning cell shall develop a standardized set of execution -- ready mission binders for each crew position and provide a formal mission brief to the showing crew(s). (**T-2**). Squadron Commanders will allot a minimum of 2 additional hours prior to the unit's normal showtime (for example, a normal 1.5 hour show for a mid-mission is now 3.5 hours to account for the day prior mission planning requirement) for these "show-and-go" sortie profiles. (**T-2**). This exception is not allowed in cases where any crewmember has not flown in the assigned Operations Area/Airborne Reconnaissance Reporting Area. In these cases, day-prior mission planning shall be required. (**T-2**).

2.4.5. Day prior mission planning waiver authority.

2.4.5.1. Sensitive reconnaissance operations and Combatant Command intelligence, surveillance, reconnaissance sorties. In cases where day prior mission planning is required by this manual, but the mission execution is deemed to be of high enough priority, the mission execution authority (MAJCOM/CC or Commander, Air Forces (COMAFFOR)) for sensitive reconnaissance operations or Combatant Command intelligence, surveillance, reconnaissance sorties may accept the risk of mission execution and waive day-prior mission planning requirements. Such waivers will be provided in writing and may be delegated no lower than commanders or their delegated representatives in the grade of O-8 or higher. (**T-1**). In all other cases, the Operations Group Commander is the waiver authority (**T-3**).

2.4.5.2. Waivers must be approved for each individual mission (i.e., blanket and standing waivers are not allowed) as proscribed in paragraphs **2.4.1.1** through **2.4.1.4**. (**T-1**).

2.4.6. Ensure crew substitutions are made to allow sufficient time for the substitute crewmember(s) to comply with **paragraph 2.4.1.** Same-day substitutions require Squadron Director of Operations or higher approval. Missions shall be canceled and/or terminated early when day prior mission planning cannot be achieved or minimum mission planning time is not available. (**T-1**). Additionally, if same-day substitutions are required, the mission shall be canceled and/or terminated, unless waived by appropriate authority. (**T-1**).

2.5. Mission Plan Approval Process.

2.5.1. For airfields at which one or more initial approach points are available, mission planners should build RQ-4 approaches and go-arounds to overlay the initial approach points and verify obstacle clearance.

2.5.2. Mission plans are to be approved for flight by unit leadership and posted to a list of approved mission plans for operational use worldwide. (**T-3**). All aircrew are to ensure they are using an approved mission plan version for flight.

2.5.2.1. For mission plan approval, consider flight path predictability to minimize loss of life first; then minimize equipment/property damage.

2.5.3. Mission planners must minimize risk by conducting an annual review of mission plans by comparing existing Contingency-3 (C-3) coverage to potential C-3 coverage. All mission profiles are to be reviewed including Busy Relay (BR) missions. Notify ACC/A3MR at **ACCA3.A3MR.RQ-4OpsBranch@us.af.mil** when the review has been completed. **(T-2).**

2.5.4. Review Cycle. Mission planners will review applicable Flight Information Publication updates and ensure mission plans provide for obstacle clearance. (**T-3**).

2.6. Enroute Charts and Approach Procedures.

2.6.1. Mission Maps and Navigation Route Maps. During the mission, pilots will display an appropriate background chart (ex. ONC/GNC/etc.) on their primary flight display. (**T-3**). If the background chart on the pilot map is not updated with the latest Digital Aeronautical Information File and Electronic Chart Update Manual, pilots in command will use the background chart for situational awareness only. (**T-3**).

2.6.1.1. Map Overlays. Units are to standardize overlays displayed on the primary pilot and sensor operator maps. (**T-3**). Overlays should be the same for all aircrew (MCE pilot, LRE pilot, and sensor operator) workstations and should be plotted by automation to the maximum extent possible. Should an overlay not be updated prior to mission execution, the aircrew, in accordance with unit standards, is to use the map tools to add the additional information directly on to the primary map display.

2.6.2. Publications. Units are to ensure the Pilot in Command has immediate access to Flight Information Publications required for safe operation and navigation of the aircraft. (**T-3**). Electronic Flight Information Publications are authorized for use in flight.

2.6.3. Flight Logs. RQ-4 pilots may use the computer-generated mission flight plan log in lieu of an AF Form 70, *Pilot's Flight Plan and Flight Log*.

2.7. Runway Requirements. Waiver authority for this paragraph is the Operations Group Commander. Runway dimensions must meet or exceed the following minimums: (**T-3**).

2.7.1. Runway Length: 8,000 feet. (**T-3**).

2.7.2. Runway width: 148 feet. (**T-3**).

2.7.3. Taxiway width: 75 feet. (**T-3**).

2.7.4. Intersection departures are authorized if the remaining runway distance meets or exceeds the minimums above.

2.7.5. Exception: Operations at Naval Air Station Sigonella are approved and units are to follow published technical order and mission planning guidance to mitigate the shorter runway length and taxiway width. (**T-3**).

2.7.6. FAA COMFAA analysis reveals that the maximum Aircraft Classification Number (ACN) for RQ-4B is as follows:

2.7.6.1. For landing at a runway with a Pavement Classification Number (PCN) subgrade support strength category of "flexible" (most typically asphalt), use an ACN of 14.7.

2.7.6.2. For landing at a runway with a PCN subgrade support strength category of "rigid" (most typically concrete), use an ACN of 15.9.

2.7.6.3. These values were determined using maximum air vehicle weight, maximum tire pressure and maximum main landing gear load.

2.8. Airfields, Overflight, and Transit Routing.

2.8.1. Terms and Definitions

2.8.1.1. Primary Airfields. Primary airfields are defined as those where routine RQ-4 operations occur.

2.8.1.2. Divert Airfields. Divert airfields are defined as those airfields used when a recovery cannot be accomplished to the original field of intended landing (typically weather divert).

2.8.1.3. Emergency Airfields. Emergency airfields are defined as an airfield that is to be used only when a safe landing at a primary or divert airfield is not possible.

2.8.1.4. Airfield Use. Use is defined as any airfield where an approach is available as part of the pre-planned mission to include primary airfields, divert airfields, autonomous contingency logic or unstitched airfields available to the Pilot in Command in emergency situations.

2.8.2. Airfield Selection and Approval Process.

2.8.2.1. The Operations Group is responsible for identifying, vetting and coordinating airfields for Global Hawk operations within the Continental United States (CONUS), Alaska, Hawaii, and Guam. **(T-2)**. The approving authority for airfield use is ACC/A3.

2.8.2.2. Airfield use outside the CONUS may be requested by either the Operations Group or air forces component command, including primary airfields, divert airfields and emergency airfields. Approval authority for airfield use is the host nation, coordinated in conjunction with the US Senior Defense Official/Defense Attache' (SDO/DAA) accredited to that host nation, and validated by the geographic MAJCOM/A3. In combatant commander theaters with no MAJCOM, the validating authority for airfield use is COMAFFOR (or as delegated, not lower than the COMAFFOR/A3). **(T-2)**. Host nation coordination and agreement development, to include (but not limited to) overflight routing, approaches, departures, and ground procedures (as applicable) shall be the responsibility of the supported MAJCOM/COCOM in coordination with the SDO/DATT accredited to that host nation, with assistance from Air Combat Command and/or the Operations Group when requested.

2.8.2.3. Regional geosecurity, geopolitical dynamics or host nation political situations (e.g., elections) may constitute changes in foreign governmental policies which may make some airfields untenable for optimum information security. This may be reflected in the Foreign Clearance Guide, but if doubts exist, the COCOM J5 (ISR) with the COCOM's Foreign Policy Advisor (POLAD), in conjunction with the MAJCOM A5 and POLAD,

will review divert and emergency airfields with an observation on current regional geosecurity and political realities.

2.8.2.4. See **Table 2.1**, Airfield Selection Approval Authorities Table, for guidance.

Table 2.1. Airfield Selection Approval Authorities Table.

LOCATION	APPROVAL AUTHORITIES
CONUS Including Alaska, Hawaii, and Guam (**Notes** 1 and 3)	ACC/A3
OCONUS (**Notes** 1 and 2)	Host Nation, in coordination with the SDO/DATT
Note 1: See **paragraph 2.8.1.4** for the definition of airfield use. **Note 2:** In combatant commander (CCMD) theaters with no MAJCOM, the validating authority for airfield use is COMAFFOR (or as delegated, not lower than the COMAFFOR/A3). **(T-2).** **Note 3:** The approving authority for airfield use in Canada will be the host nation.	

2.8.2.5. In the event of an engine out (C-3) scenario, the aircraft has approximately 45 minutes of battery power to permit controlled flight to an emergency airfield. Therefore, the Operations Group, MAJCOMs and Air Component Commands will plan to have an approved emergency airfield, within 150 nautical miles (aircraft glide range) along the entire primary route of flight to the maximum extent practical or as permitted by mission requirements. **(T-3).** The tasking authority accepts risk where approved emergency or divert airfields are not within glide range of the route of flight.

2.8.2.6. Prior to utilizing an airfield as an approved divert or emergency airfield, mission planners shall ensure all preplanned routings minimize over flight of populated areas to the maximum extent possible. **(T-3)**. Divert or emergency airfields will meet or exceed the Airfield Rating of "Marginal" outlined in **Attachment 8**. (**T-3**).

2.8.2.7. All airfields must meet requirements stipulated in Attachments **7** and **8** of this instruction.

2.8.2.8. Units will maintain current contact information for applicable base agencies at all approved airfields to facilitate real-time coordination should an emergency landing become necessary. (**T-3**).

2.8.2.9. When practical, powered approaches into divert or emergency airfields shall include enough taxi points for the aircraft to clear the active runway. (**T-3**).

2.8.2.10. The standard method for determining runway and taxiway waypoints for RQ-4 launch, land and taxi operations is by obtaining GPS coordinates from the airfield manager's office or performing a site survey. Alternatively, runway coordinates may be obtained from US military service approved mission planning software with current Digital Aeronautical Flight Information File (DAFIF) or from the National Geospatial-Intelligence Agency (NGA). Taxiway coordinates should always be determined using the standard method. An on-site airfield survey for emergency airfields is desired but not mandatory.

For OCONUS airfields, the supported MAJCOM/A3 (COMAFFOR for COCOMs with no MAJCOM) may approve alternate methods based on operational requirements. For CONUS airfields, ACC delegates this authority to the operations group commander.

2.8.2.11. Only airfields, termination points, and ditch points within territorial waters approved for use by the appropriate authority are to be utilized for stitched navigation in mission plans. (**T-2**). Airfields, termination points, and ditch points within territorial waters that have not been approved through the appropriate process will not be loaded in mission plans.

2.8.2.12. ACC/A3MR is the OPR that will coordinate, record and archive RQ-4 airfield approval/denials as well as the unit/individual that denied approval requests. ACC/A3MR will also ensure compliance with host nation agreements and ACC directives by maintaining a central document database containing host nation agreements, airfield letters of agreement and airfield surveys. **(T-2).**

2.8.2.13. Primary and divert airfields shall be re-evaluated every two years. (**T-2**). Emergency airfields should be re-evaluated every three years. (**T-3**). ACC/A3M is responsible for re-evaluating airfields within the CONUS, Alaska, Hawaii, and Guam, or as delegated to the Operations Group. The supported MAJCOM/A3/A5 (COMAFFOR for COCOMs with no MAJCOM) is responsible for re-evaluating OCONUS airfields. Re-evaluation does not necessarily mean conducting a Pre-Deployment Site Survey (PDSS). If airfield changes are identified that affect the safety of flight or ground operations, the airfield approval status will be revoked until those physical conditions at the airfield are corrected or Mission Plans updated to account for the changes (e.g. runway closures where another acceptable runway can be added to the Mission Plan). (**T-2**). Refer to paragraphs **2.8.2.1** and **2.8.2.2** for approval authority.

2.8.2.14. The Operations Group Commander, in coordination with the Maintenance Group Commander, is responsible for creating educational materials used in coordinating and training airfield and air traffic control personnel on RQ-4 airborne and ground-handling procedures for approved divert and emergency airfields. **(T-2)**.

2.9. Termination Points and Ditch Points. Termination points are pre-planned ground impact points designed to crash the RQ-4 into an unpopulated area. Ditch points are pre-planned water impact points designed to crash the RQ-4 into maritime environments and are designed to avoid shipping lanes, oil rigs and other maritime activity. Approved termination points or ditch points should be used when a landing at a suitable airfield cannot be made without undue risk to personnel and property on the ground.

2.9.1. Only termination and ditch points approved for use by the appropriate authority will be utilized in mission plans. (**T-2**). Unapproved termination and ditch points that have not been approved through the appropriate process shall not be loaded in mission plans.

2.9.2. See **Table 2.2**, Termination and Ditch point Approval Authorities Table, for guidance.

Table 2.2. Termination and Ditch point Selection Approval Authorities Table.

LOCATION	APPROVAL AUTHORITIES
CONUS	ACC/A3

Including Alaska, Hawaii, U.S. territories and Canada	
OCONUS	Host Nation (within territorial waters), in coordination with the SDO/DATT

2.9.3. CONUS, Alaska, Hawaii and Guam. Termination points are only authorized in areas of DoD ranges and DoD owned lands. Servicing Major Commands will coordinate with the DOD range or land manager for specific termination point or ditch route selection and establishment of notification procedures. (**T-2**).

2.9.4. OCONUS and US territories. Major Command or theater components will coordinate and validate OCONUS termination points and ditch points. (**T-2**). The host nation is the approval authority.

2.9.5. Over international or US territorial waters. The United States Government recognizes territorial sea claims up to a maximum distance of 12 nautical miles from coastal states baselines drawn in accordance with international law as well as international airspace which includes all airspace seaward of coastal states territorial airspace. For overwater flights, automated and manual ditching is an acceptable alternative when emergency or divert airfields are not available.

2.9.6. MAJCOMs or theater components will include approved Termination and Ditch Points in their listing of approved Emergency Airfields and Overflight document. This product will be sent to ACC/A3MR on a quarterly basis, or when new approvals are added. (**T-2**).

2.10. Briefing/Debriefing Guides and Mission Checklists.

2.10.1. Briefing Guides and Checklists. All applicable items in the briefing guides must be addressed by the pilot or other members of the crew. (**T-3**). Required checklist items are provided in Attachments **2** through **6**. Units may augment these guides as needed.

2.10.2. Crew Position Changeover. All applicable items in **Attachment 3** will be covered during changeover between outgoing and incoming crewmembers. The incoming crew will conduct a mission briefing with all essential personnel prior to stepping to assuming control of the cockpit. (**T-3**). MCE crews will obtain mission updates from the Global Hawk Operations Center before going on shift. (**T-3**). Prior to assuming control, individual crewmembers will complete a changeover brief for each crew position. (**T-3**).

2.10.2.1. For pilots, unless required for operational reasons, changeover briefing and Pilot in Command authority transfer will not to take place until the aircraft is in a position to conduct autonomous flight without pilot intervention for the duration of the briefing and handover. (**T-3**).

2.10.3. Maintenance Debrief. After performing flying duties, Pilots in Command will ensure details of aircraft, sensor, and cockpit malfunctions from their shift are recorded in the cockpit maintenance forms (for cockpit discrepancies) or annotated in a squadron approved mission log for eventual communication during sortie debrief (for aircraft and payload discrepancies). For discrepancies that can't be narrowed to either the cockpit or the aircraft, the discrepancy will be annotated in both the cockpit maintenance forms and aircraft forms. (**T-3**). Pilots are responsible for ensuring Sensor Operators, who flew under their command, also record sufficient detail on sensor malfunctions or abnormalities.

2.10.4. Combat Ingress/Egress Checks. Crewmembers will complete combat ingress and egress checks in **Attachment 5** on operational missions at or prior to the entry point, and at or after the exit point. (**T-3**). Training missions will include ingress/egress checks as appropriate to meet training objectives. (**T-3**).

2.10.5. Combat Search and Rescue and On-Scene Commander Checklist. All applicable items in **Attachment 6** must be briefed when required to assist with Combat Search and Rescue efforts or act as On-Scene Commander for a Combat Search and Rescue event. (**T-3**). Crewmembers may also reference AFTTP 3-1.RQ-4 for Combat Search and Rescue procedures.

Chapter 3

NORMAL OPERATING PROCEDURES

3.1. General. Only qualified pilots, instructor pilots, instructor pilot-supervised Senior Officer Course graduates, or instructor pilot-supervised student pilots may fly the aircraft. Only qualified Sensor Operators or Instructor Sensor Operators, or instructor-supervised student Sensor Operators may perform Sensor Operator duties. (**T-2**).

3.1.1. Mission Execution Decision. The execution authority and Pilot in Command makes the mission clearance decision regarding whether to takeoff or enter into the OPAREA. In all cases, final responsibility for the safe conduct of the mission rests with the Pilot in Command. If a Pilot in Command elects to delay a mission, that mission is not to depart until the conditions that generated the decision to delay improve or are resolved. (**T-3**). Further, no execution authority may task another Pilot in Command to take the same mission under the same conditions.

3.1.2. Ground operations may be accomplished with a single cockpit manned with the minimum crew complement.

3.1.3. Where applicable certifications (for example, FAA, Certificate of Waiver or Authorization), host-nation agreements and/or airspace regulations allow, the launch and recovery squadron commander may approve a single cockpit only takeoff, departure, approach and landing. Launch and recovery-only sorties are operated without a handover of control to a geographically separated MCE. The LRE sortie may be on line-of-sight (LOS) control within the local area or beyond line-of-sight (BLOS) control to extend the range of the mission phase. For MCE only operations, the approval authority is the mission execution Unit/CC.

3.2. Cockpit.

3.2.1. Seating. The Pilot in Command determines crewmember seating, and is the final authority on the number of people allowed in the cockpit. The number of people allowed in the cockpit should be the minimum required to meet mission requirements and to maintain effective Crew Resource Management between all crewmembers.

3.2.2. Entry. The Pilot in Command is the final authority for non-mission essential personnel (including visitors) in the cockpit.

3.2.2.1. Entry is prohibited while the aircraft is in a critical phase of flight or during abnormal operations unless authorized by the pilot.

3.2.2.2. Pilots will only relinquish control of the cockpit to another pilot who is listed on the original pre-flight authorization. (**T-3**). Pilots who are not listed on the original pre-flight authorization must be approved to fly by the Operations Supervisor. (**T-3**).

3.2.2.2.1. For brief physiological breaks, aircrew should request the break from the Operations Supervisor, and the Ops Sup should provide the name of the person providing the relief before relinquishing control.

3.2.3. Cockpit Materials.

3.2.3.1. Pilots in Command will ensure all crewmember-controlled classified material brought into the cockpit is removed and that the cockpit is properly secured upon mission completion. (**T-3**).

3.2.3.2. Crewmembers are not to operate electronic devices in the cockpit unless they are Major Command approved items necessary for flight and/or mission operations. (**T-2**).

3.2.4. Crewmember Utilization. Squadron commanders will ensure all aircrew participating in missions are focused on in-flight responsibilities and not tasked with other duties while the mission is underway. (**T-3**).

3.2.5. Ground Station Shadow Operations. The Pilot in Command approves all cockpit shadow operations. Prior to flight, one cockpit is to be designated as primary. Other cockpits may shadow mission operations but are prohibited from sending aircraft commands or activating links in other cockpits to take control of the mission, unless the Pilot in Command approves it before the shadow operation begins. The Pilot in Command will notify the squadron operations supervisor before shadow operations begin. (**T-3**).

3.3. Required Equipment. At least two command and control links are required for flight operations. Where applicable certifications (for example, FAA, Certificate of Waiver or Authorization) and/or airspace regulations allow, the Squadron Commander may approve single link operations for the mission to continue.

3.3.1. The Operations Group Commander is the waiver authority for those phases of light where no command and control links are available. (**T-3**).

3.4. Communications. Aircrew should exercise intercom discipline. Units should tailor intercom use to mission specifications and unit needs. The Pilot in Command has authority over intercom use.

3.4.1. Ground Communications. Pilots in Command will ensure two-way communication is established with the ground crew prior to all ground checks and anytime the aircraft's engine is operating on the ground. (**T-3**). Two-way communications will be maintained until the Pilot in Command releases the ground crew. (**T-3**).

3.4.2. In-flight Communications. Aircrew are to monitor crew intercom, Internet Relay Chat, and aircraft radios to the maximum extent possible. (**T-3**). During critical phases of flight, aircrew are to limit communications to flight-critical information. The Pilot in Command should announce intentions during critical phases of flight and when circumstances require deviating from normal procedures. (**T-3**).

3.5. Flight Manuals and Checklists. Crewmembers are responsible for ensuring a current copy of the Electronic Flight Manual (EFM) is available in the cockpit. Each crewmember will have, and refer to, appropriate checklists during flight operations. (**T-2**).

3.5.1. Paper-copy printouts of T.O. 1Q-4(R)B-2-WA-2, RQ-4 electronic flight manual aircrew checklists are authorized. Aircrew will ensure currency of the printout checklist prior to use. (**T-3**).

3.5.2. Approved checklists contained within AFTTP 3-1.RQ-4 are authorized for use in flight.

3.5.3. Operations Group Standardization and Evaluation approved guides and checklists are authorized for use in flight.

3.6. Ground Operations. The Before Exterior Inspection checklist, Exterior Inspection checklist and the Pilot in Command's Common Ground Station Setup checklist must be completed prior to engine start. (**T-2**). If the Pilot in Command does not perform the Exterior Inspection Checklist or Common Ground Station Setup Checklist, then the pilot that performed the checklist must communicate all open aircraft write-ups to the Pilot in Command. (**T-2**). The Pilot in Command assumes responsibility for the aircraft once the cockpit establishes a valid command and control link with the aircraft.

3.6.1. Launch and recovery pilots should normally accomplish their own T.O. required exterior inspection. However, another fully qualified and current pilot may accomplish the Before Exterior Inspection and Exterior Inspection checklists if required. If another pilot is utilized, the pilot accomplishing the checklist must have crew rest and comply with all flight duty period waivers. (**T-2**).

3.7. Taxi, Takeoff, and Departure. For taxi and takeoff, the pilots will not select more than one in-control data link per cockpit. During single cockpit takeoffs, the OG/CC may authorize two in-control data links to prevent link reception dead spots on the airfield from inadvertently causing an autonomous takeoff abort. The Pilot in Command may take off with a raised or rigged departure end cable as long as take-off and landing data supports stopping before the cable during an aborted takeoff. Consideration should be given to ensuring the appropriate cables are derigged in the event of a C-3 (emergency landing) scenario immediately after takeoff.

3.8. Takeoff. For takeoff, LRE and MCE, pilots are not to select more than one in-control data link per cockpit. (**T-3**). The Operations Group Commander may authorize more than one in-control data link for higher headquarters directed missions.

3.9. Cruise. Pilots in Command will ensure the Squadron Operations Supervisor, Forward Operating Location operations, Distributed Ground Systems, and Air Operations Centers are notified of large deviations from planned mission tasking, to include extension of flight time by over 30 minutes, and landings more than 30 minutes early. (**T-3**).

3.10. Approach and Landing. The Pilot in Command may land with a raised or rigged departure end cable if the distance between the touchdown point and the cable allows for a safe landing. Consideration should be given to ensuring the appropriate cables are derigged.

3.10.1. For LRE-only landings, the LRE pilot has the final authority to accept the aircraft and release the MCE pilot. At the LRE pilot's discretion, MCE pilots will maintain a link with the aircraft up to and including aircraft shutdown. The following criteria must be met to proceed LRE-only: (**T-3**).

3.10.1.1. The MCE has verified that either the sensors or payload is shut down or ready to be shutdown prior to link switching to none.

3.10.1.2. The MCE pilot has verified applicable Engineering Commands are set.

3.10.1.3. The LRE has two stable links (unless waived in accordance with **paragraph 3.3**). Consideration may be given for transferring International Marine/Maritime Satellite from the MCE to the LRE to ensure the LRE has two links.

3.10.1.4. The LRE has verified good two-way communication with the controlling agency (via wall radios and/or AM Relay). The telephone in the LRE remains a back-up option.

3.10.1.5. The aircraft, LRE, and landing airfield are not experiencing any issues that may affect safety of flight.

3.11. Fuel Requirements.

3.11.1. Normal Recovery Fuel. Pilots will plan for landing with at least 1,200 pounds of fuel. (**T-3**).

3.11.2. Minimum Fuel. Declare minimum fuel as soon as it becomes apparent the aircraft will land with less than 1,000 pounds of fuel.

3.11.3. Emergency Fuel. Declare emergency fuel as soon as it becomes apparent the aircraft will land with 800 pounds of fuel or less.

3.12. Crew Rest. Aircrew will adhere to the crew rest requirements in AFI11-202V3 to include aircrew giving physiological breaks and/or completing pre-flight aircraft inspections. (**T-3**).

3.13. Flight Duty Period. Aircrew will adhere to the Flight Duty Period guidelines listed in AFI11-202V3 for Unmanned Aircraft System (Single Control). (**T-3**).

3.14. Counter-Fatigue Management Program. Aircrew may use no-go medications in accordance with AF Surgeon General (AF/SG) policy. See **paragraph 2.8** of AFI11-202V3.

3.15. Theater/Area of Responsibility certifications. Pilots may only be certified to operate in a maximum of three CCMDs at any one time as dictated by theater-specific ground training certification. Sensor Operator duties are agnostic to theater rules of engagement; however, as an integral part of the crew, strong consideration should be given before granting certification to operate in more than three CCMDs and/or Areas of Responsibility. Waiver requests for pilots to exceed these restrictions will be approved in writing by the Operations Group Commander. Follow guidance in AFMAN11-2RQ-4, VOLUME 1 for initial certification and/or certification in a new theater/Area of Responsibility.

Chapter 4

INSTRUMENT AND WEATHER PROCEDURES

4.1. Approaches. The RQ-4 flies self-contained global positioning system-aided inertial navigation system pre-programmed approaches. Standard civilian or military instrument approach procedures are not to be executed.

4.2. Weather Minima, Restrictions and Planning Factors. In addition to the restrictions in AFI11-202V3, the following restrictions apply to RQ-4 operations.

4.2.1. Ceiling and Visibility.

4.2.1.1. For RQ-4 operations at any airfield, the weather (temporary or prevailing) must be at or above a ceiling of at least 1000 feet and a visibility of 2 miles. The weather for RQ-4 operations must be at or above these minima at takeoff and be forecast to be at or above these minima until takeoff plus 1 hour and again at the estimated time of arrival (ETA) +/-2 hours.

4.2.1.2. When executing higher headquarters directed missions, the pilot may takeoff in weather conditions below the minimums **in paragraph 4.2.1.1** down to 1600 feet (500 m) runway visual range (RVR). (T-3). Takeoff in weather conditions below the minimums during non-higher headquarters directed missions requires Operations Group Commander approval.

4.2.1.3. When the departure airfield weather is below RQ-4 landing minima in **paragraph 4.2.1.1**, pilots will either declare a takeoff alternate or obtain Operations Group Commander approval to land below RQ-4 minima at the takeoff airfield. (T-3). A takeoff alternate must be within one hour flight time and have weather better than 1000 foot ceilings and 2 miles of visibility, and is approved as an alternate airfield with a pre-planned RQ-4 approach in the mission plan."

4.2.1.4. During landing, if the weather remains below landing minimums (1000/2), the pilot will seek Operations Group Commander approval to land below weather minimums or recover the aircraft to the designated alternate. The Operations Group Commander may approve aircraft landing below weather minimums, down to and including zero feet ceiling and zero visibility conditions. Units will publish local guidance covering procedures and airfield agency notifications for landings made when the airfield is below its lowest approach minimums. (T-3)."

4.2.2. Wind Limits. Forecast landing winds must be within flight manual limits at ETA (±1 hour). (**T-2**). Adjust land time (shorten or lengthen) to comply with forecast wind requirements or file an alternate. See section **4.6 Alternates** for information on filing an alternate.

4.3. Thunderstorms. Avoid thunderstorm activity along a flight planned route by 20 nautical miles laterally at all flight planned route altitudes below flight level 500. When at or above flight level 500, overflight of thunderstorms is permissible provided at least 10,000 feet of vertical clearance can be maintained.

4.3.1. Takeoffs, approaches or landings are prohibited when thunderstorms or lightning are reported within 20 nautical miles of the airfield. (**T-2).** For higher headquarters-directed

operational missions, the Operations Group Commander may authorize takeoffs, landings and approaches if thunderstorms are observed to be within 20 nautical miles of the airfield, but no closer than 10 nautical miles from the arrival/departure routing. Thunderstorms must not be producing hazardous conditions at either the airfield or in the departure/approach corridors being used.

4.4. Cold-Weather Operating Procedures. Do not take off with any frost, ice or snow accumulation on any aircraft surface. An inspection of the aircraft for frost immediately prior to takeoff should be performed by Hawkeye.

4.5. Icing. Pilots should not conduct flight into forecast moderate icing and flight into known icing conditions is prohibited. If encountering icing, pilots should maneuver the aircraft to exit the icing conditions and reference T.O. checklists.

4.6. Alternates.

4.6.1. For planning and filing purposes, pilots will designate an alternate when the landing winds are forecasted to be out of flight manual limits within +/- 1 hour of the ETA. (**T-3**).

4.6.2. Designated alternates must:

4.6.2.1. Have forecast winds within flight manual limits at ETA +/-1 hours. (**T-3**).

4.6.2.2. Be an approved primary or divert airfield (in accordance with paragraph **2.8.2** and **2.8.3**) with a powered approach in the selected mission plan. (**T-3**).

4.6.3. Remote and Island Destinations. RQ-4 operations are authorized holding in lieu of designating an alternate. Pilots will ensure the aircraft has sufficient fuel on board to hold for 2 hours at the destination then penetrate and land with normal recovery fuel. (**T-2**).

Chapter 5

ABNORMAL OPERATING PROCEDURES

5.1. General. The Operations Group Commander is the waiver authority for all aspects of this Chapter.

5.2. Ground Emergencies. All ground emergencies should result in stopping a taxiing aircraft and/or aborting the takeoff. The pilot should initiate a stop taxi or abort takeoff even if the aircraft is supposed to automatically respond.

5.3. In-flight Emergencies.

5.3.1. Emergency Landing. If no approved primary or divert airfields are in range, a recovery to an emergency airfield should only be attempted after the Pilot in Command coordinates for the emergency landing. If a recovery to an airfield is not possible, Pilots in Command will use a pre-approved ditch route, terminate the flight into a pre-approved area, or as a last resort, allow the aircraft to crash on course. (**T-3**).

5.3.2. Landing with Degraded Navigation Solution. Landing may be made with a final navigation quality less than 18 provided the navigation accuracy is sufficient for the runway width.

5.3.3. Loss of Datalinks ("lost link"). In the event of lost link, the Pilot in Command shall make every effort to re-establish a link. The PIC shall communicate, by any means available, with Air Traffic Control or military Command and Control (C2) assets to coordinate emergency operations and the aircraft's predicted flight path. (**T-3**). In areas where positive air traffic control verification of aircraft position cannot be obtained, the Pilot in Command will communicate potential RQ-4 actions to appropriate air traffic control agencies and forward operating locations. (**T-3**).

5.3.4. Crew Changeover. With an ongoing malfunction or in-flight emergency, brief incoming crews with a complete understanding of the malfunction(s) and aircraft status prior to any crew changeover. The outgoing crew may be required to remain and assist with an ongoing emergency at the discretion of the Pilot in Command.

5.4. Simulated Emergencies. Practice of simulated emergencies will not to be accomplished in-flight. Pilots will only practice emergency procedures in an approved RQ-4 simulator. (**T-2**). Planned go-arounds are permitted for aircrew proficiency, unless restricted due to local operating guidance.

5.5. Single Link Operations. Single Link Operations are defined as an aircraft that has only one available command and control link. Once a secondary link is established, either via the same cockpit or a secondary cockpit, normal operations are resumed.

Chapter 6

LOCAL OPERATING PROCEDURES

6.1. General. This chapter is for unit local operating procedures. Units composed of multiple aircraft types may publish guidance in a single, stand-alone local operating instruction instead of supplementing this AFMAN. Procedures herein will not be less restrictive than those contained elsewhere in this manual, nor will this chapter be a single-source document for procedures contained in other directives or instructions. (**T-1**). Avoid unnecessary repetition of guidance provided in other established directives; however, reference to those directives is acceptable when it helps to support local operations.

6.2. Review. Prior to publishing, units will forward local copies of this chapter to MAJCOM/A3 for review. MAJCOM/A3 will review and return any comments back to the unit(s). (**T-2**).

6.3. Format. Organize the local chapter in the following format: (**T-2**).

6.3.1. Introduction.

6.3.2. General Policy.

6.3.3. Mission Planning.

6.3.4. Ground Operations.

6.3.5. Flying Operations.

6.3.6. Local Airspace Procedures.

6.3.7. Abnormal Procedures.

6.3.8. Attachments (for example, Illustrations)

6.4. Content. The local chapter will include procedures for the following, if applicable: (**T-2**).

6.4.1. Local Area Procedures.

6.4.2. Controlled Emergency Landing Areas and Procedures.

6.4.3. Local Weather Procedures.

6.4.4. Approved Alternate Missions.

6.4.5. Unit Standards.

Chapter 7

SECURITY PROCEDURES

7.1. General. This chapter provides guidance on security for the RQ-4 Global Hawk Remotely Piloted Aircraft. AFI 31-101, *Integrated Defense (FOUO)*, and specific MAJCOM security publications contain additional guidance.

7.2. System Security.

7.2.1. The RQ-4 is operationally fielded as a multi-segmented weapons system consisting of air and ground-based segments necessary to its operation. The aircraft and sensor payloads make up the air-based segment, while the ground-based segments include the MCE, LRE, data links, and support equipment.

7.2.2. RQ-4 airborne and ground-based segments are Protection Level 3 (PL3) assets when operational and must be protected to PL3 standards, independent of location (CONUS or OCONUS). (**T-2**). Assets include: RQ-4 aircraft, MCEs, LREs, Tactical Common Data Links, Tactical Interoperable Ground Data Links, Tri-band Tactical Field Terminals, Fixed Site satellite communications (SATCOM) Terminals, Ground Multiband Terminals or any approved terminal authorized to handle the RQ-4 aircraft's Command and Control and/or data links.

7.2.3. RQ-4 airborne or ground-based segments are to be protected in accordance with Protection Level 4 (PL4) standards when non-operational (depot maintenance, training or test), independent of location (CONUS or OCONUS). (**T-2**). Assets include: RQ-4 aircraft, MCEs, LREs, Tactical Common Data Links, Tactical Interoperable Ground Data Links, Tri-band Tactical Field Terminals, Fixed Site SATCOM Terminals, Ground Multiband Terminals, or any approved terminal authorized to handle RQ-4 aircraft command and control (C2) and/or data links.

7.2.4. SATCOM Relay Sites are to be protected in accordance with Protection Level 32 (PL3) standards. (**T-2**).

7.2.5. For long term maintenance, depot, storage, or shipping status, the RQ-4 has no Protection Level designation but are to be stored in a Controlled Area. (**T-2**).

7.3. Ground Segment (Mission Control Element/Launch and Recovery Element) Security Requirements.

7.3.1. Security requirements for ground segments must be distinguished from those applied to aircraft. (**T-2**). The ground segments of the RQ-4 perform command, control, and communications (C3) functions in support of flight operations and receive protection according to C3 facility standards specified per AFI 31-101 and the appropriate Major Command supplement. During increased tensions and higher force protection conditions local planners at home station and deployed locations implement security measures to ensure personnel safeguard ground segments at a level commensurate with the threat to the resources and their relative importance to the mission.

7.3.2. Entry/Access and Internal Security for Ground Segments. At home station and deployed locations the owner/user controls entry and monitors internal security for the MCE/LRE during 24/7 operations. **Note:** The home station defense force commander ensures

personnel are trained and exercised in the performance of entry control and internal security functions for both normal and emergency operations. Install the appropriate level of automated entry control system or cipher locks to facilitate entry of authorized personnel into the MCE/LRE.

7.3.3. Intrusion Detection Systems and Physical Security Requirements for Ground Segments.

7.3.3.1. At deployed locations, make every effort to locate the MCE/LRE and other ground segments in a fenced area with sufficient lighting to observe intruders in the immediate area around these resources.

7.3.3.2. At home station and permanent operating locations, perimeter fencing, boundary lighting, and intrusion detection systems are not required for the MCE or LRE. Clear zone requirements are not applicable for areas containing the MCE/LRE.

7.4. Mission Support Equipment.

7.4.1. Mission support equipment includes ground based communications (for example, satellite antennas) and support equipment (for example, power supply). Support equipment such as power supply or climate control equipment is not assigned a PL. Ground-based communications equipment deployed in CONUS-based or OCONUS-based "reach back" mode are Contingency-2/Contingency-4 (return to base/takeoff-abort) resources and will be protected as follows: (**T-2**).

7.4.1.1. Designate the immediate area surrounding "reach back" communications equipment a restricted area and provide fencing and adequate lighting at permanent locations. Intrusion detection systems are not required; a duress capability and use of available surveillance and assessment technology tied to a 24/7 security control center is recommended. Clear zone requirements are not applicable for areas containing these resources.

7.4.1.2. At home station and deployed locations, personnel responsible for RQ-4 assets control entry to the area and monitor internal security when present. Security Forces (SF) provides a five-minute response capability by police services, installation patrols, or available Security Response Teams. SF conducts periodic checks when the area is not manned by owner users.

7.4.1.3. At OCONUS locations without a US security force presence, personnel responsible for RQ-4 assets coordinates with the host for security support commensurate with support required per paragraphs **7.4.1.1** and **7.4.1.2**.

Table 7.1. Asset Protection Level Table.

ASSET	OPERATIONAL	TEST/TRAINING	HOME STATION MAINTENANCE (LONG TERM/>72HRS)	HOME STATION MAINTENANCE (SHORT TERM/<72HRS)	DEPOT MAINTENANCE
RQ-4 Aircraft	PL 3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Launch Recovery Element	PL 3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA

Tactical Common Data Link	PL 3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Mission Control Element	PL 3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Tactical Interoperable Ground Data Link	PL 3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Ground Multiband Terminal	PL 3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Fixed Site SATCOM Terminal	PL 3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Tri-band Tactical Field Terminal	PL 3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
SATCOM RELAY SITE unless specified otherwise	PL3	N/A	N/A	N/A	N/A
SATCOM RELAY SITE	PL2	N/A	N/A	N/A	N/A

Chapter 8

DOMESTIC USE OF UNMANNED AIRCRAFT SYSTEMS IN U.S. NATIONAL AIRSPACE

8.1. General. This chapter provides guidance for the domestic use of the USAF RQ-4 in U.S. National Airspace (hereafter "domestic use" or "domestic operations") to ensure that such use is in accordance with U.S. law and DoD policy. This guidance applies to all domestic use of USAF RQ-4 procured or purchased using USAF funds, or operated by REGAF, AFRES, or ANG personnel (in a Title 10, Title 32, or State active duty status), or under contract to the USAF.

8.2. Privacy and Civil Liberties Requirements.

8.2.1. In order to ensure accountability and promote transparency in the protection of privacy, and to ensure conformance with law, regulations, and guidance related to privacy and civil liberties, all USAF units will report all domestic RQ-4 operations (excluding training, exercises, repositioning, research, development, testing, and evaluation), using the format in **Table A9.1**. **(T-0).** Reports shall be submitted to ACC on an annual basis due 1 October. **(T-1).** Using the report template in **Attachment 9** reports will include a brief description of the types or categories of missions flown; summaries of sensors employed; any information acquired, and whether any information was collected, retained, or disseminated; and the number of times assistance was provided to other federal departments and agencies, or to state, local, tribal, or territorial governments, and under what authority such assistance was provided. **(T-0).** Units will send the completed report via e-mail to ACC/A3MR, **ACCA3.A3MR.RQ-4OpsBranch@us.af.mil**. **(T-1).**

8.3. Domestic Operations.

8.3.1. Domestic use of RQ-4 by the Air Force will be conducted in accordance with the Federal Aviation Administration (FAA) policies, regulations, and memoranda of agreement concerning the operation of UAS in the NAS, and consistent with applicable laws. (**T-0**).

8.3.1.1. Flight operations shall only be conducted outside of restricted airspace and warning areas with a FAA authorization in the form of a FAA Certificate of Waiver or Authorization, or notification in accordance with FAA/DoD guidance/agreements and in accordance with guidance as provided in this manual. (**T-0**).

8.3.1.2. Domestic RQ-4 operations from joint base installations require joint base commander approval, which may be delegated in writing to the O-6 level commander responsible for flying operations. (**T-1**).

8.3.2. All RQ-4 domestic operations will comply with all law, regulations and guidance related to privacy and civil liberties. (**T-0**). For this reason, Air Force components should collect domestic imagery only when there is a justifiable need to do so. Exercises, training, testing or navigational purposes are generally valid reasons to acquire domestic imagery.

8.3.2.1. Regardless of the purpose of acquisition or collection of domestic imagery, nonconsensual surveillance on specifically identified U.S. persons is prohibited, and information may not be acquired or collected for the purpose of obtaining information to gather any specific information about a U.S. person or private entity or private property without consent, unless expressly approved by the SecDef or delegated authority listed in

Attachment 10, consistent with US law and regulations. Acquired or collected imagery may incidentally include U.S. persons or private property without consent. Any stored imagery will not be retrievable by reference to U.S. person identifiers.

8.3.2.2. Any imagery captured by the RQ-4 intended for public release must be cleared for release through local public affairs release authority in accordance with AFI 35-109, *Visual Information*, **paragraph 8.3.1**, and AFI 35-102, *Security and Policy Review Process*. (**T-1**). Prior to public affairs review for release, the selected imagery must be reviewed by the flying and exploitation units in accordance with applicable current weapon system classification guides. **(T-0)**.

8.3.3. All RQ-4 operations will be in accordance with DoD component intelligence oversight guidance and USAF regulations and policy, including, but not limited to DoD Manual 5240.01, *Procedures Governing the Conduct of DoD Intelligence Activities*, and DoD 5240.1-R, *Procedures Governing the Activities of DoD Intelligence Components that Affect United States Persons*. (**T-0**). Additionally, RQ-4 domestic operations will require a Proper Use Memorandum in accordance with AFI 14-404, *Intelligence Oversight*. (**T-1**). Unit commander (or equivalent) will ensure there is a MAJCOM/A2 (or equivalent) approved Proper Use Memorandum on file prior to RQ-4 domestic operations.

8.3.4. All questionable intelligence activities or Sensitive/Highly Sensitive Matters will be reported in accordance with AFI-14-404, *Intelligence Oversight*, and Department of Defense Directive DoDD 5148.13, *Intelligence Oversight*. (**T-0**).

8.3.5. Any proposed domestic use of RQ-4 not specifically delineated in **Attachment 10** requires SecDef approval. (**T-0**). For domestic use requiring SecDef approval, the Under Secretary of Defense for Policy, in coordination with the Chairman of the Joint Chiefs of Staff, the appropriate Combatant Command (COCOM) Commander or Commanders, the Under Secretary of Defense for Intelligence, and the DoD General Counsel will provide a recommendation to the SecDef concerning the domestic use of USAF RQ-4. The Secretary of the Air Force (SecAF) will submit appropriate requests to the Assistant Secretary of Defense for Homeland Defense and Global Security (ASD(HD&GS)) at least 30 days prior to projected use. (**T-0**).

8.3.5.1. The SecAF may seek verbal approval by the SecDef for domestic use of USAF RQ-4 in urgent, time-critical situations to protect life or property not addressed in **Attachment 10** by contacting ASD(HD&GS).

8.3.5.2. Domestic use of RQ-4 in support of civil authorities will be provided on a reimbursable basis unless otherwise required by law, or on a non-reimbursable basis if such support is both authorized by law and approved by the SecDef. (**T-0**).

8.3.5.3. For purposes of **Attachment 10**, installation commander shall mean the commander responsible for flight operations, not further delegable less than an O-6 level commander responsible for flight operations. At Joint Bases, the Joint Base Commander is the approval authority. (**T-1**).

JOSEPH T. GUASTELLA Jr., Lieutenant General, USAF
Deputy Chief of Staff, Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

5 United States Code (U.S.C.) § 552a, *The Privacy Act of 1974*

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure,* 19 January 2012

AFI 11-202V3, *General Flight Rules,* 10 August 2016

AFI 11-209, *Aerial Event Policy and Procedures,* 4 May 2006

AFI 11-214, *Air Operations Rules and Procedures,* 14 August 2012

AFI 11-230, *Instrument Procedures,* 27 September 2013

AFI 11-418, *Operations Supervision*, 14 October 2015

AFI11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*, 21 September 2018

AFI11-214, *Air Operations Rules and Procedures,* 8 July 2020

AFI11-418, *Operations Supervision*, 28 February 2020

AFI35-101 , *Public Affairs Operations,* 20 November 2020

AFMAN 11-217V1, *Instrument Flight Procedures*, 22 October 2010

AFMAN 33-363, *Records Management and Information Governance Programs,* 23 March 2020

AFPD 11-4, *Aviation Service,* 1 September 2004

AFMAN11-202V3, *Flight Operations*, 10 June 2020

AFMAN11-290, *Cockpit/Crew Resource Management Program*, 27 October 2021

AFMAN11-2RQ-4V1, *RQ-4—Crew Training*, 4 February 2020

AFMAN11-2RQ-4V2, *RQ-4—Crew Evaluation Criteria*, 5 April 2019

AFTTP 3-1.RQ4, *Tactical Employment--RQ-4,* 16 November 2015

AFI 35-109, *Visual Information*, 1 June 2017

AFI 35-102, *Security and Policy Review Process,* 4 May 2016

AFTTP3-1.RQ4, *Tactical Employment--RQ-4*, 24 September 2021

DAFI31-101, *Integrated Defense (ID)* (FOUO), 25 March 2020

DAFI33-360, *Publications and Forms Management*, 21 July 2021

DAFMAN11-401, *Aviation Management*, 27 October 2020

DoD 5240.01-R, *Procedures Governing the Activities of DoD Intelligence Components that Affect United States Persons*, 26 April 2017

DoD Electronic Foreign Clearance Guide

DoD Foreign Clearance Manual, 24 September 2021

DoD Manual 5240.01, *Procedures Governing the Conduct of DoD Intelligence Activities*, 8 August 2016

DoD 5240.1-R, *Procedures Governing the Activities of DoD Intelligence Components that Affect United States Persons*, December 1982

DoD Foreign Clearance Manual

DoD Electronic Electronic Foreign Clearance Guide

AFI 14-404, *Intelligence Oversight*, 3 September 2019

DoDD 5148.13, *Intelligence Oversight*, 26 April 2017

Adopted Forms

AF Form 70, *Pilot's Flight Plan and Flight Log*

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ACC—Air Combat Command

ACC/A3MR—High Altitude Reconnaissance Operations Branch

ACN—Aircraft Classification Number

AF—Air Force

AFFSA—Air Force Flight Standards Agency

AFI—Air Force Instruction

AFPD—Air Force Policy Directive

ANG—Air National Guard

BACN—Battlefield Airborne Communications Node

BMC—Basic Mission Qualified

BR—Busy Relay

C-1—Contingency-1

C2—Command and Control

C-2—Contingency-2

C3—Command, Control and Communications

C-3—Contingency-3

C4—Command, Control, Communications and Computers

C-4—Contingency-4

CC—Commander

CCMD—In Combat Commander

COMAFFOR—Commander, Air Force Forces

CONUS—Continental United States

DAFIF—Digital Aeronautical Flight Information File

DOD—Department of Defense

DRU—Direct Reporting Unit

EFM—Electronic Flight Manual

ETA—Estimated Time of Arrival

FAA—Federal Aviation Administration

FCIF—Flight Crew Information File

FOA—Field Operating Agency

FPCON—Force Protection Condition

GHOC—Global Hawk Operations Center

GPS—Global Positioning System

HE—Hawkeye

HQ—Headquarters

IC—Interim Changes

IFF/SIF—Identification Friend or Foe/Selective Identification Feature

INMARSAT—International Mobile Satellite Organization

INS—Inertial Navigation System

ISOPREP—Isolated Personnel Report

LRE—Launch-and-Recovery Element

MAJCOM—Major Command

MCE—Mission Control Element

NAS—National Airspace System

OCONUS—Outside the Continental United States

OG—Operations Group

OGV—Operations Group Standardization and Evaluation

OPLAN/OPORDs—Operations Plans and Orders

OPR—Office of Primary Responsibility

PCN—Pavement Classification Number

PIC—Pilot in Command

RCC—Rescue Coordination Center

RFA—Radio Frequency Authorization

RPA—Remotely Piloted Aircraft

SARDOT—Search-and-Rescue Point

SATCOM—Satellite Communication

SF—Security Forces

SII—Special Interest Item

SO—Sensor Operator

SPINS—Special Instructions

TCDL—Tactical Common Data Link

USAF—United States Air Force

Terms

Critical Phase of Flight—Critical phases of flight for the RQ-4 are taxi, takeoff, departure, arrival, approach, landing, taxi and engine shutdown.

Intelligence Activities—Refers to all activities that DoD intelligence components are authorized to undertake pursuant to Executive Order 12333. It includes counter-intelligence, foreign intelligence and intelligence-related activities.

Intelligence—related Activities — Those activities outside the consolidated defense intelligence program (funded by intelligence) that: Respond to operational commanders' tasking for time-sensitive information on foreign entities; respond to national intelligence community tasking of systems whose primary mission is support to operating forces; train personnel for intelligence duties or provide an intelligence reserve. (Specifically excluded are Research and Development outside the consolidated defense intelligence program and programs that are so closely integrated with a weapon system that their primary function is to provide immediate-use targeting data.)

Phase Manual—Phase manuals are "how to" documents that expand on basic procedures in flight manuals and applicable Air Force Instructions, and provide student crewmembers with explanatory study material. Phase manuals provide complementary and/or more detailed descriptions as compared to information presented in flight manuals and Air Force Instructions.

Squadron Operations Supervisor—Operations Supervisor will be manned in accordance with AFI11-418.

Stitched Route—RQ-4 mission planned route of flight that can be selected autonomously by the aircraft logic during contingency operations. This includes lost communications (C1), return to base (C2), major emergency (C3) or abort land (C4) routes.

Stitched Route-—-RQ-4 mission planned route of flight that can be selected autonomously by the aircraft logic during contingency operations. This includes lost communications (C-1), return to base (C-2), major emergency (C-3) or abort land (C-4) routes.

Vehicle Test Controller (VTC)—The Vehicle Test Controller is support equipment used by maintenance technicians to facilitate trouble-shooting and maintenance of systems on the aircraft.

When connected to the aircraft, the Vehicle Test Controller provides an operator-to-system interface, and is the system controller for pre-launch, post recovery and ground maintenance test operations. The Vehicle Test Controller provides access to mission status and health of aircraft components. The Vehicle Test Controller operator is provided with options for controlling system configuration, test environment, mission definition and data log management. In addition, the Vehicle Test Controller supports uploading/downloading maintenance and mission data, provides the capability to command built-in test functions for scheduled and unscheduled maintenance, and displays the aircraft fault logs.

Attachment 2

MISSION BRIEFING GUIDES

A2.1. General. Briefing guides are provided for use in accomplishing pre-mission, coordination and employment briefings. The Mission Coordination Briefing Guide should be led by the Mission Commander and completed for every mission. The MCE Crew and LRE Crew Briefing Guides will be also be completed every mission by the respective PIC for each cockpit. For single cockpit takeoffs the PIC will need to reference both the MCE Crew and LRE Crew Briefing guides to ensure all items are covered. All briefing guides can be accomplished using Sq/CC or unit OGV approved briefing templates such as PowerPoint slides or in-flight guides. If utilized these products must at a minimum cover all items listed in the corresponding briefing guide.

Table A2.1. Mission Coordination Briefing Guide.

Security Classification:
Mission Information:
Call Sign(s):
Tail Number:
Mission Plan Identification:
Fuel Load:
Mission Timing:
Takeoff:
On Station:
Off Station:
Land:
Duration:
DGS:
Mission Overview:
ATO:
Operations Area, including scheduled and available airspace:
SRO:
RSTA Information:
HAISR Players:
ISR Sync Matrix:
Collection Plan:
IMINT Targets / Radar Coverage Area / SIGINT AOI:
Scheme of Maneuver:
Dissemination Plan:
Alternate Mission:
SPINS and/or Theater-Specific Instructions:
Additional AOC Guidance:
Cockpit Status (may be briefed by maintenance support):
Aircraft and Payload Status and Configuration (may be briefed by maintenance support):
Link Management and Configuration (may be briefed by maintenance support):

Airfield Status and Configuration (may be briefed by OSS/Afld Mgmt):
Significant Local Hazards, as applicable:
Weather (may be briefed by weather support):
Primary and Divert Airfield METAR/TAF/RCR:
Thunderstorms:
Icing:
Turbulence:
Winds Aloft:
Mission Area Cloud Cover:
Space Weather / Scintillation:
Intelligence (may be briefed by intelligence support):
FCIF and Aircrew Read File:
Special Interest Items (SII):
Operations Supervisor's Comments:

Table A2.2. MCE Crew Briefing Guide.

Roll Call:
Time Hack:
Security Classification:
Go / No-Go and Aircrew Currencies:
Training Requirements:
Call Sign and Tail #:
Mission Overview:
Objectives:
Mission Plan:
Mission Checksum:
Mission Timing (T/O, On/Off Station, Arrival):
Terminal Area and Enroute:
Notice to Airmen (NOTAMs):
Flight Plan / Mission Route:
ATC / BMA Communications Plan:
On-Station:
Airspace:
ROZ, SUA, No-Fly, etc…per SPINS/ACO
Boundaries and Standoff Distance:
Bullseye:
High-Altitude Airspace Deconfliction:
COMM/IFF:
Collection Plan / Scheme of Maneuver:
Mission Plan Routes / Aircraft Logic Plan:
Time Sensitive Targeting and Re-tasking Procedures:
Threats / Threat Warning / Threat Reaction:
ISR Picture / Sync Matrix / Cross-cue Opportunities:
Fuel Requirements – Joker/Bingo:

Crew Resource Management:
Pilot / SO:
DGS:
Safety/Egress:
Emergency Procedures of the Day:
Comments and Questions:

Table A2.3. LRE Crew Briefing Guide.

Roll Call:
Time Hack:
Security Classification:
Go / No-Go and Aircrew Currencies:
Training Requirements:
Mission Timing:
Preflight:
Engine Start:
Takeoff:
Land:
Weather (may be briefed by weather support):
Primary and Divert Airfield METAR/TAF:
Thunderstorms:
Icing:
Turbulence:
Space Weather / Scintillation:
Takeoff and Landing Data:
Aircraft and Payload Status and Configuration (may be briefed by maintenance support):
Fuel Load / Gross Weight:
Start Spot:
Cockpit Status (may be briefed by maintenance support):
Link Management and Configuration (may be briefed by maintenance support):
Airfield Status and Configuration (may be briefed by OSS/Afld Mgmt):
Runway in Use:
Barrier Status (as applicable):
Runway Condition Reading:
Scheduled and Available Airspace:
Notice to Airmen (NOTAMs):
Takeoff and Landing Data (TOLD):
Traffic Deconfliction:
Aircraft Type:
Departure and Arrival Times / Routing:
Significant Local Hazards (as applicable):
Intelligence (may be briefed by intelligence support, as applicable):
Vehicle Test Controller Coordination:

Special Category and OmniSTAR Settings:
Verify Msn Plan / Checksum for Runway and Start Spot in use:
Hawkeye Coordination:
Crew Resource Management:
Emergency Procedures of the Day:
Safety / Egress:
FCIF and Aircrew Read File:
Special Interest Items (SII):
Operations Supervisor's Comments:
Comments and Questions:

Attachment 3

CREW POSITION CHANGEOVER BRIEFING GUIDES

A3.1. General. Briefing guides are provided for use in accomplishing pilot changeover briefings, and Sensor Operator changeover briefings.

Table A3.1. Pilot Changeover Briefing Guide (Outgoing Pilot).

SITREP
Mission Highlights:
Targets / Target Area Impacts to Collection:
Collection Plan / Sensor(s) in Use:
Scheduled Off-station Time, AOC-approved Extension:
Airspace:
Altitude Block:
Altimeter Setting:
High Terrain:
Minimum Safe Altitude:
ATC / Comm Plan:
Clearance:
Traffic and Deconfliction Plan:
Threats:
Weather:
Aircraft
Links:
Current Link Status and Trends:
In-Ctrl Setting:
C-1 Timer:
Transmit Status of LOS Links (UHF & CDL):
Emitters:
Navigation and Strobe Lights – As Required:
Radio – Set As Required:
IFF – Set As Required:
Weather Radar Status:
Systems:
Faults and Fault Trends:
Engineering Commands Set:
Detailed Status Information:
Navigation Quality and Trends:
Fuel:
Joker:
Bingo:
Fuel Flow:
C-1 Fuel Considerations:
Navigation:

Mag/Hdg or True/Track:
Steering/Guidance Modes:
AC Route in Use:
Current Waypoint:
Override Commands:
Contingency Logic (C-1, C-2, C-3):
Divert Field:
Cockpit:
781 Status:
Map Display:
Overlays:
Draw Files:
Weather Radar Settings:
Mission Log:
mIRC Setup:
Sensor Operator – Debrief: (n/a LRE)
Remove Trash and Shred Classified:
Comments and Questions:

Table A3.2. Pilot Changeover Briefing Guide (Incoming Pilot).

Changeover Brief with Distributed Ground System Mission Operations Commander: (n/a LRE)
C-1 Timer – Set as Required:
Altitude Hold – Re-accomplish (Unless Cruise-climb desired):
Engineering Commands – Confirm Correct:
Environmental Control System – Check Temperature Transducer 5 Status and Trend:
Aircraft Systems – Check:
Altitude – Check GPS and Barometric Difference:
C-3 Divert Airfield Weather – Review Current and Forecast:
In-flight Publications – Confirm Current and Complete:
Sensor Operator – In-brief: (n/a LRE)

Table A3.3. SO Changeover Briefing Guide.

Mission Highlights:
Targets:
Current Target or Next Target Status:
Completed Targets:
Targets Remaining:
Ad Hoc Targets:
Target Area Impacts to Collection
Weather:
Terrain:
EMI:

DGS Collection Quality Feedback:
Applicable Aircraft Faults:
Sensor Status:
Faults / Fault Trend:
Restarts:
Settings:
Dissemination Check:
Map Settings:
mIRC Update:
Mission Room SA:
Current Virtual Crew:
Mission Log:
Pilot – Debrief:
Remove Trash and Shred Classified:

Attachment 4

MISSION DEBRIEFING GUIDES

A4.1. General. Debriefing guides are provided for use in accomplishing mission debriefing and post-mission reporting.

Table A4.1. Mission Debriefing Guide.

Times Review:
Takeoff:
Land:
Duration:
Complete Paperwork:
Log Flight Time:
Log Training Events:
Log Aircraft and Cockpit Write-ups:
Ground Procedures, Takeoff, and Departure:
Enroute Procedures:
Recovery, Landing, and After Landing:
Mission Accomplishment and Analysis:
Target Deck Statistics:
Mission Support:
Objectives met?
Sensor/Payload Effective?
Lessons Learned:
Sensor/Payload Operations:
Aircraft and Ground Operations:
Crew Resource Management Effectiveness:
SII issues:
Safety issues:
Comments and Questions:

Attachment 5

COMBAT INGRESS/EGRESS CHECKLISTS

A5.1. General. Checklists are provided for accomplishing ingress checks prior to entering the collection area and egress checks after exiting the collection area.

Table A5.1. Combat Ingress Checklist.

Aircraft and Cockpit Systems – Check.
Fuel:
Fuel Level – Check.
Fuel Flow – Check.
Bingo and Joker Fuel – Review.
Emitters:
IFF/SIF - Set, as Required.
Navigation and Strobe Lights - Set, as Required.
WX Radar - Set, as Required.
Line-of-Sight Link Transmitters – Set, as Required.
Ultra High Frequency Line-of-Sight.
CDL.
Navigation:
Air Traffic Picture – Check and De-conflict, as Required.
Max Altitude Engineering Command – Set, as Required.
Airspace – Review:
Threats – Review Current Situation.
Overlays and Draw Files – Display, as Required.
Collection Priorities and Scheme of Maneuver or Orbit – Reviewed.
Weather Conditions – Check.
Mission Plan Aircraft Route – Select.
Mission Plan Waypoint – Select, as Required for Override.
Waypoint Contingency and Lost Link Planning – Review.
Track/True – Verify.
Communication:
Distributed Ground System In-Brief – Accomplish.
Radios – Set appropriate frequency, secure as required, and check in with Controlling Agency in accordance with Special Instructions.
mIRC – Display appropriate rooms and checkin with Controlling Agency as required in accordance with SPINS.
Intercom – Set as Required.
Emergencies:
Divert Airfield – Review.
Runway in Use – C-3 Route Displayed.
Frequencies and Phone Numbers – Available.
Notice to Airmen (NOTAMs) – Reviewed.
Sensors – Check.

KU/ETP Sensor Link – Configure, as Required.

Table A5.2. Combat Egress Checklist.

Aircraft and Cockpit Systems – Check.
Fuel:
Fuel Level – Check.
Fuel Flow – Check.
Bingo and Joker Fuel – Review, as required.
Emitters:
IFF/SIF - Set, as required.
Navigation and Strobe Lights - Set, as required.
WX Radar - Set, as required.
Line-of-Sight Link Transmitters - Set, as required.
Ultra High Frequency Line-of-Sight.
CDL.
Navigation:
Air Traffic Picture - Check and De-conflict, as required.
Max Altitude Command - Set, as required.
Airspace – Review.
Overlays and Draw Files - Display, as required.
Mission Plan Aircraft Route – Select.
Contingency and Lost Link Planning – Review.
Landing and Alternate Airfields – Review.
Weather Conditions – Check.
Communication:
Radios - Set appropriate frequency and check in with Controlling Agency, as required in accordance with Special Instructions.
mIRC - Display appropriate rooms and check in with Controlling Agency, as required in accordance with Special Instructions.
Intercom - Set as Required.
Distributed Ground System Out-Brief - Accomplish, as required.
Emergencies:
Divert Airfield – Review.
Runway in Use - C3 Route Displayed.
Frequencies and Phone Numbers – Available.
Notice to Airmen (NOTAMs) – Reviewed.

Attachment 6

COMBAT SEARCH AND RESCUE AND ON-SCENE COMMANDER CHECKLIST

A6.1. General. Checklists are provided for use in the event of a search and rescue or **Combat Search and Rescue** event. The checklists should not be considered all-inclusive, and items should be applied as necessary dependent on the situation or event. Flexibility is paramount, and every search and rescue or **combat search and rescue** event should be treated as time-critical; successful recovery becomes less likely as time passes before rescue forces are able to reach downed aircrew or other survivors. The global hawk operations center or mission crew element crew should establish communications with the appropriate air operations center **combat search and rescue** cell or rescue coordination center, and the **combat search and rescue** mission coordinator. The most difficult and time-consuming event phase is obtaining positive identification and location of survivors, and communicating that information to the recovery launch authority.

Table A6.1. Combat Search and Rescue and On-Scene Commander Checklist.

Aviate:
Establish safe course or loiter pattern.
Altitude.
Airspeed.
Heading.
Avoid Threats.
Stack:
Direct all aircraft to an altitude above the last known parachute altitude.
Deconflict assisting aircraft by altitude, non-essential aircraft return to base.
Squawk (peace time):
If on-scene when a survivor situation develops, set IFF to emergency 7700 alerting air traffic control or controlling agency of distress situation.
Have the Global Hawk Operations Center call C2 agencies (Air Operations Center, Rescue Coordination Center, etc.).
Communicate:
Monitor Guard for initial contact with survivor.
Establish radio contact with controlling agencies.
When contact is established with survivor – push 282.8 if able.
Relay critical information as required and brief assisting aircraft as necessary.
Mark and Identify:
Location of survivor and/or crash site with geographic references, coordinates, radial/distance measuring equipment, or a search and rescue point.
Hostile environment and enemy activity:
Unfriendly persons and enemy activity.
Terrain considerations for recovery.
Weather considerations.
Necessary standoff to avoid highlighting survivor position.
Authenticate (may be difficult due to communication limitations):
Check Special Instructions.

ISOPREP.
Assess Aircraft:
Establish bingo fuel.
Sensor status.
Direct (if able direct elements participating to affect recovery):
Rescue escort and/or recovery vehicles to survivor.
Survivor to:
Signal.
Move to better position.
Handoff:
Brief Airborne Mission Commander, new On-Scene Commander or “SANDY” if being relieved.
Provide imagery of survivor area to Air Operations Center if able.

Attachment 7

RQ-4 AIRFIELD SURVEY AND COORDINATION DOCUMENTATION

A7.1. General.

A7.1.1. Use the following to record airfield survey and coordination documentation, and provide it for approval to the relevant approval authority prior to airfield use; to include stitching any approach to a mission planned route.

A7.1.2. CONUS airfields are to be coordinated telephonically to the maximum extent possible. This also includes airfields in Hawaii, Alaska and Guam.

A7.1.3. OCONUS and non-US airfields require site surveys and host nation agreement prior to stitching an airfield to a mission route. Unapproved airfields and termination points that have not been approved through the appropriate process will not be loaded in mission plans.

A7.1.4. Memoranda of Agreement and Memoranda of Understanding for divert or emergency airfields should be coordinated at the MAJCOM/A3 or COMAFFOR level.

Table A7.1. Emergency Divert Airfield Documentation Form.

Emergency Divert Coordination Documentation	
"Insert Name of Airfield"	
Criteria	Major Command/A3 or COMAFFOR
Site Survey Complete (**Note** 1)	
Host Nation Agreement in-place (**Note** 1)	
Runway Dimensions (**Note** 2)	
Emergency Approach Procedures (**Note** 3)	
US Embassy/Consulate Awareness With SDO/DATT Responsibilities [See Unmanned ISR Aircraft Emergency Checklist for US Missions (Embassies/Consulates)]	
Air Traffic Control Coordination (**Note** 4) 1. 2. 3. 4. 5.	
Airfield/Base Agencies (**Note** 5) 1. 2. 3. 4. 5.	
Memorandum of Agreement/ Memorandum of Understanding on file	
Note 1: OCONUS and non-US airfields only.	

Note 2: Airfield dimensions are within the "suitable" or "better" categories in accordance with Attachment 8.
Note 3: Comply with para 2.5.1. for building approaches at airfields that have a published approach procedure. Obtain a waiver from the MAJCOM/A3 (or COMAFFOR) for airfields that don't have a published approach procedure.
Note 4: Each air traffic control agency listed has received arrival routings prepared by the operating unit. Inputs from air traffic control agencies have been complied with, to the maximum extent possible.
Note 5: Each airfield/base agency listed has been thoroughly informed of the RQ-4 flight and handling characteristics. Communications and contingency plans have been coordinated with airfield/base C2 agencies, and notification procedures have been established.

Attachment 8

EMERGENCY AND DIVERT AIRFIELD DECISION MATRIX

A8.1. Emergency and Divert Airfield Decision Matrix. The decision matrix in **Table A8.1** is used to determine the suitability of each airfield considered for use as an emergency or divert airfield.

Table A8.1. Emergency and Divert Airfield Decision Matrix.

Airfield Rating	Runway Length	Runway Width	Type of Airfield	Type of airspace at airfield
Better	10,000+ feet	200+ feet	In the US: US military only International: Host-nation military field with US military presence	Class C and D airspace with radar control
Suitable	8000+ feet	148+ feet	In the US:- Joint-use field controlled by US military International: Host-nation military field with some joint civil operations	Class C and D airspace with radar control

Marginal	7000 – 7999 feet (**Note** 1)	125 – 147 feet (**Note** 1)	In the US: Joint-use airfield but primarily civilian operations International: Civilian-controlled host-nation airfield with limited military presence	Non-radar environment with mixed civil and military traffic
Unsuitable (**Note** 2)	< 7000 feet	< 125 feet	In the US: Civil airport International: Civil airport with high operations tempo and no way to deconflict (i.e., separate runway)	Class B (or foreign equivalent) Uncontrolled airport with significant civil/military traffic
Note 1: Runways less than 8000 feet long or less than 148 feet wide require OG/CC waiver. **Note 2:** MAJCOM A3 is the waiver authority for any unsuitable airfield usage				

Attachment 9

DOMESTIC UAS OPERATIONS REPORT

A9.1. Domestic UAS Operations Report. Use the following report format to report all domestic RQ-4 operations (excluding training, exercises, repositioning, research, development, testing, and evaluation), due annually on October 1st in accordance with **paragraph 8.2.1.**

Table A9.1. Domestic UAS Operations Report.

Unit Name:
Unit Point of Contact (Name, rank/grade, phone number, and email address):
Inclusive dates of report:
Brief description of the types or categories of missions flown:
Summaries of sensors employed:
Information acquired, and whether any information was collected, retained, or disseminated:
Number of times assistance was provided to other Federal departments and agencies, or to State, local, tribal, or territorial governments, and under what authority such assistance was provided:

Attachment 10

DOD DOMESTIC USE OF UAS AUTHORITIES MATRIX

A10.1. DoD Domestic Use of UAS Authorities Matrix. The decision matrix in **Table A10.1** is used to determine the approval authority for particular domestic UAS operations.

Table A10.1. DoD Domestic Use of UAS Authorities Matrix.

Domestic UAS Operations	UAS Groups	Approval Authority	Delegation	Applicable Guidance	Amplification of Guidance
Counter Intelligence or Foreign Intelligence or Intelligence related activities	All	As determined by the head of the DoD Intelligence Component concerned	No	For Foreign Intelligence/Counter Intelligence: EO 12333; DoDD 5240.01; DoDM 5240.01; DoD 5240.1-R For Intelligence Related Activities: DoDD 5148.13; DoDD 5148.11	Only Defense Intelligence Components are authorized to conduct Counter Intelligence/Foreign Intelligence. Intelligence Oversight rules apply.
Defense Support of Civil Authorities (DSCA) - General	All	SecDef	No	DoDD 3025.18; Standing DSCA EXORD	For Search and Rescue and Incident Awareness and Assessment
DSCA - Support of Civilian Law Enforcement Agencies	All	SecDef	No	18 U.S.C. § 1385; 10 U.S.C. Ch 15; DoDD 3025.18; DoDI 3025.21; DoDI 5505.17	
DSCA - Search and Rescue involving distress or potential loss of life, including support of U.S. Coast Guard Maritime Search and Rescue	All	Geographic Combatant Commander	No	DoDD 3025.18; DODI 3003.01, Standing DSCA EXORD; National Search and Rescue Plan	Geographic Combatant Commanders may approve domestic use of DoD UAS on an Air Force Rescue Coordination Center (AFRCC)/ Alaska Rescue Coordination Center (AKRCC)/

					Joint Rescue Coordination Center (JRCC) - Pacific/U.S. Coast Guard coordinated mission with a properly issued Search and Rescue mission number.
Training Exercises, and Repositioning Operations within airspace delegated by the FAA for DoD use (note 1)	All	Unit Commander in accordance with service-specific directives	Yes; as determined by the Unit Commander but not further delegable below an O-6 level commander responsible for flight operations.	DoD-FAA Memorandum of Agreement	Includes repositioning operations and direct transit to and from the training and exercise airspace delegated by the FAA for DoD use.
Training and Exercise Exceptions: - Training and Exercises with armed UAS outside Restricted and Warning Areas - Training ICW civilian LEAs	All	SecDef	No		DoD Component heads will submit appropriate requests to the ASD (HD&GS) at least 30 days prior to projected use.
Counter-Drug Operational Support	All	Geographic Combatant Commander	No	CJCSI 3710.0IB	If delegated by SecDef for Counter-Drug Operational Support in CJCS Instruction 3710.0IB
Research Development, Test and Evaluation within airspace delegated by	All	Installation Commander	Yes; as determined by the Installation Commander but not further delegable	DoDI 3200.18	Includes direct transits to and from the Research Development, Test and Evaluation airspace delegated

the FAA for DoD use.			below an O-6 level commander responsible for flight operations.		by the FAA for DoD use.
Note 1: Airspace delegated by the FAA for DoD use includes: Special Use Airspace delegated by the FAA for DoD use; temporary Air Traffic Control Assigned Airspace Areas (ATCAA); airspace above land with express permission of the landowner or government-owned or -leased land as permitted by DoD-FAA Memorandum of Agreement; U.S. National Airspace delegated by the FAA for DoD use to provide air traffic services, U.S. National Airspace under an approved FAA Certificate of Waiver or Authorization; and airspace delegated by the FAA and coordinated with DoD for permanent, long-term, and short-term requirements.					