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Flying Operations

RQ-4—OPERATIONS PROCEDURES

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This publication implements Air Force Instruction (AFI) 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*. This publication applies to all civilian and contracted employees and uniformed members of the Regular Air Force (RegAF) conducting RQ-4 operations. This publication does not apply to the United States Space Force, Air Force Reserve (AFRES), or the Air National Guard. Failure to obey paragraphs **1.6** and **2.3.4** constitutes a violation of Article 92(1), United Code of Military Justice (UCMJ)—*Failure to Obey Lawful Order or Regulation*. Article 92(1) of the UCMJ does not apply to members of the Air National Guard (ANG). Ensure all records generated as a result of processes prescribed in this publication adhere to AFI 33-322, *Records Management and Information Governance Program*, and are disposed in accordance with (IAW) the Air Force Records Disposition Schedule, which is located in the Air Force Records Information Management System. Refer recommended changes and questions about this manual to the Office of Primary Responsibility (OPR) using the Department of the Air Force (DAF) Form 847, *Recommendation for Change of Product*; route DAF Forms 847 from the field through the appropriate functional chain of command. This publication may be supplemented at any level. See **paragraph 1.3** for specific requirements for coordination prior to certification and approval. The authorities to waive wing or unit level requirements in this publication are identified with a Tier ("T-0, T-2, T-3") number following the compliance statement. See Department of the Air Force Manual (DAFMAN) 90-161, *Publishing Process and Procedures*, Table A10.1, for a description of the authorities associated with the Tier numbers. Submit requests for waivers through the chain of command to the appropriate Tier waiver approval authority, or alternately, to the requestor's commander (CC) for non-tiered compliance items. See **paragraph 1.3** for additional waiver information. The use of the name or mark of any

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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 (FLIP), DOW Foreign Clearance Manual/Guide, and applicable Joint and USAF directives. Pilots will comply with FAA Joint Order (JO) 7610.4Y, *Sensitive Procedures for 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 RQ-4 aircraft under most circumstances. Unless otherwise indicated, the procedures in this manual universally apply to the RQ-4 system 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. CCs. CCs at their respective Tier levels are responsible for complying with guidance in this Manual. RQ-4 flying unit Wing CCs, delegated no lower than the Operations Group (OG) Commander (OG/CC) (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 PIC, regardless of rank, is responsible for, and is the final authority for the operation of the RQ-4 aircraft. Pilots will use best judgement to safely conduct flying operations.

1.2.3. Aircrew Responsibility

1.2.3.1. PIC.

1.2.3.1.1. For a crew with more than one qualified pilot, identify the PIC prior to assumption of aircraft control. The PIC has responsibility and authority as defined in Air Force Manual (AFMAN) 11-202, Volume 3, *Flight Operations*. The PIC may change during missions as pilots cycle in and out of the cockpit. Whenever a new pilot assumes PIC authority, they will ensure a positive handoff of aircraft control occurs. **(T-3)**

1.2.3.1.2. For normal terminal area operations utilizing a launch and recovery element (LRE) and mission control element (MCE), the PIC 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 (SO). The SO is responsible for mission collection planning, mission management, sensor monitoring and tasking, monitoring collection quality, and data dissemination. Additionally, the SO is responsible for assisting the pilot, as required, with conducting checklists and monitoring aircraft systems and operating airspace.

1.2.3.3. Hawkeye. Hawkeye is an individual who provides observation and communication to aircrew and controllers and is required for all normal ground operations to act as a safety observer during aircraft movement. Hawkeye may be utilized to

accomplish Technical Order (T.O.) checklists to facilitate pre-takeoff and after-landing procedures if certified by Squadron(SQ)/CC (see **paragraph 3.8.1**.). The waiver authority for Hawkeye is the OG/CC (may be delegated no lower than the appropriate SQ/CC). Hawkeye maintains two-way voice communications with the PIC and appropriate air traffic control (ATC)/ground controllers and should alert the PIC of any unsafe situation. Hawkeye duties may be accomplished by any SQ/CC certified individual, to include non-rated personnel. If non-rated personnel are used for Hawkeye duty, SQ/CCs will develop and certify a training program for non-RQ-4 pilots performing Hawkeye duties. A copy of the training plan will be provided to the OG/CC. Hawkeye duties should comply with AFMAN 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 SQ/Director of Operations (DO) approval. If Hawkeye is performed by a pilot classified as duties not including flying status, a Department of Defense (DD) Form 2992, *Medical Recommendation for Flying or Special Operational Duty,* must include remarks approving the individual for Hawkeye duties.

1.2.3.4. Global Hawk Operations Center (GHOC). The GHOC is a SQ/-level mission center normally manned by qualified pilots and SOs, 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 SOs actively executing a mission. SQ/CCs will ensure the GHOC is sufficiently manned to support mission execution and determine additional operating guidance not covered in this AFMAN. **(T-3)**

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

1.2.3.4.2. 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 (C2) 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 Capable (BMC) qualification.

1.2.3.4.5. The GHOC SO monitors the mission and provides C2 support to the MCE SO throughout the mission's duration. The GHOC SO is a single seat requirement filled for each combat line by a qualified SO with at least a BMC qualification.

1.2.4. Supplements. Comply with applicable supplements to all guidance referenced in this manual. Develop additional supplements IAW DAFMAN 90-161.

1.3. 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.

1.3.1. Deviations. The PIC is to report deviations or exceptions taken without waiver through proper channels to Air Combat Command (ACC) Standardization Branch (ACC/A3TV)who in turn, notifies the respective Reconnaissance Wing as appropriate of follow-on actions.

1.3.2. Waivers. ACC Persistent Attack and Reconnaissance Division (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-2, T-3). Consult DAFMAN 90-161 for explanation of tiered waiver notations. For operational missions, waivers should be routed through the applicable Combatant Command (CCMD) chain of command through the Tactical Control (TACON) Air Operations Center (AOC). Waiver requests are submitted in electronic form and include the rationale for the waiver. Forward all requests through the chain of command to ACC RQ-4 Operations Branch (ACC/A3MR). Waivers, if approved, are good for a maximum of one year from the effective date or up to 30 days after the approving CC's tour length, whichever is shorter.

1.4. Requisitioning and Distribution. Unit CCs 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**.

1.5. Compliance with other Operating Provisions. Aircrew will comply with operating provisions specified in FAA Certificates of Waiver, Certificates of Authorization or Memoranda of Agreement for operations within or through the US NAS. **(T-0)** Aircrew will comply with operating provisions specified in host-nation agreements for operations within another nation's airspace. **(T-0)**

1.6. 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/AFMANs. Operational units may use phase manuals to augment mission qualification and continuation training (CT).

1.7. Minimum Flight Crew.

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

1.7.2. SO. A current and qualified SO is required in the cockpit when necessary to monitor or control sensors, or when deemed necessary by the PIC.

1.8. Maintenance Personnel.

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

1.8.2. A communications technician will be immediately available to each cockpit 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 MCE 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 (OPLANs) and operations orders (OPORDs), special instructions (SPINS), air operations directives, airspace control plans, air tasking orders (ATOs), airspace control orders (ACOs), 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 IAW 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 PIC 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. PIC 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)**

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.)

2.3.1.2. 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 PIC directs mission flight planning to include:

2.3.2.1. Specific configuration requirements to ensure a reliable link and appropriate configuration for a safe and successful mission. At a minimum this will include verifying software versions, link frequencies, and mission plan selection.

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

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

2.3.2.4. 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. PICs 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; SPINS; Reconnaissance, Surveillance Target Acquisition, and Track Messages). **(T-3)**

2.3.5. Operations within or through the US NAS. 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 PIC will ensure a Proper Use Memorandum and radio frequency authorization (RFA) is approved prior to collection. **(T-0)**

2.4. Mission Planning Requirements.

2.4.1. Mission planning requirements. Dedicated 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 mission planning will 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 will 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 War (SecWar) level or Presidential approval authority as well as exercise and aircraft transfer sorties require day-prior mission planning. Dedicated mission planning is always required under the following conditions:

2.4.1.1. When conducting sensitive reconnaissance operations (as defined by Chairman of the Joint Chiefs of Staff Instruction (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-2)**

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 area. **(T-2)**

2.4.1.3. When conducting sensitive reconnaissance operations or CCMD intelligence, surveillance, reconnaissance (ISR) (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. CCMD ISR sorties. Dedicated mission planning should be performed for all CCMD ISR operations, but may not be required in all cases due to lower overall risk as compared to sensitive reconnaissance operations sorties. The OG/CC has responsibility to identify which CCMD ISR operations require dedicated mission planning. As a guide, the OG/CC should consider the complexity of Operations Area track execution requirements and track restrictions as well as the complexity of the governing SPINS, rules of engagement, etc. when determining dedicated mission planning requirements. The OG/CC will provide written notification to the supported MAJCOM/AOC identifying which CCMD ISR sorties require dedicated mission planning for their awareness.

2.4.3. Dedicated mission planning exceptions.

2.4.3.1. Non-mission portions of operational sorties. Dedicated mission planning is not required for launch, recovery, and transit operations on operational missions. Transit crews who have not accomplished dedicated mission planning will not conduct mission operations in an ISR Operations Area or an Airborne Reconnaissance Reporting Area (as defined in CJCSI 3250.01). (**T-2**) 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 dedicated mission planning, the sortie will be terminated early to ensure crews who have not accomplished required mission planning do not operate in the ISR Operations Area / Airborne Reconnaissance Reporting Area. **(T-3)**

2.4.3.2. Local Formal Training Unit (FTU) and CT Sorties. Dedicated mission planning should be the norm for all FTU and CT sorties. The OG/CC is the determining authority for day prior mission planning requirements for local FTU and CT sorties. For FTU sorties accomplished on operational missions, day prior mission planning is required. **(T-2)** See **paragraph 2.4.4** for further guidance regarding dedicated mission planning.

2.4.3.2.1. SQ/CCs and detachment CCs should schedule at least 3 hours of mission planning time for local CT and FTU crews. Any deviations from the 3-hour standard will be outlined in unit guidance. This guidance will be approved by no lower than the SQ/DO. 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. Mission planning for these sorties begins no later than crew show and ends when the crew steps to the cockpit. For example, a crew scheduled for a 1230-1430 sortie should have a scheduled show time of 0930.

2.4.3.2.2. Mission planning for CT and FTU sorties may be accomplished prior to the day of execution but will occur within 24 hours of the crew's scheduled flight time, provided all crew members are available to accomplish mission planning as a crew. An exception being that aircrew scheduled to fly a CT or FTU sortie on a duty day immediately following a regular non-duty period (**Example:** Monday after Sat/Sun off)

may conduct mission planning on the last duty day preceding the non-duty period, not to exceed four calendar days e.g., Tuesday flight after a three-day weekend can be mission planned for on Friday.

2.4.4. Mission planning time for dedicated mission planning.

2.4.4.1. SQ/CCs will 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 number 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-3)** 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)**

2.4.4.2. "Show and go" sortie execution in-lieu of day-prior mission planning. An alternate method that SQ/CCs may utilize to accomplish the day prior mission planning requirement for crews. SQ/CCs will allot a minimum of 2.5 additional hours prior to the unit's normal showtime (for example, a normal 1.5 hour show for a mid-mission is now 4 hours to account for the day prior mission planning requirement) for these "show-and-go" sortie profiles. **(T-3)** 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 will be required. **(T-3)**

2.4.5. Dedicated mission planning waiver authority.

2.4.5.1. Sensitive reconnaissance operations and CCMD ISR 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 Force Forces (COMAFFOR)) for sensitive reconnaissance operations or CCMD ISR sorties may accept the risk of mission execution and waive dedicated mission planning requirements. Such waivers will be provided in writing and may be delegated no lower than CCs or their delegated representatives in the grade of O-8 or higher. **(T-2)** In all other cases, the OG/CC 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 described in paragraphs **2.4.1.1** through **2.4.1.4**. **(T-2)**

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 SQ/DO or higher approval. Missions will be canceled and/or terminated early when dedicated mission planning cannot be achieved or minimum mission planning time is not available. **(T-3)**

2.4.7. If same day substitution is required or not all required items are available for review, OG/CC is the waiver authority to continue the mission. The OG/CC should consider the overall mission complexity and the information available for the crew to study prior to assuming their crew position. Refer to **paragraph 2.3.4** for items required during dedicated mission planning.

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)**

2.5.2.1. All aircrew are to ensure they are using an approved mission plan version for flight.

2.5.2.2. 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 FLIP updates and ensure mission plans provide for obstacle clearance. **(T-3)**

2.5.5. For weather and emergency divert planning purposes, mission plans built for each of the launch locations below will at a minimum always have a powered approach for each of the fields listed to the right of it. This list is for Mission Planner reference and use. This list is not a comprehensive catalog of all approved emergency airfields for the RQ-4.

2.5.5.1. Grand Forks AFB—Beale AFB, Edwards AFB

2.5.5.2. Andersen AFB—Yokota AB, Kadena AB

2.5.5.3. Yokota AB –Andersen AFB, Kadena AB

2.5.5.4. NAS Sigonella—Trapani AB, Larissa AB

2.6. Enroute Charts and Approach Procedures.

2.6.1. Mission Maps and Navigation Route Maps.

2.6.1.1. During the mission, pilots will display an appropriate background chart (example Operatioal Navigation Chart (ONC)/ Global Navigation Chart (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, PICs will use the background chart for situational awareness only. **(T-3)**

2.6.1.2. Map Overlays. Units are to standardize overlays displayed on the primary pilot and SO maps. **(T-3)** Overlays should be the same for all aircrew (MCE pilot, LRE pilot, and SO) workstations and should be plotted by automation to the maximum extent possible. Should an overlay not be updated prior to mission execution, the aircrew, IAW 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 PIC has immediate access to FLIPs required for safe operation and navigation of the aircraft. **(T-3)** Electronic FLIPs are authorized for use in flight.

2.6.3. Flight Logs. RQ-4 will record important events, link outages, aircraft and sensor fault codes and notes in a flight log. **(T-3)** Envision is an approved software tool 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 OG/CC. Runway dimensions must meet or exceed the following minimums:

2.7.1. Runway Length: 8,000 feet.

2.7.2. Runway width: 148 feet.

2.7.3. Taxiway width: 75 feet.

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

2.7.5. **Exception:** Operations at NAS Sigonella are approved and units are to follow published T.O. and mission planning guidance to mitigate the shorter runway length and taxiway width.

2.7.6. FAA Comprehensive Method for Airport Pavement Analysis (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 PIC in emergency situations.

2.8.2. Airfield Selection and Approval Process.

2.8.2.1. The OG 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 Director of Operations (ACC/A3).

2.8.2.2. Airfield use outside the CONUS may be requested by either the OG 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/DATT) accredited to that host nation, and validated by the geographic MAJCOM/Director of Operations (A3). In CCMD 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) will be the responsibility of the supported MAJCOM/CCMD in coordination with the SDO/DATT accredited to that host nation, with assistance from ACC and/or the OG 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 CCMD Strategic Plans and Policy (J5) with the CCMD's Foreign Policy Advisor (POLAD), in conjunction with the MAJCOM Plans and Requirements (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 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 OG, 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 will 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 will 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 outside the continental United States (OCONUS) airfields, the supported MAJCOM/A3 (COMAFFOR for CCMDs with no MAJCOM) may approve alternate methods based on operational requirements. For CONUS airfields, ACC delegates this authority to the OG/CC.

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 will 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 OG. The supported MAJCOM/A3/A5 (COMAFFOR for CCMDs 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 OG/CC is responsible for creating educational materials used in coordinating and training airfield and ATC 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 will 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 Including Alaska, Hawaii, US territories and Canada	ACC/A3
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 DOW ranges and DOW owned lands. Servicing MAJCOMs will coordinate with the DOW 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 IAW 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.

2.10.2.1. 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)**

2.10.2.2. For pilots, unless required for operational reasons, changeover briefing and PIC authority transfer will not 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, PICs 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 SQ 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 SOs, 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 (CSAR) and On-Scene Commander Checklist. All applicable items in **Attachment 6** must be briefed when required to assist with CSAR efforts or act as On-Scene Commander for a CSAR event. **(T-3)** Crewmembers may also reference Air Force Tactics, Techniques and Procedures (AFTTP) 3-1.RQ-4, *Tactical Employment--RQ-4* f or CSAR procedures.

2.11. Configuration Sheets.

2.11.1. Chronos is the approved software tool to create and update the configuration sheets. Pilots, aircraft maintenance, ground communications, relay representatives and others will fill out their respective information on the configuration sheets.

2.11.2. Operations Group Stan/Eval (OGV) is the OPR for the Configuration Sheet All requests to change the configuration sheet template must be approved by OGV. OGV will notify all applicable parties of updates to the template.

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 SOs or Instructor SOs, or instructor-supervised student SOs may perform SO duties. **(T-2)**

3.1.1. Mission Execution Decision. The execution authority and PIC makes the mission clearance decision regarding whether to takeoff or enter into the operations area. In all cases, final responsibility for the safe conduct of the mission rests with the PIC. If a PIC 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 PIC 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 SQ/CC 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 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 PIC 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 PIC 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)**

3.2.2.2.1. Pilots who are not listed on the original pre-flight authorization must be approved to fly by the Ops Sup. **(T-3)**

3.2.2.2.2. For brief physiological breaks, aircrew should request the break from the Ops Sup, 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. PICs 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 MAJCOM approved items necessary for flight and/or mission operations. **(T-2)**

3.2.4. Crewmember Utilization. SQ/CCs 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 PIC approves all cockpit shadow operations. Prior to flight, one cockpit will 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 PIC approves it before the shadow operation begins. The PIC will notify the SQ Ops Sup before shadow operations begin. **(T-3)**

3.3. Required Equipment. The PIC is the final authority in determining the overall suitability of the aircraft or Common Ground Station (CGS) for flight. The PIC should ensure a detailed explanation of any discrepancies entered in the appropriate Air Force Technical Order (AFTO) Form 781A, *Maintenance Discrepancy and Work Document*.

3.4. Minimum Equipment List (MEL). The MEL is a pre-takeoff document that lists the minimum equipment/systems to operate the aircraft or CGS. It is not binding after the aircraft is airborne. It is not intended to cover whether the aircraft or CGS is suitable to meet any specific mission requirements and the PIC should not rely solely on the MEL to make this determination. The MEL does not include obvious required items such as wings, ruddervators, landing gear, etc. and those items not included that are related to aircraft airworthiness are automatically required to be operative. Consider listed equipment/systems with no exceptions as grounding items. Once the PIC accepts an aircraft or CGS the MEL has priority over the Minimum Equipment Subsystems List. PICs are not committed to operations with degraded equipment accepted by another PIC.

3.4.1. Waiver Rules. A PIC prepared to operate with a degraded MEL (required item) shall request a waiver through the Ops Sup to be routed to the appropriate waiver authority. The PIC should be prepared to provide: 1) nature of request, 2) mitigation measures to reduce risk with degraded system 3) weather or other adverse condition, and 4) any other degraded systems.

3.4.2. Waiver Protocol. Waivers to operate with degraded equipment are granted on a case-by- case basis and blanket waivers may not be used. The WG/CC is the waiver authority for all missions. **Exception:** Missions where the OG/CC is the mission execution authority. **(T-3)**

3.4.3. MEL Table Definitions/Column Identifiers. MEL tables list aircraft and CGS systems to provide the PIC a mechanism to determine minimum requirements for aircraft operation. An X in the Required column means that system/equipment is required to be properly functioning. If an entire system is listed (for example, Air Data System) it means all components of that system are required to function normally. The Remarks/Limitations/Exceptions column gives clarifying information and lists exceptions where the equipment may not be required.

3.4.4. Aircraft Model Identification. The tables apply to RQ-4B Block 40.

Table 3.1. RQ-4B Aircraft Minimum Equipment List (MEL).

SYSTEM/SUBSYSTEM	Required	Remarks/Limitations/Exceptions
Air Data System	X	
AN/ZPY-2 Radar System	X	Must be installed for ballast but only required to be operational if collection is required.
Data Links	X	At a minimum, must adhere to the requirements set forth in **paragraph 3.5**.
Electrical System	X	
Emergency Locator Transponder	X	
Environmental Control System, Avionics Compartment Pressurization	X	Not required if entire flight maintains 24,000 ft pressure altitude or lower.
Environmental Control System, Fuel Tank Pressurization	X	Not required if entire flight maintains 44,000 ft pressure altitude or lower.
Environmental Control System, Liquid Cooling System	X	
Forward Looking Infrared (FLIR)		
Fuel System	X	Individual float switches and probes may be inoperative provided they do affect the normal operation of the overall system.
Hydraulic System	X	
Ice Detection System	X	
IFF/SIF Transponder	X	Only modes necessary for the planned mission are required to operate.
Integrated Mission Management Computers (2)	X	
Lights, Strobe	X	Must adhere to AFMAN 11-202V3 aircraft lighting requirements.
Lights, Navigation	X	Must adhere to AFMAN 11-202V3 aircraft lighting requirements.
Navigation, KN4074s (2)	X	
Navigation, LN100s (2)	X	
Navigation, TA-12S or TA-24	X	
Radio Altimeter System	X	
SCAT-1 Differential GPS (DGPS)	X	
UHF/VHF (Voice) Communications	X	Must have 2-way voice communication with ATC during all phases of flight. This may be accomplished via a wall radio/AM relay. A telephone is not a substitute for a voice radio.
Weather Radar	X	

Table 3.2. RQ-4B Common Ground Station MEL.

SYSTEM/SUBSYSTEM	Required	Remarks/Limitations/Exceptions
Lighting	X	Lighting must be sufficient to read paper products.
Phone, Commercial or DSN	X	
Phone, VOSIP	X	Required for Operational Missions
SIPR Computer (LRE)		If not functional, SpecView must be available to the LRE pilot via alternate means (laptop, printout).
SIPR Computer (MCE)	X	Required for Operational Missions. For non-operational missions, SpecView must be available via alternate means (laptop, printout).
Weather Radar Computer	X	Required in at least one CGS to allow compliance with checklists.
Workstation, Communication C2/Map		
Workstation, Pilot C2/Map	X	Includes keyboard and mouse with two functional computer monitors.
Workstation, SO C2/Map	X	Includes keyboard and mouse with two functional computer monitors.

3.5. Links.

3.5.1. At least two C2 links are required for flight operations. Where applicable certifications (for example, FAA, Certificate of Waiver or Authorization) and/or airspace regulations allow, the SQ/CC may approve single link operations for the mission to continue.

3.5.2. The OG/CC is the waiver authority for those phases of flight where no command-and-control links are available. Delegable no lower than SQ/CC.

3.6. Communications. Aircrew should exercise intercom discipline. Units should tailor intercom use to mission specifications and unit needs. The PIC has authority over intercom use.

3.6.1. Ground Communications. PICs 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 PIC releases the ground crew. **(T-3)**

3.6.2. 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 PIC should announce intentions during critical phases of flight and when circumstances require deviating from normal procedures.

3.7. 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)**

3.7.1. Paper-copy printouts of T.O. 1Q-4(R)B-2-WA-2, *Maintenance Manual Set – Global Hawk Technical Orders – Aircraft RQ-4 Block 40 – Ground RD-2A, RD-2B*, RQ-4 EFM

aircrew checklists are authorized. Aircrew will ensure currency of the printout checklist prior to use. **(T-3)**

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

3.7.3. OGV approved guides and checklists are authorized for use in flight.

3.8. Ground Operations.

3.8.1. The Before Exterior Inspection checklist, Exterior Inspection checklist and the PIC's Common Ground Station Setup checklist must be completed prior to removal of ground safety pin. **(T-2)** If the PIC does not perform the Exterior Inspection Checklist or Common Ground Station Setup Checklist, then the individual that performed the checklist must communicate all open aircraft write-ups to the PIC. **(T-2)** The PIC assumes responsibility for the aircraft once the cockpit establishes a valid C2 link with the aircraft.

3.8.2. Launch and recovery pilots should normally accomplish their own T.O. required exterior inspection. However, another SQ/CC certified individual may accomplish the Before Exterior Inspection and Exterior Inspection checklists if required. If another individual is utilized, the individual accomplishing the checklist should have crew rest and comply with all flight duty period restrictions in AFMAN 11-202V3. (see **paragraph 1.2.3.3**.).

3.9. 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 PIC 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.

3.10. Cruise. PICs will ensure the SQ/Ops Sup, Forward Operating Location operations, Distributed Ground Systems, and AOCs 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)**

3.10.1. While operating in the NAS pilots should initially file on the flight plan or request with ATC a block of altitude of 2000 feet. The aircraft should then climb to and maintain the middle of the block (e.g., cleared FL510B530 with the aircraft level at FL520). If the PIC wishes to climb or descend for mission requirements, more favorable winds, or for thunderstorm avoidance they may request to do so with ATC using another 2000 ft block altitude.

3.10.2. Once cleared a block altitude the PIC should ensure that the engineering command #40: Maximum Altitude will be set to the highest altitude for their assigned airspace, (e.g., cleared FL510B530, eng cmd #40: Maximum Altitude – 53,000 feet). If cleared to climb or descend during cruise or mid-mission, the engineering command should be changed to reflect the maximum altitude of the new block. **(T-3)**

3.11. Approach and Landing. The PIC 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.

3.11.1. 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:

3.11.2. The MCE has verified that either the sensors or payload is shut down or ready to be shutdown prior to link switching to none. **(T-3)**

3.11.3. The MCE pilot has verified applicable Engineering Commands are set. **(T-3)**

3.11.4. The LRE has two stable links (unless waived IAW **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. **(T-3)**

3.11.5. The LRE has verified good two-way communication with the controlling agency (via wall radios and/or AM Relay). **(T-3)** The telephone in the LRE remains a back-up option. **(T-3)**

3.11.6. The aircraft, LRE, and landing airfield are not experiencing any issues that may affect safety of flight. **(T-3)**

3.12. Fuel Requirements.

3.12.1. Pilots will confirm the fuel type, fuel load, and any applicable waivers or approvals during the mission planning process IAW **Chapter 2** of this instruction.

3.12.2. The following fuel types are authorized for RQ-4 flight operations:

3.12.2.1. Primary Fuels

3.12.2.1.1. JP-8 (NATO F-34)

3.12.2.1.2. JP-8+100 (NATO F-37)

3.12.2.1.3. JP-5 (NATO F-44)

3.12.2.1.4. Jet A-1 with military additive package (NATO F-35)

3.12.2.1.5. TS-1 with military additive package

3.12.2.2. Restricted Fuel

3.12.2.2.1. Jet A with military additive package (NATO F-24)

3.12.2.2.2. The OG/CC is the approval authority for the use of Restricted Fuel as outlined in the T.O. **(T-3)**

3.12.2.2.3. Aircrew flying with Restricted Fuel are directed to monitor and conduct TT4 checks every 15 minutes and take the necessary actions to prevent the aircraft from exceeding temperature limits. **(T-2)**

3.12.2.2.4. Military additive package includes a fuel system icing inhibitor, a static dissipater additive, and a corrosion inhibitor/lubricity enhancer.

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

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

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

3.13. Crew Rest. Aircrew will adhere to the crew rest requirements in AFMAN 11-202V3 to include aircrew giving physiological breaks and/or completing pre-flight aircraft inspections. **(T-3)**

3.14. Flight Duty Period. Aircrew will adhere to the Flight Duty Period guidelines listed in AFMAN 11-202V3 for Unmanned Aircraft System (Single Control). **(T-3)**

3.15. Counter-Fatigue Management Program. Aircrew may use no-go medications IAW AF Surgeon General (AF/SG) policy. See paragraph 2.8 of AFMAN 11-202V3.

3.16. 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. SO 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 OG/CC. Follow guidance in ACCMAN 11-2RQ-4, Volume 1, *RQ-4—Crew Training*. for initial certification and/or certification in a new theater/Area of Responsibility.

3.17. Aircraft and Ground Station Debriefing.

3.17.1. Cockpit debrief process. All aircrew are required to debrief with their respective Aircraft Communications Maintenance Unit (ACMU) and Intelligence at the end of each shift and after landing.

3.17.2. Aircraft mid-mission debrief process. Any fault affecting mission accomplishment or safety of flight received during a crew's shift will be reported to the appropriate aircraft maintenance unit via telephone immediately following crew changeover.

3.17.3. Post-mission debrief process. The final MCE pilot will attend the aircraft maintenance post-mission debrief, unless released by the LRE pilot. The MCE pilot will communicate aircraft and cockpit-specific faults and malfunctions and confirm that AFTO Form 781A write-ups are completed. The LRE pilot is the overall authority on aircraft (including payload) landing code and will communicate the debrief time to all applicable entities.

Chapter 4

INSTRUMENT AND WEATHER PROCEDURES

4.1. Approaches. The RQ-4 flies self-contained global positioning system-aided inertial navigation system (INS) pre-programmed approaches IAW AFMAN 11-202V3_ACCSUP, *Flight Operations*. 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 AFMAN 11-202V3, 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 ETA +/-2 hours.

4.2.1.2. When executing higher headquarters (HHQ) directed missions, the pilot may takeoff in weather conditions below the minimums in **paragraph 4.2.1.1** down to a ceiling of 0 feet and a visibility of 1600 feet (500 m) runway visual range (RVR). For airfields without RVR capability, a minimum of ½ mile (800m) prevailing visibility will be used. **(T-3)** Takeoff in weather conditions below the minimums during non-HHQ directed missions requires OG/CC approval.

4.2.1.3. When the departure airfield weather is below RQ-4 landing minima in **paragraph 4.2.1.1**, pilots will obtain OG/CC approval to land below RQ-4 minima at the takeoff airfield. **(T-3)**

4.2.1.4. During landing, if the weather remains below landing minimums (1000/2), when executing HHQ directed missions, the pilot may continue to land in weather conditions down to zero ceiling and zero visibility (0/0). For non-higher headquarter directed missions the OG/CC is the approval authority to land down to and including zero ceiling and zero visibility. 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 **paragraph 4.6** and its subparagraphs for information on filing an alternate.

4.3. Thunderstorms.

4.3.1. 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.

4.3.2. Takeoffs, approaches or landings are prohibited when thunderstorms or lightning are reported within 20 nautical miles of the airfield. **(T-2)** For HHQ-directed operational missions, the OG/CC 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 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.***

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 (IAW **paragraph 2.8.2**) 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 OG/CC is the waiver authority for all aspects of this Chapter unless otherwise indicated.

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 PIC coordinates for the emergency landing. If a recovery to an airfield is not possible, PICs 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.

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 PIC will make every effort to re-establish a link. The PIC will communicate, by any means available, with ATC or military C2 assets to coordinate emergency operations and the aircraft's predicted flight path. **(T-3)** In areas where positive ATC verification of aircraft position cannot be obtained, the PIC will communicate potential RQ-4 actions to appropriate ATC 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 PIC.

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 C2 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. 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:

6.4.1. Local Area Procedures. **(T-2)**

6.4.2. Controlled Emergency Landing Areas and Procedures. **(T-2)**

6.4.3. Local Weather Procedures. **(T-2)**

6.4.4. Approved Alternate Missions. **(T-2)**

6.4.5. Unit Standards. **(T-2)**

Chapter 7

SECURITY PROCEDURES

7.1. General. This chapter provides guidance on security for the RQ-4 Global Hawk UAS Department of the Air Force instruction (DAFI) 31-101, *Base Defense Operations*, 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 (TCDLs), 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 C2 and/or data links.

7.2.3. RQ-4 airborne or ground-based segments are to be protected IAW 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, TCDLs, 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 C2 and/or data links.

7.2.4. SATCOM Relay Sites are to be protected IAW PL3standards. **(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 [MCE]/Launch and Recovery Element [LRE]) 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 DAFI 31-101 and the appropriate MAJCOM supplement. During increased tensions and higher force protection conditions (FPCON) 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 are 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:

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. **(T-2)** 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. **(T-2)** 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. **(T-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
LRE	PL 3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
TCDL	PL3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
MCE	PL3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Tactical Interoperable Ground Data Link	PL3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Ground Multiband Terminal	PL3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Fixed Site SATCOM Terminal	PL3	PL4	CONTROLLED AREA	CONTROLLED AREA	CONTROLLED AREA
Tri-band Tactical Field Terminal	PL3	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 (UASS) IN US NATIONAL AIRSPACE (NAS)

8.1. General. This chapter provides guidance for the domestic use of the USAF RQ-4 in US National Airspace (hereafter "domestic use" or "domestic operations") to ensure that such use is IAW US law and DOW 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. 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 will be submitted to ACC on an annual basis due 1 October. 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**.

8.3. Domestic Operations.

8.3.1. Domestic use of RQ-4 by the Air Force will be conducted IAW the 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 will 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 IAW FAA/DOW guidance/agreements and IAW 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-2)**

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, AF 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 US persons is prohibited, and information may not be acquired or collected for the purpose of obtaining information to gather any specific information about a US person or private entity or private property without consent, unless expressly approved by the SecWar or delegated authority, consistent with US law and regulations. Acquired or collected imagery may incidentally

include US persons or private property without consent. Any stored imagery will not be retrievable by reference to US 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 IAW AFH 35-115, *Visual Information*, paragraph 10.2., and Air Force Research Laboratory Instruction (AFRLI) 35-102, *Security and Review Policy Program*. Prior to public affairs review for release, the selected imagery must be reviewed by the flying and exploitation units IAW applicable current weapon system classification guides. **(T-0)**

8.3.3. All RQ-4 operations will be IAW DOW component intelligence oversight guidance and USAF regulations and policy, including, but not limited to DoD Manual (DoDM) 5240.01, *Procedures Governing the Conduct of DoD Intelligence Activities*. **(T-0)** Additionally, RQ-4 domestic operations will require a Proper Use Memorandum IAW DAFI 14-404, *Intelligence Oversight*. Unit CC (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 IAW AFI-14-404 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 other directives requires SecWar approval. **(T-0)** For domestic use requiring SecWar approval, the Under Secretary of Defense for Policy (USW(P)), in coordination with the Chairman of the Joint Chiefs of Staff (CJCS), the appropriate Combatant Command Commander (CCDR) or CCs, the Under Secretary of War for Intelligence &Security (USWI&S), and the General Counsel of the Department of War (DoW OGC) will provide a recommendation to the SecWar 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 Hemispheric Affiars (ASW(HD)) at least 30 days prior to projected use. **(T-0)**

8.3.5.1. The SecAF may seek verbal approval by the SecWar for domestic use of USAF RQ-4 in urgent, time-critical situations to protect life or property not addressed by contacting ASW(HD).

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 SecWar. **(T-0)**

8.3.6. Andersen AFB, Guam has prohibited the RQ-4 from imaging the base/local area. Aircrew will not image or set up sensor calibrations at the following locations. Any imaging must be approved by both Andersen AFB base commander and Indo-Pacific Command Operations (INDOPACOM J3).

8.3.6.1. N 13° 35.194 E 144° 53.731

8.3.6.2. N 13° 33.557 E 144° 54.560

8.3.6.3. N 13° 35.184 E 144° 57.901

8.3.6.4. N 13° 36.808 E 144° 57.055

BRIAN S. LAIDLAW, Brigadier General, USAF
Director of Operations

Attachment 1

GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION

References

AFH 35-115, *Visual Information*, 24 November 2020

AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure,* 3 May 2022

AFI 11-418, *Operations Supervision*, 22 December 2021

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

AFMAN 11-202V3, *Flight Operations*, 10 January 2022

AFMAN 11-202V3_ACCSUP, *Flight Operations*, 8 November 2022

ACCMAN 11-2RQ-4V1, *RQ-4—Crew Training*, 2 April 2026

AFRLI 35-102, *Security and Review Policy Program,* 2 March 2022

AFTTP 3-1.RQ4, *Tactical Employment--RQ-4*, 01 December 2023

CJCSI 3250.01, *Policy Guidance for Intelligence, Surveillance, and Reconnaissance and Sensitive Reconnaissance Operations*, 10 May 2023

DAFI 14-404, *Intelligence Oversight*, 23 January 2025

DAFI 31-101, *Base Defense Operations*, 10 September 2024

DAFMAN 11-401, *Aviation Management*, 27 October 2020

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

DoDD 5148.13, *Intelligence Oversight*, 26 April 2017

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

DOW *Electronic Foreign Clearance Guide*, 09 July 2025

DOW *Foreign Clearance Manual*, 09 July 2025

EO 12333, *United States Intelligence Activities*, 4 December 1981

FAA JO 7610.4Y, *Sensitive Procedures for Special Operations*, 8 July 2025

T.O. 1Q-4(R)B-2-WA-2, *Maintenance Manual Set – Global Hawk Technical Orders – Aircraft RQ-4 Block 40 – Ground RD-2A, RD-2B*, 3 April 2003

Prescribed Forms

None

Adopted Forms

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

AFTO Form 781A, *Maintenance Discrepancy and Work Document*

DAF Form 847, *Recommendation for Change of Product*

DD Form 2992, *Medical Recommendation for Flying or Special Operational Duty*

Abbreviations and Acronyms

A3—Director of Operations

A5—Plans and Requirements

AB—Air Base

ACC—Air Combat Command

ACMU—Aircraft Communications Maintenance Unit

ACN—Aircraft Classification Number

ACO—Air Control Order

AF—Air Force

AFB—Air Force Base

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFTO—Air Force Technical Order (Forms)

ALR—Acceptable Level of Risk

AM—Amplitude Modulation

ANG—Air National Guard

AOB—Air Order of Battle

AOC—Air Operations Center

AF—Air Force

AFPD—Air Force Policy Directive

AFRES—Air Force Reserve

AFRLI—Air Force Research Laboratory Instruction

AFTTP—Air Force Tactics, Techniques and Procedures

ATC—Air Traffic Control

ATO—Air Tasking Order

BLOS—Beyond Line-of-Sight

BMC—Basic Mission Qualified

BR—Busy Relay

C-1—Contingency-1

C-2—Contingency-2

C-3—Contingency-3

C-4—Contingency-4

C2—Command and Control
C3—Command, Control and Communications
C4—Command, Control, Communications and Computer
CC—Commander
CCMD—Combatant Command
CDL—Common Data Link
CGS—Common Ground Station
CJCSI—Chairman of the Joint Chiefs of Staff Instruction
COA—Course of Action
COMAFFOR—Commander, Air Force Forces
COMFAA—Comprehensive Method for Airport Pavement Analysis
Comm—Communications
CONUS—Continental United States
CSAR—Combat Search and Rescue
CT—Continuation Training
DAF—Department of the Air Force
DAFI—Department of the Air Force Instruction
DAFIF—Digital Aeronautical Flight Information File
DAFMAN—Department of the Air Force Manual
DD—Department of Defense (reference for DD Forms only)
DGPS—Differential GPS
DGS—Distributed Ground System
DIP—Diplomatic Clearence
DMOB—Defensive Missile Order of Battle
DO—Director of Operations
DoD—Department of Defense
DoDD—Department of Defense Directive
DoDM—Department of Defense Manual
DOW—Department of War
DSN—Defense Switched Network
EFM—Electronic Flight Manual
EMI—Electro-magnetic Interference
EO—Executive Order
EOB—Electronic Order of Battle

EP—Emergency Procedure
ETA—Estimated Time of Arrival
ETP—Extended Tether Program
FA—Flight Authorization
FAA—Federal Aviation Administration
FCIF—Flight Crew Information File
FL—Flight Level
FLIP—Flight Information Publication
FLIR—Forward Looking Infrared
FPCON—Force Protection Condition
ft—Foot/Feet
FTU—Formal Training Unit
GHOC—Global Hawk Operations Center
GHOC-P—Global Hawk Operations Center-Pilot
GNC—Global Navigation Chart
GOB—Ground Order of Battle
GPS—Global Positioning System
HE—Hawkeye
HHQ—Headquarters
IAW—In Accordance With
IFF/SIF—Identification Friend or Foe/Selective Identification Feature
INS—Inertial Navigation System
ISOPREP—Isolated Personnel Report
ISR—Intelligence, Surveillance, Reconnaissance
J3—Operations
J5—Strategic Plans and Policy
KIO—Knock It Off
LNO—Liaison Officer
LOS—Line of Sight
LRE—Launch and Recovery Element
m—meter—(s)
Mag/Hdg—Magnetic Heading
MAJCOM—Major Command
MCE—Mission Control Element

METAR—Meteorological Aerodrome Report
mIRC—Internet Relay Chat
NAS—National Airspace System
NAS—Naval Air Station
NBO—Near Border Operations
NGA—National Geospatial-Intelligence Agency
NIB—Non-Interference Basis
NOTAM—Notice to Airmen
OCONUS—Outside the Continental United States
OG—Operations Group
OGV—Operations Group Standardization and Evaluation
ONC—Operational Navigation Chart
OPLAN/s—Operations Plans
OPORD—Operations Orders
OPR—Office of Primary Responsibility
OSS—Operations Support Squadron
PACE—Primary, Alternate, Contingency, and Emergency
PCN—Pavement Classification Number
PDSS—Pre-Deployment Site Survey
PIC—Pilot in Command
PL—Protection Level
POLAD—Policy Advisor
RCC—Rescue Coordination Center
RegAF—Regular Air Force
RFA—Radio Frequency Authorization
RM—Risk Management
RSTA—Reconnaissance, Surveillance, and Target Acquisition
RVR—Runway Visual Range
SAR—Search and Rescue
SARDOT—Search-and-Rescue Point
SATCOM—Satellite Communications
SCI—Sensitive Compartmented Information
SF—Security Forces
SIDO—Senior Intelligence Duty Officer

SII—Special Interest Item
SITREP—Situation Report
SO—Sensor Operator
SDO/DATT—Senior Defense Official/Defense Attaché
SPINS—Special Instructions
TACON—Tactical Control
TAF—Terminal Area Forecast
TAP—Terminal Area Procedures
TCDL—Tactical Common Data Link
T.O.—Technical Order
TOLD—Takeoff and Landing Data
UAS—Unmanned Aerial System
UCMJ—Uniform Code of Military Justice
UHF—Ultra High Frequency
US—United States
USAF—United States Air Force
VHF—Very High Frequency
VOSIP—Voice Over Secure Internet Protocol
VTC—Vehicle Test Controller
WX—Weather

Office Symbols

ACC/A3—ACC Director of Operations
ACC/A3M—ACC Attack and Reconnaissance Division
ACC/A3MR—ACC RQ-4 Operations Branch
ACC/A3TV—ACC Standardization Branch
AF/SG—Air Force Surgeon General
ASW(HD)—Assistant Secretary of War for Homeland Defense and Hemispheric Affairs
CJCS—Chairman of the Joint Chiefs of Staff
DoW OGC—General Counsel of the Department of War
INDOPACOM J3—Indo-Pacific Command Operations
SecAF—Secretary of the Air Force
SecWar—Secretary of War
USW(I&S)—Under Secretary of War for Intelligence & Security

USW(P)—Under Secretary of Defense for Policy

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 DOW intelligence components are authorized to undertake pursuant to Executive Order (EO)12333, *United States Intelligence Activities*. 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' taskings 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 AFIs, 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 AFIs.

SQ/Ops Sup—Ops Sup will be manned IAW 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.

Vehicle Test Controller (VTC)—The VTC is support equipment used by maintenance technicians to facilitate troubleshooting and maintenance of systems on the aircraft. When connected to the aircraft, the VTC provides an operator-to-system interface, and is the system controller for pre-launch, post recovery and ground maintenance test operations. The VTC provides access to mission status and health of aircraft components. The VTC operator is provided with options for controlling system configuration, test environment, mission definition and data log management. In addition, the VTC 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 RQ-4B Crew Tactical Briefing Guide should be led by the Mission Commander and will be completed for every mission. The Tactical Briefing Guide and LRE Crew Briefing Guides will be completed every mission by the respective PIC for each cockpit. For single cockpit takeoffs the PIC will need to reference both the RQ-4B Crew Tactical Briefing Guide 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. **(T-3)**

Table A2.1. RQ-4B CREW TACTICAL BRIEFING GUIDE.

1. Time Hack/Roll Call
1.1. Pilots (MCE/LRE)
1.2. SO
1.3. GHOC-P/-SO (Optional)
2. Admin
2.1. Classification
2.2. Crew Objectives/Mission Objectives
2.3. Flow
3. Motherhood
3.1. Callsign(s)
3.2. Mission Plan
3.2.1. Name, Number and Checksum
3.2.2. Tail Number
3.2.3. Fuel Type, Fuel Load and TOLD
3.2.4. Emergency Divert Field
3.3. Timing
3.3.1. Bay Brief, TAP Brief, Step Time, & Engine Start
3.3.2. Takeoff
3.3.3. On Station
3.3.4. Off Station
3.3.5. Land
3.4. NOTAMs, Flight Plans, Frequencies DIPs and Airspace COAs/LOAs
4. Intel Brief
4.1. SITREP
4.2. Mission Objectives
4.3. ISR Objectives
4.4. Tasking
4.5. Supported Customers
4.6. Additional Intelligence Gains/Cross-cue Opportunities
4.7. Threats/Threat Signatures

4.7.1. Ground Threats (DMOB)
4.7.2. Air Threats (AOB)
4.7.3. Electronic Warfare (EOB)
4.7.4. Ground Forces (GOB)
4.7.5 Space Based Threats
5. Weather
5.1. Winds, Ceiling, Visibility
5.2. Winds Aloft
5.3. Hazards (Turbulence, Icing, Thunderstorms, Contrail Levels)
5.4. Sunrise/Sunset
5.5. Mission Area Cloud Cover
6. Theater Specifics
6.1. SPINS
6.1.1. Acceptable Level of Risk (ALR)
6.1.2. Bull's-Eye
6.1.3. NBO Consideration
6.1.4. Comm Card, Code Words and Authentication
6.2. ACO/ATO
6.2.1. Modes/Codes (IFF/SIF)
6.2.2. Airspace Timing
6.3. RSTA
6.3.1. ISR Sync Matrix/Blue Assets/Cross-cue
6.3.2. SCI Annex
7. Mission Execution
7.1. Overall Mission Priority (Reinstate/Recalibrate Crew Objectives, as required)
7.2. Current Aircraft Position and Actions
7.3. Crew Shift maneuvers
7.3.1. Link Considerations
7.3.2. Logic, Timing Changes, Open QRCs
7.3.3. Access, Fidelity, Accuracy, & Timing for Collection Deck
7.3.4. Collection Plan
7.3.4.1. Expected Target Deck
7.3.4.2. Time Sensitive Targets, Adhocs and NIBs
7.3.5. Scheme of Maneuver
7.3.6. Cross-cue Opportunities
7.3.7. KIO/Terminate Procedures
7.3.8. Slide/Scram Procedures
7.3.9. DGS Coordination, Dissemination + Comm plan (PACE)
7.3.10. LNO/SIDO Coordination + Comm plan (PACE)
7.4. Joker and Bingo Fuels/Times
7.5. Deconfliction Considerations
8. Mission Abort Criteria
8.1. Weather Minimums
8.2. Aircraft and Sensor Status
8.3. Minimum Equipment for Mission

9. Crew Resource Management
9.1. Safety/Egress
9.2. Crew Coordination, Contracts and Faults
9.3. RM Review, Concerns and Mitigation Plan
10. EP of the Day
11. Crew Go / No-Go, FCIFs, SIIs, SRFs, & Ops Sup Notes
12. Mission Commander's Comments
13. FA and Step

Table A2.2. Launch and Recovery Element (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 (TOLD):
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 Airmens (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 (SIIs):
Ops Sup'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 SO 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: (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:
SO – 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.
UHF 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 IAW SPINS.
mIRC – Display appropriate rooms and check-in with Controlling Agency as required IAW SPINS.
Intercom – Set as Required.
Emergencies:
Divert Airfield – Review.
Runway in Use – C-3 Route Displayed.
Frequencies and Phone Numbers – Available.
NOTAM – 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 IAW SPINS.
mIRC - Display appropriate rooms and check in with Controlling Agency, as required IAW SPINS.
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.
NOTAMs – Reviewed.

Attachment 6

COMBAT SEARCH AND RESCUE (CSAR) AND ON-SCENE COMMANDER CHECKLIST

A6.1. General. Checklists are provided for use in the event of a search and rescue (SAR) or **CSAR** 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 SAR or **CSAR** 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 GHOC or mission crew element crew should establish communications with the appropriate AOC cell or rescue coordination center (RCC), and the **CSAR** 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 (CSAR) 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 ATC or controlling agency of distress situation.
Have the Global Hawk Operations Center call C2 agencies (AOC, RCC, 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 SAR 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 SPINS.
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 AOC 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)]	
ATC 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 IAW **Attachment 8**.

Note 3: Comply with **paragraph 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 ATC agency listed has received arrival routings prepared by the operating unit. Inputs from ATC 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 UNMANNED AERIAL SYSTEM (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 IAW **paragraph 8.2**.

Table A9.1. Domestic Unmanned Aerial System (UAS) Operations Report.

Unit Name:
Unit POC (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: