

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

**AIR FORCE INSTRUCTION 11-2RQ-4,
VOLUME 3**



16 APRIL 2013

FLYING OPERATIONS

RQ-4/EQ-4 OPERATIONS PROCEDURES

COMPLIANCE WITH THIS PUBLICATION IS MANDATORY

ACCESSIBILITY: Publications and forms are available for downloading or ordering on the e-Publishing website at www.e-publishing.af.mil

RELEASABILITY: There are no releasability restrictions on this publication.

OPR: ACC/A3MH

Certified by: AF/A3O
(Maj Gen James J. Jones)

Pages: 46

Supersedes: AFI11-2RQ-4V3,
14 September 2007

This volume implements AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*; AFD 11-4, *Aviation Service*; and AFI 11-202V3, *General Flight Rules*. It prescribes standard operational procedures for the United States Air Force (USAF) RQ-4 and EQ-4 remotely-piloted aircraft (RPA) systems and applies to all RQ-4 and EQ-4 units. This volume applies to Air Force Reserve Command (AFRC) members. This volume does not apply to Air National Guard (ANG) units and members. Major Commands (MAJCOM)/direct reporting units (DRU)/field operating agencies (FOA) are to forward proposed MAJCOM/DRU/FOA-level supplements to this volume to headquarters (HQ) Air Force Flight Standards Agency (AFFSA)/A3OF, through HQ Air Combat Command (ACC)/A3CH, for approval prior to publication in accordance with (IAW) AFI 11-200. Copies of MAJCOM/DRU/FOA-level supplements, after approved and published, will be provided by the using MAJCOM/DRU/FOA to HQ AFFSA/A3OF, HQ ACC/A3CH, and the user MAJCOM/DRU/FOA offices of primary responsibility (OPR). Field units below MAJCOM/DRU/FOA level will forward copies of their supplements to this publication to their parent MAJCOM/DRU/FOA OPR for post publication review. **NOTE:** The terms DRU and FOA as used in this paragraph refer only to those units that report directly to HQ USAF. Keep supplements current by complying with AFI 33-360, *Publications and Forms Management*. See paragraph 1.9 of this volume for guidance on submitting comments and suggested improvements to this publication. Ensure that all records created as a result of processes prescribed in this publication are maintained in accordance with Air Force Manual (AFMAN) 33-363, *Management of Records*, and disposed of in accordance with the Air Force Records

Disposition Schedule (RDS) maintained in the Air Force Records Information Management System (AFRIMS) located at <https://www.my.af.mil/afrims/afrims/afrims/rims.cfm>. Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Form 847s from the field through the appropriate functional’s chain of command.

This instruction requires the collection or maintenance of information protected by the Privacy Act of 1974, 5 U.S.C. § 552a. The authority to collect and maintain the records prescribed in this instruction are *Title 37 United States Code Section 301a, Incentive Pay, Public Law 92-204* (Appropriations Act for 1973), *Section 715; Public Law 93-570* (Appropriations Act for 1974); *Public Law 93-294* (Aviation Career Incentive Act of 1974); *DOD Directive 7730.57, Aviation Career Incentive Act and Required Annual Report*; *Air Force Instruction 11-401, Aviation Management*; and *Executive Orders 9397 and 13478*. System of records notice F011 AF XO A, Aviation Resource Management System (ARMS) applies. The reporting requirements in this instruction are exempt from licensing IAW AFI 33-324, *The Information Collections and Reports Management Program; Controlling Internal, Public, and Intra-agency Air Force Information Collections*.

SUMMARY OF CHANGES

This document has been substantially revised and must be thoroughly reviewed. Major changes include paragraph renumbering, substantial reorganization of material, and added attachments. The following is a synopsis of changes set forth in this revision: revised crewmember, Hawkeye, and GHOC responsibilities. Changed wording for crew complement and essential ground personnel, added section on required publications, replaced TERPS procedures with obstacle clearance guidance. Revised section on airfield approval process, expanded section regarding divert/emergency airfields. Moved briefing guides and mission checklists to the attachment section. Changed guidance regarding ground station seating, entry/utilization, shadow operations, communications-link requirements, and added guidance on intersection departures. Revised wording on weather minimums, restrictions, and planning factors, added thunderstorm guidance, revised abnormal operating procedures. Added Chapter 7; Security Procedures. Minor changes to Alternate Airfield decision Matrix, added Attachment 9; Airfield Survey and Coordination Documentation.

Chapter 1—GENERAL GUIDANCE	5
1.1. Scope.	5
1.2. Crewmember Responsibility.	5
1.3. GHOC Responsibility.	6
1.4. Crew Complement.	6
1.5. Essential Ground Personnel.	6
1.6. Deviations.	7
1.7. Waivers.	7

1.8. Revisions. 7
1.9. Applicability and Distribution. 7
1.10. Key Words and Definitions. 7

Chapter 2—MISSION PLANNING & BRIEFING **8**

2.1. General. 8
2.2. Responsibility. 8
2.3. Required Publications. 8
Table 2.1. Additional RQ-4 AFI Guidance. 9
2.4. Enroute Charts and Approach Procedures. 9
2.5. Approach, Departure, and Go-Around. 9
2.6. Airfields. 10
2.7. Termination Points. 11
2.8. Briefing/Debriefing Guides and Mission Checklists. 11

Chapter 3—NORMAL OPERATING PROCEDURES **13**

3.1. General. 13
3.2. Ground Station. 13
3.3. Required Equipment. 14
3.4. Communications. 14
3.5. Flight Manuals and Checklists. 15
3.6. Runway Requirements. 15
3.7. Engine Start. 15
3.8. Taxi. 15
3.9. Takeoff. 15
3.10. Cruise. 15
3.11. Approach and Landing. 16

Chapter 4—INSTRUMENT AND WEATHER PROCEDURES **17**

4.1. Approaches. 17
4.2. Weather Minima, Restrictions and Planning Factors. 17
4.3. Thunderstorms. 17
4.4. Cold-Weather Operating Procedures. 18
4.5. Weather Recall. 18

Chapter 5—ABNORMAL OPERATING PROCEDURES **19**

5.1. General.	19
5.2. Ground Emergencies.	19
5.3. In-flight Emergencies (IFE).	19
5.4. Simulated Emergencies.	19
Chapter 6—LOCAL OPERATING PROCEDURES	20
6.1. General.	20
6.2. Review.	20
6.3. Format.	20
6.4. Content.	20
Chapter 7—SECURITY PROCEDURES	21
7.1. General.	21
7.2. System Security.	21
7.3. Ground Segment (MCE/LRE) Security Requirements.	21
7.4. Mission Support Equipment.	22
7.5. Data-Centric Proactive Safety Programs.	22
Attachment 1—GLOSSARY OF REFERENCES AND SUPPORTING INFORMATION	23
Attachment 2—ALTERNATE AIRFIELD DECISION MATRIX	28
Attachment 3—MISSION BRIEFING GUIDES	30
Attachment 4—CREW POSITION CHANGEOVER BRIEFING GUIDES	34
Attachment 5—HAWKEYE CHECKLISTS	37
Attachment 6—MISSION DEBRIEFING GUIDES	39
Attachment 7—COMBAT INGRESS/EGRESS CHECKLISTS	41
Attachment 8—CSAR AND OSC CHECKLISTS	43
Attachment 9—RQ-4 AIRFIELD SURVEY AND COORDINATION DOCUMENTATION	45

Chapter 1

GENERAL GUIDANCE

1.1. Scope. This volume establishes general procedures for RQ-4 operations. Use it in conjunction with aircraft flight manuals, Department of Defense (DOD) Flight Information Publication (FLIP), and applicable USAF directives and instructions. Basic source directives have precedence in the case of any conflicts, matters of interpretation or revisions.

1.1.1. Pilots will comply with operating provisions specified in Federal Aviation Administration (FAA) Certificates of Waiver, Certificates of Authorization (COA) or Memoranda of Agreement (MOA) for operations within or through the United States (US) National Airspace System (NAS). Pilots will comply with operating provisions specified in host-nation agreements (HNA) for operations within another nation's airspace.

1.1.2. Training units may develop phase manuals from procedures contained in relevant documents such as Unit Phase Manuals, Wing Operating Instructions, or Technical Orders. Phase manuals may expand on basic procedures, but they will not be less restrictive than flight manuals and applicable Air Force Instructions (AFI). Operational units may use phase manuals to augment mission qualification and continuation training.

1.1.3. RQ-4 air vehicles modified to carry the Battlefield Airborne Communications Node (BACN) payload have been provided the Mission Design Series (MDS) nomenclature of EQ-4. Unless otherwise indicated, the procedures in this manual universally apply to RQ-4 and EQ-4 systems and crewmembers.

1.2. Crewmember Responsibility. In conjunction with other governing directives and AFIs, this volume prescribes procedures for RQ-4 operations under most circumstances, but it is not a substitute for sound judgment or common sense. Refer to [Table 2.1](#) for additional RQ-4 specific guidance.

1.2.1. **Pilot in Command (PIC).** The PIC is the final authority as to the operation of the system (air vehicle and ground station), with authority and responsibility as defined in AFI 11-202V3. During terminal area operations, the Launch-and-Recovery Element (LRE) pilot is the PIC. Outside the terminal area, the Mission Control Element (MCE) pilot is the PIC. During single ground station operations, that ground station pilot retains all PIC authority. The terminal area is defined as an 80 nautical mile (NM) radius ring surrounding the departure/arrival airfield, unless defined otherwise by MAJCOM, AF component and/or local operating supplements.

1.2.2. **Mission Commander (MC).** The MCE pilot is the MC for all operational flights, and is responsible for overall mission accomplishment. The MC coordinates with the Global Hawk Operations Center (GHOC), the Air and Space Operations Center (AOC) liaison officer (LNO), the Processing, Exploitation and Dissemination (PED) unit, and supported units to ensure mission objectives are met. Due to the RQ-4's endurance, MCs will routinely change out during the course of the mission.

1.2.3. **MCE Sensor Operator (MCE-SO).** MCE-SO is responsible for ISR mission collection planning, mission management, sensor monitoring and tasking. The MCE-SO will coordinate with the pilot, AOC LNO, exploitation units, supported units, and GHOC Sensor

Operator (GHOC-SO) to ensure understanding of collection priorities and flow. The MCE-SO is responsible for monitoring image quality, the automatic or manual imagery dissemination, and assisting the pilot as required with checklists and available crew aids.

1.2.4. **Hawkeye.** The Hawkeye will be trained and current in Hawkeye duties, and will brief with the crew prior to takeoff or landing operations. Hawkeye is responsible for:

1.2.4.1. Verifying the aircraft is properly configured for each phase of ground movement, takeoff and landing.

1.2.4.2. Visually clearing appropriate taxiways and runway areas prior to and during taxi, takeoff and landing operations.

1.2.4.3. Alerting the PIC of any required corrective action.

1.2.4.4. Maintaining two-way voice communications with the PIC in order to maintain safe ground operations prior to launch, and after landing until engine shutdown and ground safety pin insertion.

1.3. GHOC Responsibility. A GHOC is required for all operational and exercise missions. The GHOC serves as a filter for information flow from outside organizations into the MCE and/or LRE, and serves as the central coordinating node for command-and-control (C2) agencies/units, PED units, LNOs, supported units, and users. The GHOC also oversees and coordinates mission planning and mission conduct for single or multiple missions, and assists in de-conflicting airspace with other high-altitude (HA) assets.

1.3.1. **GHOC Pilot.** The GHOC pilot is responsible for overall management of GHOC operations, and assists the MC in mission accomplishment. During actual flight operations, the GHOC pilot must be a Combat Mission Ready (CMR) or Basic Mission Capable (BMC) RQ-4 pilot. The GHOC pilot is the focal point for all mission communications not requiring direct communications with the MC, and ensures appropriate mission-relevant information/requests are provided to the MC during mission execution. The SQ/DO may allow one GHOC Pilot to assist multiple MCs simultaneously.

1.3.2. **GHOC SO:** The GHOC-SO is responsible for supporting mission collection planning and management, and must be properly trained to perform required duties. The GHOC-SO coordinates with the MC, MCE-SO, AOC LNO, PED units and supported units to constantly maintain awareness and understanding of collection priorities and flow. In addition, the GHOC-SO ensures collection/satisfaction of tasked targets, modifies target decks and assists the GHOC pilot as required with checklists and available crew aids.

1.3.3. **GHOC Intelligence Support.** The GHOC intelligence support position provides the GHOC pilot with intelligence updates, as required.

1.4. Crew Complement.

1.4.1. **Pilot.** The minimum crew of one current/qualified pilot is required per ground station with an active aircraft link.

1.4.2. **Sensor Operator.** One current/qualified SO is required in the MCE, when necessary to monitor/control sensors.

1.5. Essential Ground Personnel.

1.5.1. **GHOC.** Minimum personnel required are a GHOC pilot and GHOC SO for operational missions and exercises.

1.5.2. **Hawkeye.** A Hawkeye is required for all normal taxi, takeoff and landing operations (waiver authority is the OG/CC).

1.5.3. **Maintenance Personnel.**

1.5.3.1. One qualified crew chief and one qualified Vehicle Test Controller (VTC) operator are required for start, taxi, takeoff and landing.

1.5.3.2. A communications technician is required inside each participating ground station during start, taxi, takeoff and landing, and will be immediately available during all other phases of flight.

1.6. Deviations. Deviations from the procedures and guidance in this volume require specific approval of the MAJCOM/A3 unless an aircraft emergency or operational necessity dictates otherwise.

1.7. Waivers. Unless specifically noted otherwise, waiver authority for all provisions of this volume is the MAJCOM/A3. Forward waiver requests through the appropriate chain-of-command to the MAJCOM OPR for approval. If approved, waivers are issued for a maximum of one year from the effective date.

1.8. Revisions. Submit proposed changes to this volume through appropriate channels to ACC/A3CH IAW AFI 11-215, *USAF Flight Manuals Program (FMP)*. Use AF Form 847, *Recommendation for Change of Publication*. AF/A3/5 is the approval authority for interim changes (IC) and revisions to this instruction.

1.9. Applicability and Distribution. Crewmembers must have a thorough working knowledge of all procedures included in this volume, as applicable to their specific crew position(s). Each RQ-4 crewmember will be issued a copy of this volume.

1.10. Key Words and Definitions.

1.10.1. “Will” and “shall” indicate a mandatory requirement.

1.10.2. “Should” is normally used to indicate a preferred, but not mandatory, method of accomplishment.

1.10.3. “May” indicates an acceptable or suggested means of accomplishment.

1.10.4. “Note” indicates operating procedures, techniques, etc., considered essential to emphasize.

Chapter 2

MISSION PLANNING & BRIEFING

2.1. General. This chapter standardizes procedures for planning, reviewing and briefing all missions.

2.2. Responsibility. Crewmembers (LRE and MCE), GHOC personnel and the AOC LNO jointly share responsibility for mission planning, but the MC is ultimately responsible for the accuracy and completeness of the mission plan.

2.2.1. Unit commanders will ensure currency of all mission planning materials and compliance with command guidance. Unit operations officers will schedule adequate mission planning time prior to flight.

2.2.2. Crewmembers not scheduled to fly a mission may be utilized to accomplish mission planning. If operationally necessary, mission elements and events may be modified the day of a flight or while the air vehicle is airborne as long as changes do not compromise flight safety. The MC will ensure all crewmembers acknowledge any changes.

2.2.3. Crews will complete sufficient mission planning prior to flight to ensure safe mission accomplishment. As a minimum, planning will cover weather, fuel requirements, takeoff and landing data, mission objectives, threat study (to include available sources for threat warning), departure and arrival procedures (to include thorough contingency route planning), communications, and collection plans.

2.2.4. For operations within or through the US NAS crews will ensure the projected flight path, including divert and alternate contingencies, meets the specifications of the FAA-approved MOA and/or COA.

2.2.5. Participation in contingency operations normally requires the GHOC to establish procedures for coordinating mission requirements, collection plans, and Air Tasking Order (ATO) inputs/changes with the designated AOC. The GHOC pilot, SO, and intelligence support functions are jointly responsible for briefing crewmembers on special requirements and/or tasking updates prior to and during each mission. The MC is responsible for adhering to appropriate guidance including, but not limited to, special instructions (SPINS), communications plans, Airspace Control Orders (ACO) and any other command guidance relevant to in-theater operations.

2.2.6. Crew substitutions require Squadron Operations Supervisor approval, and will be made with sufficient time for the substitute crewmember to plan and be briefed on the mission.

2.2.7. Pilots will thoroughly review the navigation plan prior to acting as PIC. This includes review of all action points, contingency routes, and possible alternate and diverts landing fields applicable to the phase of flight.

2.3. Required Publications. Crewmembers will ensure they have the most recent Technical Order (TO) guidance, as released by Flight Crew Information File (FCIF). In addition, crewmembers will either carry a hardcopy of the following guidance, or have immediate

electronic access to the guidance; on all missions (units may supplement this list as appropriate to meet operational needs):

Table 2.1. Additional RQ-4 AFI Guidance.

AFI 11-202 Volume 3 (and MAJCOM Sup)	General Flight Rules
AFI 11-2RQ-4 Volume 3	RQ-4 Operations Procedures
AFI 11-2RQ-4 Volume 1 (Instructors Only)	RQ-4 Crew Training
AFI 11-2RQ-4 Volume 2 (Evaluators Only)	RQ-4 Crew Evaluation Criteria

2.4. Enroute Charts and Approach Procedures.

2.4.1. **Local Area Maps.** A local area map of sufficient detail to remain within assigned training areas and identify potential emergency landing airfields will be available for display on the MCE and LRE monitors.

2.4.2. **Mission Maps and Navigation Route Maps.** Pilots will display the appropriate current charts on the MCE and LRE monitors throughout the mission. Charts will be of sufficient scale to provide navigation, terrain and obstacle avoidance information appropriate to the phase of flight.

2.4.3. **Map Currency.** Units will conduct operations with current charts and Digital Aeronautical Flight Information File (DAFIF) data, and will establish procedures with maintenance units and support contractors to ensure required software, chart and DAFIF updates are simultaneously applied to ground stations, Pilot Stand-Alone Trainers (PSAT) and flight planning workstations.

2.4.4. **Publications.** Units will ensure current FLIP is maintained in the MCE and LRE.

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

2.5. Approach, Departure, and Go-Around. All RQ-4 approaches, departures and go-arounds will be developed using the appropriate flight planning workstation.

2.5.1. **Approach and Go-Around.** Since the RQ-4 utilizes self-contained GPS approaches, traditional TERPS evaluation criteria are not applicable to the standard RQ-4 flight profile.

2.5.2. Approach and Go-Around Approval Process.

2.5.2.1. For airfields at which one or more IAPs are available, build RQ-4 approaches and go-arounds to overlay the IAP(s) and verify obstacle clearance. Approving authority for use is the OG/CC.

2.5.2.2. For airfields at which there are no IAPs available, a formal request must be submitted IAW AFI 11-230, *Instrument Procedures*, to have an IAP constructed. If the airfield is needed for immediate use to support an operational mission, a MAJCOM/A3 (or COMAFFOR) waiver is required for temporary use until the appropriate IAP is built.

2.5.3. **Review Cycle.** With each new release of FLIP (including Terminal Change Notices (TCNs)), IAPs underlying RQ-4 approach and go-around procedures will be reviewed by mission planners to verify there are no changes in obstacle clearance data requiring modification of the RQ-4 approach and go-around procedure. Units will document accomplishment of FLIP reviews.

2.5.4. Prior to flight, the PIC will review each RQ-4 approach and go-around for the planned route of flight. At a minimum, each PIC is responsible for reviewing that segment of the mission for which he/she is responsible.

2.6. Airfields.

2.6.1. **Airfield Approval Process.** The approving authority for airfield use is the geographic MAJCOM/A3. Use is defined as any airfield's approach incorporated into preplanned mission, autonomous primary or contingency logic. In combatant commander (COCOM) theaters with no MAJCOM, the approving authority for airfield use is COMAFFOR (or as delegated, not lower than the COMAFFOR/A3). For airfields within the continental United States (CONUS) and Canada, the ACC/A3 is the approving authority.

2.6.1.1. Operating units will reference the guidance in Attachment 2 to develop a list of airfields of intended use. Present the list, with airfield ratings and level of intended use, to the MAJCOM/A3 (or COMAFFOR).

2.6.1.2. Operating units will coordinate with the appropriate airfield, ATC and host nation agencies based on the level of intended use (normal, alternate or "stitched" emergency airfield). See [Attachment 9](#).

2.6.1.3. Operating unit OG/CCs will provide coordination documentation to the relevant MAJCOM/A3 (or COMAFFOR), with a copy to the ACC/A3 as the lead command. Documentation will include results of the airfield evaluation and all coordination actions accomplished.

2.6.1.4. MAJCOM/A3 (or COMAFFOR) will approve or disapprove airfields, as necessary.

2.6.2. **Normal Airfields.** Normal airfields are defined as those where routine RQ-4 operations occur. Prior to commencing operations at a normal airfield, operating units will:

2.6.2.1. Coordinate flight operations, to include routings, emergency procedures and loss of C2 (i.e. "lost link") procedures. Departure, arrival and go-around routings will be coordinated with the servicing air traffic control (ATC) agencies.

2.6.2.2. Coordinate with applicable on-base agencies to ensure provision of appropriate ground handling, maintenance and safety support for RQ-4 flight operations.

2.6.3. **Alternate Airfields.** Alternate airfields are the desired point of landing when a normal airfield is not available, and no other emergency or threat to air vehicle safety exists. See Attachment 2 for reference in determining the suitability of an airfield for use as an alternate. Prior to utilizing an airfield as a designated alternate, operating units will:

2.6.3.1. Coordinate all approach, go-around and departure procedures with the servicing ATC agencies.

2.6.3.2. Establish notification procedures with alternate airfield C2 agencies (e.g. command post, wing operations center, base operations, etc.).

2.6.3.3. Comply with provisions of paragraph 2.6.1. for airfield approval.

2.6.3.4. Coordinate with applicable MAJCOM/A3 and on-base agencies to ensure provision of appropriate ground handling, maintenance and safety support for RQ-4 operations, as required for level of intended use.

2.6.4. Emergency Airfields. Emergency airfields will only be used when the situation dictates landing as soon as possible or the aircraft is not capable of safe flight to a primary or an alternate airfield. The reduced probability of such an occurrence allows for a reduced level of coordination in comparison to alternate airfields. See Attachment 2 for reference in determining the suitability of an airfield for use as an emergency airfield. Prior to utilizing an airfield as a designated (stitched) emergency airfield, operating units will:

2.6.4.1. Ensure all preplanned routings avoid over flight of populated areas, to the maximum extent possible.

2.6.4.2. Establish notification procedures and communications connectivity between the PIC, GHOC and appropriate emergency airfield agencies. Appropriate agencies will include those capable of ensuring the runway is clear of personnel/aircraft/equipment and providing landing clearance.

2.6.4.3. Ensure all arrival routings established in the mission plan logic are approved by the OG/CC. Approval authority will not be delegated lower.

2.6.4.4. Comply with provisions of paragraph 2.6.1. for airfield approval. Approval authority for actual use of an emergency airfield during flight is the PIC.

2.7. Termination Points. Termination points are designated ground impact points when it is determined the air vehicle is not controllable for landing, or landing at a suitable airfield cannot be made safely without undue risk to personnel or property on the ground. If the air vehicle is not able to reach a designated termination point, the pilot will direct it to an unpopulated area and initiate flight termination, or will allow it to crash on course.

2.7.1. **CONUS, Alaska, Hawaii and Guam.** Approved areas for termination points are DOD ranges and DOD lands. Units will coordinate with the DOD range or land manager for specific termination point selection and establishment of notification procedures.

2.7.2. **Outside the CONUS and US territories.** Termination point selection, coordination and approval will be managed through the MAJCOM or theater component. Units will not negotiate directly with host nation authorities unless authorized to do so by the MAJCOM or theater component.

2.7.3. **Over international or US territorial waters.** For overwater flights where emergency divert airfields or overland termination points are not available, ditching is an acceptable alternative. Units will develop and document procedures to ensure selected ditch points avoid published commercial/military shipping lanes and offshore drilling platforms.

2.7.4. Units will include approved termination points and notification procedures in their supplement to this instruction, or in local flying instructions.

2.8. Briefing/Debriefing Guides and Mission Checklists.

2.8.1. **Briefing Guides and Checklists.** All items in the briefing guides must be addressed by the pilot or other members of the crew. Units may augment these guides as needed. Required checklist items are provided in Attachments 3 through 8.

2.8.2. **Mission Brief.** All items identified by Attachment 3 must be covered in all mission briefs.

2.8.3. **Crew Position Changeover.** All items in Attachment 4 must 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 the ground station. MCE crews will obtain mission updates from the GHOC pilot before going on shift. Prior to assuming control, individual crewmembers will complete a changeover brief for each crew position.

2.8.4. **Hawkeye Checklists.** All items in Attachment 5 must be addressed by Hawkeye.

2.8.5. **Mission Debrief.** All items in Attachment 6 must be covered during mission debriefs. After completing changeover with an incoming crew, the outgoing crew will accomplish a mission debrief.

2.8.6. **Combat Ingress/Egress Checks.** Crewmembers will complete combat ingress and egress checks in Attachment 7 on operational missions at or prior to the entry point, and at or after the exit point. Training missions will include ingress/egress checks as appropriate to meet training objectives.

2.8.7. **CSAR and OSC Checklist.** All items in Attachment 8 must be briefed when required to assist with CSAR efforts or act as OSC for a CSAR event.

Chapter 3

NORMAL OPERATING PROCEDURES

3.1. General.

- 3.1.1. The MCE and LRE will each be manned with a qualified pilot for takeoff, departure, approach and landing.
- 3.1.2. Both the MCE and LRE will have an active C2 link for terminal area flight operations.
- 3.1.3. Where applicable certifications (e.g. FAA COA) and/or airspace regulations allow, the OG/CC may approve takeoff, departure, approach and landing, utilizing a single ground station.
- 3.1.4. Taxi operations may be accomplished via a single ground station manned with a qualified pilot.

3.2. Ground Station.

- 3.2.1. **Seating.** The PIC determines crewmember seating, and is the final authority on the number of people allowed in the MCE or LRE. Normally, the maximum number of persons inside the shelter is the minimum required to meet mission requirements. Only qualified pilots or pilots under instructor supervision (e.g. a student pilot in a course of training, or non-current pilot) may operate the RQ-4. Only qualified SOs or SOs under instructor supervision (e.g. a student SO in a course of training, or non-current SO) may perform SO duties.
- 3.2.2. **Entry.** The pilot is the final authority for non-mission essential personnel (including visitors) in the MCE or LRE. Entry to the MCE or LRE shall be minimized and is at the sole discretion of the PIC while the air vehicle is in a critical phase of flight.
- 3.2.3. **Crewmember Utilization.** Unit commanders are responsible for providing an atmosphere that enables crewmembers participating in an active mission to focus on the mission and flight responsibilities. During an active mission, participating crewmembers will not be called out of the MCE or LRE to manage non-mission ground matters, and will not be tasked with other ground duties.
- 3.2.4. **Crewmember Materials.**
 - 3.2.4.1. Do not place items (e.g. checklists or charts) on any keyboard or mouse at any time during ground or flight operations.
 - 3.2.4.2. The pilot will ensure all crewmember-controlled classified material is removed from the ground station upon mission completion.
 - 3.2.4.3. Crewmembers will operate in the ground station with only those electronic items necessary for flight and/or mission operations.
- 3.2.5. **Ground Station Shadow Operations.** The PIC must approve all ground station shadow operations. Prior to flight, one ground station will be designated as primary. Other ground stations may shadow mission operations but are prohibited from sending air vehicle commands or setting an "In Ctrl C" on one of their active links without prior coordination

and approval of the PIC. Squadron Operations Supervisor will be notified by the PIC prior to commencing shadow operations.

3.3. Required Equipment. Flight operations require the following equipment:

3.3.1. Two communications links are required for flight operations. Where applicable certifications (e.g. FAA COA) and/or airspace regulations allow, the OG/CC may approve single link operations for Higher Headquarters (HHQ) directed missions and trans-oceanic transit. If INMARSAT is the only communications link available, the pilot should keep the air vehicle on a mission-planned track or designated orbit.

3.3.1.1. The OG/CC is the approval authority for approach and landing with a single C2 link.

3.3.2. Flights may be conducted without an Enhanced Integrated Sensor Suite (EISS), provided appropriate ballast and/or heat loads are installed.

3.4. Communications. All intercom and voice-over IP (VOIP) communications should utilize the following call signs: “LRE,” “MCE,” “GHOC,” “SO,” “GHOC SO,” and “LNO.” Instructors and evaluators should amend their designated call signs with instructor or evaluator as applicable.

3.4.1. Telephone Communications.

3.4.1.1. Operating units will establish procedures to ensure telephone calls are routed through the GHOC to the maximum extent possible. Telephone calls made directly to the MCE and LRE should be limited to time-critical mission and flight-related issues. MCE and LRE phone numbers will only be distributed to individuals, organizations or agencies with a specific need to speak directly to the MCE or LRE pilot (e.g. AOC LNO or Air Route Traffic Control Center (ARTCC)).

3.4.1.2. When the air vehicle is airborne in a controlled airspace, the telephone is approved as a backup means for two-way communications with ATC, and a landline must be solely dedicated for ATC use. Telephone communication with ATC takes precedence over all other telephone use.

3.4.1.3. The pilot actively operating the air vehicle should not use the telephone during a critical phase of flight unless absolutely necessary for safe operation (e.g. ATC communications).

3.4.2. Ground Communications. The PIC, Hawkeye and ground crew will ensure two-way communications during all ground checks and at all times when the air vehicle engine is operating on the ground. Two-way communication with the ground crew will be maintained until the ground crew is released by the PIC.

3.4.3. In-flight Communications.

3.4.3.1. Limit intercom communications to flight-critical information from initiation of the “Starting Engine and Before Taxi” checklist through completion of the “After Takeoff/Climb” checklist, and from initiation of the “Before Landing” checklist through completion of the “Aircraft Shutdown” checklist. During critical phases of flight, maintain a sterile environment consistent with good crew resource management (CRM) principles.

3.4.3.2. Pilots will monitor inter-shelter communications, advise the PIC prior to going off headset, and announce when back on.

3.4.3.3. Time permitting, the pilot actively operating the air vehicle will verbalize any commands which affect guidance or steering modes, heading, altitude or flight controls to allow the pilot in the other shelter(s) to crosscheck and monitor air vehicle control.

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

3.6. Runway Requirements. Waiver authority for this paragraph is the OG/CC. Runway dimensions must meet the following minimums:

3.6.1. Minimum runway length is 8000 feet.

3.6.2. Minimum runway width is 148 feet.

3.6.3. Minimum taxiway width is 75 feet.

3.6.4. Intersection Departures. Intersection departures are authorized if coordinated with appropriate agencies and incorporated into the mission plan.

3.7. Engine Start. Engine start will be accomplished by the VTC only after the air vehicle is validated as acceptable for flight and approved by the PIC. Hawkeye may approve engine start if pre-coordinated with the PIC, after completion of exterior inspection checklist and verification that aircraft forms are properly signed off. The PIC assumes responsibility for the air vehicle once the engine is started and the PIC has one good C2 link.

3.8. Taxi.

3.8.1. A line-of-sight (LOS) link should be used for taxi.

3.8.2. If known LOS limitations exist at an airfield:

3.8.2.1. More than one "In Control" link may be designated for taxi.

3.8.2.2. PICs may elect to utilize a beyond line-of-sight (BLOS) link.

3.9. Takeoff. For single shelter operations, only the primary link will be selected as being "In Control." For dual shelter operations, a primary link for each ground station must be selected as "In Control."

3.10. Cruise.

3.10.1. The MCE pilot will advise the LRE pilot of significant changes in return time within three hours of landing (if possible), or whenever additional assistance is required.

3.10.2. Extension of on-station time will be coordinated through the tasking authority and the PIC. The PIC will ensure the Squadron Operations Supervisor is notified of large deviations from planned mission tasking, to include extension of flight time by over one hour, deviation from flight planned route by over 200 miles and landings more than 2.5 hours early.

3.10.3. When operating in Override Mode, pilots will ensure the contingency logic waypoint is appropriate for the geographic location of the air vehicle and will reset the logic as required to update wind information.

3.11. Approach and Landing.

3.11.1. Approaches to landing will be monitored by radar, when available and a ground safety observer or Hawkeye (EXCEPTION: landings at alternate/emergency airfields do not require the ground safety observer).

3.11.2. Fuel Requirements.

3.11.2.1. **Normal Recovery Fuel.** Pilots will plan for landing with a minimum of 1,200 pounds of fuel.

3.11.2.2. **Minimum Fuel.** Declare minimum fuel as soon as it becomes apparent the air vehicle will land with less than 1,000 pounds of fuel.

3.11.2.3. **Emergency Fuel.** Declare emergency fuel as soon as it becomes apparent the air vehicle will land with 800 pounds of fuel or less.

Chapter 4

INSTRUMENT AND WEATHER PROCEDURES

4.1. Approaches. The RQ-4 flies self-contained GPS-aided inertial navigation system (INS) pre-programmed approaches. Standard civilian or military IAPs will not be attempted.

4.2. Weather Minima, Restrictions and Planning Factors. See MAJCOM Supplement to AFI 11-202V3 for additional RQ-4 weather requirements.

4.2.1. Ceiling and Visibility.

4.2.1.1. For RQ-4 operations at any airfield, the weather (temporary or prevailing) must be at or above a ceiling of at least 1000 feet and a visibility of 2 miles. The weather for RQ-4 operations must be at or above these minima at takeoff and be forecast to be at or above these minima until takeoff plus 1 hour and again at the estimated time of arrival (ETA) +/-2 hours. If the weather remains below landing minimums (1000/2), the pilot will recover the aircraft to the designated alternate landing surface unless landing below weather minimums is approved by the OG/CC. The OG/CC may approve landing below weather minimums down to and including zero feet ceiling and zero visibility conditions. Units will publish local guidance covering procedures and airfield agency notifications for landings made when the airfield is below its lowest approach minimums.

4.2.1.2. RQ-4 may takeoff in weather conditions below the minimums in paragraph [4.2.1.1](#); however, the mission must be HHQ directed and approved by the OG/CC. Visibility must be at least 1600 feet (500 m) runway visual range. When the departure airfield weather is below RQ-4 landing minima in paragraph [4.2.1.1](#), pilots will either declare a takeoff alternate or obtain OG/CC approval to land below RQ-4 minima at the takeoff airfield. A suitable takeoff alternate airfield is one within 1 hour flight time at cruising speed, has at least a ceiling of 1000 feet and visibility of 2 miles, and is approved as an alternate airfield with a pre-planned RQ-4 approach in the mission plan.

4.2.1.3. RQ-4 operations are authorized holding in lieu of designating an alternate. Pilots will ensure the air vehicle has sufficient fuel on board to hold for 2 hours at the destination then penetrate and land with normal recovery fuel.

4.2.2. Wind. The RQ-4's long endurance and logistical challenges involved with landing at an alternate airfield present a problem when forecast winds exceed limits for part of a planned mission. Pilots will comply with the following regarding forecast winds:

4.2.2.1. Forecast winds must be within flight manual limits for takeoff time plus one hour and at ETA +/-2 hours at the primary airfield or designated alternate.

4.2.2.2. While airborne, if revised forecast winds for ETA +/-2 hours exceed limits specified in the RQ-4 flight manual, the pilot will conclude the mission in time to return the air vehicle to the operating base before the forecast time of increased winds or, conclude the mission in time to return the air vehicle to the operating base with sufficient fuel to hold (if required) for a minimum of two hours.

4.3. Thunderstorms.

4.3.1. Takeoffs, approaches or landings are prohibited when thunderstorms or lightning are reported within 20 NM of the airfield. For HHQ-directed operational missions, the OG/CC may authorize takeoffs, landings and approaches if thunderstorms are observed to be within 20 NM of the airfield, but no closer than 10 NM from the arrival/departure routing. Thunderstorms must not be producing hazardous conditions at either the airfield or in the departure/approach corridors being used. Thunderstorms must not be forecast or observed to be moving in any direction that threatens either the airfield or the departure/approach corridors.

4.3.2. Avoid thunderstorm activity along a flight planned route, using any means available, by 20 NM laterally at all flight planned route altitudes below FL 500. When at or above FL 500, over flight of thunderstorms is permissible provided at least 10,000 foot vertical clearance can be maintained.

4.4. Cold-Weather Operating Procedures.

4.4.1. **Rain, Snow, Freezing Precipitation and Frost.** Precipitation is any form of water particle that falls from the atmosphere. Precipitation can be liquid, freezing (liquid that instantly freezes on contact with a surface) or solid form. Examples include rain, freezing rain, and snow. Frost is a layer of ice crystals that may form on aircraft surfaces when ambient temperatures reach below 40 degrees Fahrenheit (F). Freezing rain, snow, and frost can accumulate on aircraft surfaces and severely disrupt flight characteristics including a complete loss of lift.

4.4.1.1. Do not take off with any frost, ice or snow accumulation on any air vehicle surface. Whenever the outside air temperature is less than 40 degrees F with visible moisture, inspect the air vehicle for frost or ice immediately prior to takeoff.

4.4.2. Runway and Taxiway Conditions.

4.4.2.1. Runway and taxiway surfaces may be wet, but operations are not allowed on runways or taxiways with standing water present.

4.5. Weather Recall.

4.5.1. **Geographically Separated MCE and LRE.** The PIC is responsible for initiating weather recall. Should the weather forecast change during the mission such that an out-of-limits condition is expected at the time of planned landing, the PIC will coordinate a mission change. MCE pilots should update their weather forecast for landing periodically to monitor for out-of-limits conditions and contact the LRE pilot to determine the appropriate course-of-action. The Squadron Operations Supervisor will be notified before the mission is recalled.

4.5.2. **MCE and LRE Co-located at the Same Airfield.** The Supervisor of Flying (SOF) or Squadron Operations Supervisor is responsible for initiating weather recall. Should the weather forecast change during the mission such that an out-of-limits condition is expected at the time of planned landing, the SOF or Squadron Operations Supervisor will notify the applicable personnel to coordinate a mission change. The Squadron Operations Supervisor will notify the LRE pilot of the new ETA.

Chapter 5

ABNORMAL OPERATING PROCEDURES

5.1. General.

5.1.1. The OG/CC is the waiver authority for all aspects of this Chapter.

5.1.2. MCE-only landings for diversions will be made only to approved alternate airfields. MCE-only takeoffs for the purpose of returning the air vehicle to its normal operating airfield will be approved by the OG/CC and will be coordinated through the appropriate servicing ATC facilities.

5.2. Ground Emergencies. All ground emergencies should result in a stop taxi or aborted takeoff. The pilot should initiate a stop taxi or abort takeoff even if the air vehicle is supposed to automatically respond.

5.3. In-flight Emergencies (IFE).

5.3.1. **Emergency Landing.** When time and conditions permit, notify the Squadron Operations Supervisor of any emergency landing at an alternate or emergency airfield. If a landing at an emergency airfield cannot be completed without endangering personnel or property on the ground, then the air vehicle will be flown to an approved termination point for flight termination. The OG/CC and SQ/CC/DO will be notified when an air vehicle is directed to a termination point for flight termination. If the air vehicle cannot reach an approved termination point, the pilot will direct the air vehicle to an unpopulated area and initiate flight termination or allow it 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 C2 (“lost link”).** In the event of lost link, the PIC shall make every effort to regain link while communicating with ATC or military C2 assets to coordinate emergency handling and the air vehicles predicted flight path.

5.3.4. **Crew Changeover.** Due to the RQ-4’s endurance, it may become necessary for a crew to changeover with an ongoing malfunction or IFE. The incoming pilot must be provided a complete understanding of the malfunction(s) and air vehicle status prior to any crew changeover. The outgoing pilot 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 may only be accomplished in an approved aircrew training device.

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 AFI. Procedures herein will not be less restrictive than those contained elsewhere in this instruction, 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 serves to facilitate location of information necessary for local operating procedures.

6.2. Review. Prior to publishing, units will forward copies of the local supplement of this document to MAJCOM and appropriate subordinate agencies, which will review and return comments back to the unit(s).

6.3. Format. Organize the local chapter in the following format:

- 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 (e.g. Illustrations)

6.4. Content. The local chapter will include procedures for the following, if applicable:

- 6.4.1. Local Area Procedures.
- 6.4.2. Controlled Emergency Landing Areas and Procedures.
- 6.4.3. Local Weather Procedures.
- 6.4.4. Approved Alternate Missions.
- 6.4.5. Unit Standards.

Chapter 7

SECURITY PROCEDURES

7.1. General. This chapter provides guidance on security for the RQ-4 Global Hawk Unmanned Aerial System (UAS). AFI 31-101, *Air Force Installation Security Program*, and specific MAJCOM security publications contain additional guidance.

7.2. System Security.

7.2.1. The RQ-4 UAS is operationally fielded as a multi-segmented weapons system consisting of air and ground-based segments necessary to its operation. The air vehicle 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. The Protection Level (PL) of airborne or ground-based segments is determined by the specific segment's location (CONUS or OCONUS) and not any specific mission the system happens to be performing at any given time. The warfighter or local commander may employ additional security measures based upon assessment of the current threat. Basic protection of the RQ-4 UAS is enhanced through owner/user security awareness, security technology and force protection (FP) initiatives.

7.2.3. RQ-4 airborne or ground-based segments are PL2 when OCONUS, excluding Hawaii, Alaska and Guam.

7.2.4. RQ-4 airborne or ground-based segments are PL3 when in CONUS, Hawaii, Alaska and Guam.

7.2.5. RQ-4 airborne or ground-based segments will be protected IAW PL4 standards when non-operational (depot maintenance, training or test).

7.3. Ground Segment (MCE/LRE) Security Requirements.

7.3.1. Security requirements for ground segments must be distinguished from those applied to air vehicles. The ground segments of the RQ-4 UAS perform command, control, and communications (C3) functions in support of flight operations and receive protection according to C3 facility standards specified per AFI 31-101 and the appropriate MAJCOM supplement. During increased tensions and higher FPCONs 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 owner/user 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. Install a duress capability in the MCE/LRE which terminates at the base defense operations center.

7.3.3.2. 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.

7.3.3.3. 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 (e.g., satellite antennas) and support equipment (e.g., power supply). Support equipment such as power supply or climate control equipment is not assigned a PL. Ground-based communications equipment deployed in CONUS-based or OCONUS-based “reach back” mode are C2/C4 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. 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, owners/users control entry to the area and monitor internal security when present. Security Forces (SF) provides a five-minute response capability by police services, installation patrols, or available Security Response Teams. SF conducts periodic checks when the area is not manned by owner users.

7.4.1.3. At OCONUS locations without a US security force presence the owner/user coordinates with the host for security support commensurate with support required per paragraphs 7.4.1.1 and 7.4.1.2.

7.5. Data-Centric Proactive Safety Programs.

7.5.1. Proactive safety uses correlated data streams for hazard identification and risk mitigation to prevent mishaps and accomplish the mission. Proactive safety programs enable leaders, safety professionals, and aircrews to achieve efficiencies in maintenance, operations, safety, tactics, and training. These programs include: Military Flight Operations Quality Assurance (MFOQA), Aviation Safety Action Program (ASAP), and Line Operations Safety Audit (LOSA).

BURTON M. FIELD, Lt Gen, USAF
DCS/Operations, Plans & Requirements

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

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

AFI 11-202V3, *General Flight Rules*, 22 October 2010

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

AFI 11-214, *Air Operations Rules and Procedures*, 22 December 2005

AFI 11-215, *USAF Flight Manuals Program (FMP)*, 22 December 2008

AFI 11-218, *Aircraft Operations and Movement on the Ground*, 11 May 2005

AFI 11-230, *Instrument Procedures*, 30 March 2010

AFI 11-290, *Cockpit/Crew Resource Management Training Program*, 11 April 2001

AFI 11-401, *Aviation Management*, 10 December 2010

AFI 11-418, *Operations Supervision*, 15 September 2011

AFI 11-2RQ-4V1, *RQ-4—Crew Training*, 3 February 2007

AFI 11-2RQ-4V2, *RQ-4—Crew Evaluation Criteria*, 9 January 2007

AFI 14-105, *Unit Intelligence Mission and Responsibilities*, 3 June 2002

AFI 31-101, *Integrated Defense (FOUO)*, 8 October 2009

AFI 31-401, *Information Security Program Management*, 1 November 2005

AFI 33-360, *Publications and Forms Management*, 18 May 2006

AFI 91-202, *the US Air Force Mishap Prevention Program*, 5 August 2011

AFI 91-204, *Safety Investigations and Reports*, 24 September 2008

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

AFMAN 33-363, *Management of Records*, 1 March 2008

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

AFTTP 3-1.RQ4, *Tactical Employment--RQ-4*, 5 January 2011

Adopted Forms

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

AF Form 847, *Recommendation for Change of Publication*

Abbreviations and Acronyms

ACC—Air Combat Command

ACC/A3CH—High Altitude Reconnaissance Operations Branch

ACO—Airspace Control Order
AF—Air Force
AFFSA—Air Force Flight Standards Agency
AFI—Air Force Instruction
AFPD—Air Force Policy Directive
AFRC—Air Force Reserve Command
ANG—Air National Guard
AOC—Air and Space Operations Center
ARTCC—Air Route Traffic Control Center
ATC—Air Traffic Control
ATD—Aircrew Training Device
ATO—Air Tasking Order
BACN—Battlefield Airborne Communications Node
BLOS—Beyond Line of Sight
BMC—Basic Mission Capable
C2—Command and Control
C3—Command, Control and Communications
C4—Command, Control, Communications and Computers
CC—Commander
CDL—Common Data Link
CMR—Combat Mission Ready
COA—Certificate of Authorization
COCOM—Combatant Commander
COMAFFOR—Commander, Air Force Forces
CONUS—Continental United States
CRM—Cockpit Resource Management / Crew Resource Management
CSAR—Combat Search and Rescue
DAFIF—Digital Aeronautical Flight Information File
DME—Distance Measuring Equipment
DO—Director of Operations
DOD—Department of Defense
DRU—Direct Reporting Unit

EFM—Electronic Flight Manual
EISS—Enhanced Integrated Sensor Suite
EO—Electro-Optical
ETA—Estimated Time of Arrival
F—Fahrenheit
FAA—Federal Aviation Administration
FCIF—Flight Crew Information File
FL—Flight Level
FLIP—Flight Information Publications
FOA—Field Operating Agency
FP—Force Protection
FPCON—Force Protection Condition
GHOC—Global Hawk Operations Center
GPS—Global Positioning System
HA—High Altitude
HHQ—Higher Headquarters
HNA—Host Nation Agreement
HQ—Headquarters
IAW—In Accordance With
IAP—Instrument Approach Procedure
IC—Interim Changes
IFE—In-Flight Emergency
IFF/SIF—Identification Friend or Foe/Selective Identification Feature
INMARSAT—International Mobile Satellite Organization
INS—Inertial Navigation System
IR—Infrared
ISOPREP—Isolated Personnel Report
LNO—Liaison Officer
LOS—Line of Sight
LRE—Launch-and-Recovery Element
MAJCOM—Major Command
MC—Mission Commander

MCE—Mission Control Element
MDS—Mission Design Series
MOA—Memorandum of Agreement
MSL—Mean Sea Level
NAS—National Airspace System
NM—Nautical Miles
NOTAM—Notices to Airmen
OCONUS—Outside the Continental United States
OG—Operations Group
OPR—Office of Primary Responsibility
ORM—Operational Risk Management
OSC—On-Scene Commander
PED—Processing, Exploitation and Dissemination
PIC—Pilot in Command
PSAT—Pilot Stand-Alone Trainer
RCC—Rescue Coordination Center
RCR—Runway Condition Reading
RDS—Records Disposition Schedule
RPA—Remotely Piloted Aircraft
SAR—Search-and-Rescue or Synthetic Aperture Radar
SARDOT—Search-and-Rescue Point
SATCOM—Satellite Communication
SF—Security Forces
SII—Special Interest Item
SO—Sensor Operator
SOF—Supervisor of Flying
SPINS—Special Instructions
SQ—Squadron
TCN—Terminal Change Notice
TERPS—Terminal Instrument Procedures
TO—Technical Order
UHF—Ultra High Frequency

USAF—United States Air Force

US—United States

VHF—Very High Frequency

VOIP—Voice over Internet Protocol

VTC—Vehicle Test Controller

Terms

Critical Phase of Flight— Critical phases of flight for the RQ-4 are taxi, takeoff, departure (below 18,000 feet MSL), arrival, approach, landing, taxi and engine shutdown.

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.

Global Hawk Operations Center (GHOC)— The GHOC is a squadron-level mission center manned by BMC and CMR crewmembers and intelligence personnel. The GHOC provides command, control, communications, computer, and intelligence support to the pilots and SOs actively executing a mission to ensure the commander’s intent is accomplished, and the designated mission is effectively prosecuted. GHOC functions include coordinating collection plans, coordinating taskings, serving as a communications filter between the ground station crewmembers and outside agencies, and de-conflicting airspace with other high-altitude aircraft.

Hawkeye— the safety observer to provide eyes for the pilot in the ground station when the air vehicle is taxiing, taking off or landing.

Squadron Operations Supervisor— Squadron Commander, Operations Officer, Assistant Operations Officers, and Flight CCs.

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.

Termination Point—Termination points are designated ground impact points for the RQ-4 when it is determined the air vehicle is uncontrollable for landing or a landing at a suitable airfield cannot be made safely without undue risk to personnel and property on the ground.

Vehicle Test Controller (VTC)— The VTC is support equipment used by maintenance technicians to facilitate trouble-shooting and maintenance of systems on the air vehicle. When connected to the air vehicle, 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 air vehicle 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 air vehicle fault logs.

Attachment 2

ALTERNATE AIRFIELD DECISION MATRIX

A2.1. Alternate Airfield Decision Matrix. The decision matrix in **Table A2.1** will be used to determine the suitability of each airfield considered for use as an alternate or emergency airfield.

A2.2. Decision Matrix Use.

A2.2.1. Airfield options are likely to have a mixture of factors. For example, a runway may be considered “suitable” from a length, width, and type, but “marginal” from an airspace and population density perspective. The suitability of each airfield will be evaluated on a case-by-case basis taking into account how factors rated “marginal” or “unsuitable” influence overall rating and suitability.

A2.2.2. Units may develop suitability grading criteria similar to an Operational Risk Management (ORM) worksheet where points are assigned to each of the boxes in the matrix and an overall grade is based on the cumulative point score.

Table A2.1. Alternate Airfield Decision Matrix.

Alternate Field Rating	Runway Length	Runway Width	Type of Airfield	Type of Airspace at Airfield	Population Density at Airfield
Better	10,000+ feet	200+ feet	<u>In the US:</u> US military only <u>International:</u> Host-nation military field with US military presence	Restricted airspace	Low (rural) – lakebed equivalent Limited infrastructure around runway Controlled access to runway environment
Suitable	8000+ feet	148+ feet	<u>In the US:-</u> Joint-use field controlled by US military <u>International:</u> Host-nation military field with some joint civil operations	Class C and D airspace with radar control	No runway encroachment by civilian population and/or non-DOD infrastructure Approach and departure flight paths can avoid civilian population Controlled airfield access

Marginal	7000 – 8000 feet (Note 1)	125 – 147 feet (Note 1)	<p><u>In the US:</u> Joint-use airfield but primarily civilian operations</p> <p><u>International:</u> Civilian-controlled host-nation airfield with limited military presence</p>	Non-radar environment with mixed civil and military traffic	<p>Normal civilian buildup</p> <p>Some over-flight of civilian population required</p>
Unsuitable	< 7000 feet	< 125 feet	<p><u>In the US:</u> Civil airport</p> <p><u>International:</u> Civil airport with high operations tempo and no way to de-conflict (i.e., separate runway)</p>	<p>Class B (or foreign equivalent)</p> <p>Uncontrolled airport with significant civil/military traffic</p>	<p>Airports in built up urban areas with high degree of civil encroachment</p> <p>Any airfield that is unsuitable for normal operations</p> <p>Uncontrolled access to airfield</p>
<p><i>Note 1:</i> Runways less than 8000 feet long or less than 148 feet wide require OG/CC waiver.</p>					

Attachment 3

MISSION BRIEFING GUIDES

A3.1. General. Briefing guides are provided for use in accomplishing pre-mission, coordination and employment briefings.

A3.2. Mission Coordination Briefing Guide.

A3.2.1. Roll Call:

A3.2.2. Time Hack:

A3.2.3. Security Classification:

A3.2.4. Crew Mission Information:

A3.2.4.1. Call Sign and Tail #:

A3.2.4.2. Stations:

A3.2.4.3. Engine Start:

A3.2.4.4. Takeoff:

A3.2.4.5. On Station:

A3.2.4.6. Off Station:

A3.2.4.7. Land:

A3.2.5. Mission Overview:

A3.2.5.1. Objectives:

A3.2.5.2. Mission Plan Identification:

A3.2.5.3. Mission Checksum:

A3.2.5.4. Fuel Load:

A3.2.5.5. Gross Weight:

A3.2.5.6. Takeoff and Landing Data:

A3.2.5.7. Duration:

A3.2.5.8. Route:

A3.2.5.9. Bingo and Joker Fuel:

A3.2.5.10. UHF and VHF Voice Frequencies:

A3.2.5.11. Identification Friend or Foe/Selective Identification Feature (IFF/SIF) Modes/Codes

A3.2.5.12. Code Words and Procedures:

A3.2.5.12.1. Code Words:

A3.2.5.12.2. SPINS:

A3.2.5.12.3. Theater Specifics:

A3.2.6. Link Management and Communications Plan:

A3.2.6.1. UHF LOS Frequency:

A3.2.6.2. . Differential GPS Frequency:

A3.2.6.3. UHF Satellite Communications (SATCOM):

A3.2.6.4. Ku SATCOM:

A3.2.6.5. INMARSAT:

A3.2.6.6. Common Data Link (CDL):

A3.2.7. Ground Station and Air Vehicle Status and Configuration (may be briefed by maintenance support):

A3.2.7.1. MCE and LRE:

A3.2.7.2. Air Vehicle:

A3.2.8. Weather (may be briefed by weather support):

A3.2.8.1. . Takeoff Winds, Ceiling, and Visibility:

A3.2.8.2. Runway Condition Reading:

A3.2.8.3. Winds Aloft:

A3.2.8.4. Turbulence:

A3.2.8.5. Mission Area Cloud Cover:

A3.2.8.6. Icing:

A3.2.8.7. Scintillation:

A3.2.9. Intelligence (may be briefed by intelligence support):

A3.2.10. Airfield and Airspace:

A3.2.10.1. Notices to Airmen (NOTAM):

A3.2.10.2. ATC Contact Numbers:

A3.2.10.3. Flight Plan:

A3.2.10.4. Enroute Airspace:

A3.2.11. Alternate Mission:

A3.2.12. FCIF and Aircrew Read File:

A3.2.13. Special Interest Items (SII):

A3.2.14. Emergency Procedure of the Day:

A3.2.15. Safety:

A3.2.16. Mission Commander's Comments:

A3.3. MCE Employment Briefing Guide

A3.3.1. Intelligence Update:

A3.3.1.1. Reporting Requirements:

A3.3.1.2. Threat Warning and Threat Reaction:

A3.3.1.3. Situation Report:

A3.3.2. Collection Route / Planned Orbit:

A3.3.3. Time Sensitive Targeting and Re-tasking Procedures:

A3.3.4. Sensor/Payload Employment Plan:

A3.3.4.1. Synthetic Aperture Radar (SAR):

A3.3.4.2. Electro-Optical (EO):

A3.3.4.3. Infrared (IR):

A3.3.4.4. ASIP:

A3.3.4.5. BACN:

A3.3.4.6. Specialized:

A3.3.5. Mission Abort Criteria:

A3.3.5.1. Weather:

A3.3.5.2. Sensor/Payload Status:

A3.3.6. High-altitude Airspace De-confliction:

A3.3.6.1. Bulls Eye:

A3.3.6.2. Pilot-to-Pilot Frequency:

A3.3.7. Code Words:

A3.3.8. Authentication Procedures:

A3.3.9. Distributed Common Ground Station Coordination:

A3.4. LRE Pre-Mission Briefing Guide

A3.4.1. Roll Call:

A3.4.2. Time Hack:

A3.4.3. Times:

A3.4.3.1. Preflight:

A3.4.3.2. Engine Start:

A3.4.3.3. Takeoff:

A3.4.3.4. Land:

A3.4.4. Airfield:

A3.4.4.1. Take-Off Winds, Ceiling, Visibility, Runway Condition Reading (RCR):

A3.4.4.2. NOTAMs:

- A3.4.4.3. Takeoff and Landing Data:
- A3.4.5. Intelligence:
- A3.4.6. Air Vehicle Status:
 - A3.4.6.1. Open Write-ups:
 - A3.4.6.2. Fuel Load:
 - A3.4.6.3. Other Issues:
- A3.4.7. LRE Status:
 - A3.4.7.1. Configuration Summary:
 - A3.4.7.2. Open Write-ups:
 - A3.4.7.3. Software Load:
 - A3.4.7.4. Verify Navigation Plan:
- A3.4.8. Communications
 - A3.4.8.1. UHF LOS Frequency:
 - A3.4.8.2. Differential GPS Frequency:
 - A3.4.8.3. UHF SATCOM:
 - A3.4.8.4. Ku SATCOM:
 - A3.4.8.5. INMARSAT:
 - A3.4.8.6. CDL:
- A3.4.9. VTC Coordination:
 - A3.4.9.1. Special Category and OmniSTAR Settings:
 - A3.4.9.2. Other Items:
- A3.4.10. Hawkeye Coordination:
- A3.4.11. Other Aircraft De-confliction:
 - A3.4.11.1. Aircraft Type:
 - A3.4.11.2. Departure and Arrival Times:
 - A3.4.11.3. Departure and Arrival Routing:
- A3.4.12. SIIs:

Attachment 4

CREW POSITION CHANGEOVER BRIEFING GUIDES

A4.1. General. Briefing guides are provided for use in accomplishing LRE pilot changeover briefings, and MCE pilot and SO changeover briefings.

A4.2. MCE Pilot Changeover Briefing Guide.

A4.2.1. Outgoing MCE Pilot.

A4.2.1.1. Mission Update:

A4.2.1.1.1. Critical Mission Highlights, Changes in Priorities:

A4.2.1.1.2. Sensor in use, Next Planned IR Calibration:

A4.2.1.1.3. Air Vehicle Position and Intentions:

A4.2.1.2. Current Clearance:

A4.2.1.2.1. Radio Frequency and Controller:

A4.2.1.2.2. Altitude Block, Altimeter Setting, High Terrain, and Minimum Safe Altitude:

A4.2.1.2.3. Scheduled Off-station Time, AOC-approved Extension:

A4.2.1.2.4. Heading/Track, Magnetic/True:

A4.2.1.3. IFF/SIF Settings:

A4.2.1.4. Contingency Logic Waypoint:

A4.2.1.4.1. Attitude Hold Requirements:

A4.2.1.4.2. Current Routing – Contingency 1 (C1) and Contingency 2 (C2):

A4.2.1.4.3. Divert Field – Contingency 3 (C3) Logic, Runway, and Weather:

A4.2.1.4.4. Planned C1 and C3 Direction of Flight:

A4.2.1.5. Data Link Configuration:

A4.2.1.5.1. Link Status, Trend Information, and Ku-band SATCOM Attenuation Setting Changes:

A4.2.1.5.2. In-Control Settings:

A4.2.1.6. Fuel Status:

A4.2.1.6.1. Bingo:

A4.2.1.6.2. C1 Fuel Required:

A4.2.1.6.3. Fuel Flow:

A4.2.1.7. Weather Update:

A4.2.1.7.1. Enroute – Headwinds, Thunderstorms, Turbulence, and Icing:

A4.2.1.7.2. Recovery Airfield – Winds, Fog, Precipitation:

A4.2.1.8. Aircraft De-confliction Plan:

A4.2.1.9. Air Vehicle Systems Status:

A4.2.1.9.1. Previous Faults Logged, Significant Trends:

A4.2.1.9.2. KN 4072 and LN 100 Trend Information:

A4.2.1.9.3. Navigation and Strobe Lights – Set as Required:

A4.2.1.10. Shelter Status:

A4.2.1.11. Sensor Operator – Debrief:

A4.2.1.12. Remove Trash and Shred Classified:

A4.2.1.13. Complete Paperwork:

A4.2.1.13.1. Log Flight Time:

A4.2.1.13.2. Log Training Events:

A4.2.1.13.3. Log Air Vehicle and MCE Write-ups:

A4.2.1.14. Changeover Brief with DGS MOC:

A4.2.2. Incoming MCE Pilot.

A4.2.2.1. Changeover Brief with DGS MOC

A4.2.2.2. C1 Timer – Set as Required (Default 30 Seconds).

A4.2.2.3. Altitude Hold – Re-accomplish (Unless Cruise-climb desired).

A4.2.2.4. Engineering Commands – Confirm Correct.

A4.2.2.5. Environmental Control System – Check Temperature Transducer 5 Status and Trend.

A4.2.2.6. Aircraft Systems – Check.

A4.2.2.7. Altitude – Check GPS and Barometric Difference.

A4.2.2.8. C3 Divert Airfield Weather – Review Current and Forecast.

A4.2.2.9. In-flight Publications – Confirm Current and Complete.

A4.2.2.10. Sensor Operator – In-brief.

A4.3. LRE Pilot Changeover Briefing Guide.

A4.3.1. Mission Update:

A4.3.2. Current Clearance:

A4.3.3. Altimeter Setting:

A4.3.4. Divert Airfields:

A4.3.5. IFF/SIF Settings:

A4.3.6. Contingency Logic Waypoint:

A4.3.7. Data Link Configuration:

A4.3.7.1. Link Status:

A4.3.7.2. Data Link Trend Information:

A4.3.8. Fuel Status:

A4.3.9. Weather Update:

A4.3.9.1. Enroute:

A4.3.9.2. Recovery and Divert Airfields:

A4.3.10. Position of Other Aircraft in Vicinity:

A4.3.11. Air Vehicle Systems Status:

A4.3.12. Shelter Status:

A4.3.13. Complete Paperwork (outgoing pilot):

A4.3.13.1. Log Flight Time:

A4.3.13.2. Log Training Events:

A4.3.13.3. Log Air Vehicle and LRE Write-ups:

A4.4. SO Changeover Briefing Guide.

A4.4.1. Mission Update:

A4.4.2. Weather Update:

A4.4.3. Sensor Status:

A4.4.3.1. EO/IR:

A4.4.3.2. SAR:

A4.4.4. Current Target or Next Target Status:

A4.4.5. Target deck:

A4.4.5.1. List of Completed Targets:

A4.4.5.2. List of Targets to Complete:

A4.4.5.3. List of Ad Hoc Targets:

A4.4.6. Pilot – Debrief.

A4.4.7. Complete Paperwork:

A4.4.7.1. Log Flight Time:

A4.4.7.2. Log Training Events:

A4.4.7.3. Log Air Vehicle and MCE Write-ups:

Attachment 5

HAWKEYE CHECKLISTS

A5.1. General. Guides are provided for use in accomplishing Hawkeye pre-mission and launch, recovery, and post-mission checks.

A5.2. Hawkeye Pre-Mission and Launch Checklist.

- A5.2.1. Hawkeye Vehicle – Inspect and Sign Out.
- A5.2.2. NOTAMs – Review.
- A5.2.3. Arrival and Departure Times of Other Aircraft – Update.
- A5.2.4. Hand-held Radio and Flight Manual – Obtain.
- A5.2.5. Airfield Obstructions – Ensure Clear for Taxi Route.
- A5.2.6. Aircraft Before Exterior Inspection and Exterior Inspection Checklists – Complete (as required).
- A5.2.7. Starting Engine and Before Taxi Checklist – Monitor.
- A5.2.8. Aircraft Ground Operations – Monitor and Clear route.
- A5.2.9. Taxi & Before Takeoff Checklists – Monitor.
- A5.2.10. Aircraft Takeoff – Monitor.
- A5.2.11. Hawkeye Vehicle – Inspect and Sign Off. (Fill fuel tank if below ½ full.)
- A5.2.12. Take-off Date and Time – Log in Sign-out Folder.
- A5.2.13. Departure Time and Information – Provide to GHOC for Message Traffic.

A5.3. Hawkeye Recovery Checklist.

- A5.3.1. Hawkeye Vehicle – Inspect and Sign Out.
- A5.3.2. Hand-held Radio and Flight Manual – Obtain.
- A5.3.3. NOTAMs – Review.
- A5.3.4. Arrival and Departure Times of Other Aircraft – Update.
- A5.3.5. Landing Time and Position – Update with LRE Pilot (as required).
- A5.3.6. Aircraft Landing – Monitor.
- A5.3.7. Aircraft Taxi – Monitor and Clear Route.
- A5.3.8. Aircraft Shutdown Checklist – Monitor.

A5.4. Hawkeye Post-Mission Checklist.

- A5.4.1. Hawkeye Vehicle – Inspect and Sign Off. (Fill gas tank if below ½ full.)
- A5.4.2. Arrival Time and Information – Provide to GHOC for Message Traffic, if required.
- A5.4.3. Landing Date and Time – Log in Sign-out Folder.
- A5.4.4. Post-mission Debrief with MCE and LRE crews.

Attachment 6

MISSION DEBRIEFING GUIDES

A6.1. General. Debriefing guides are provided for use in accomplishing mission debriefing and post-mission reporting.

A6.2. Mission Debriefing Guide.

A6.2.1. Times Review:

A6.2.1.1. Takeoff:

A6.2.1.2. Land:

A6.2.1.3. Duration:

A6.2.2. Ground Procedures, Takeoff, and Departure:

A6.2.3. Enroute Procedures:

A6.2.4. Recovery, Landing, and After Landing:

A6.2.5. Air Vehicle and Ground Station Status.

A6.2.6. Mission Accomplishment and Analysis:

A6.2.6.1. Time Sensitive Targets:

A6.2.6.2. Mission Support:

A6.2.6.3. Mission Imagery Assessment:

A6.2.6.4. Objectives met?

A6.2.7. Sensor/Payload Effectiveness:

A6.2.7.1. Number Scenes Tasked (type):

A6.2.7.2. Number Scenes Collected:

A6.2.7.3. Mission Overall Effective?

A6.2.8. Lessons Learned:

A6.2.8.1. Sensor/Payload Operations:

A6.2.8.2. Air Vehicle and Ground Operations:

A6.2.9. Crew Discipline and Effectiveness:

A6.2.10. SIIs:

A6.2.11. Comments and Questions:

A6.3. MCE and LRE Reporting Requirements. To be reported during debrief or as soon as possible thereafter.

A6.3.1. Sensor Status:

A6.3.1.1. EO/IR:

A6.3.1.2. SAR:

A6.3.1.3. Specialized Equipment:

A6.3.2. Planned Tasking:

A6.3.3. Re-tasking:

A6.3.4. Scenes Collected:

A6.3.4.1. EO:

A6.3.4.2. IR:

A6.3.4.3. SAR:

A6.3.5. Number of Reboots:

A6.3.6. Image Quality:

A6.3.7. Link Quality:

A6.3.8. Air Vehicle Status and Write-ups:

A6.3.9. Turbulence Encountered:

A6.3.10. MCE and LRE Status and Write-ups:

Attachment 7**COMBAT INGRESS/EGRESS CHECKLISTS**

A7.1. General. Checklists are provided for accomplishing ingress checks prior to entering the collection area, and egress checks after exiting the collection area.

A7.2. Combat Ingress Checklist.

A7.2.1. Air Vehicle.

A7.2.1.1. Air Vehicle and Shelter Systems – Check.

A7.2.1.2. Airspace, Aircraft, and Altitude – Check and De-conflict, as required.

A7.2.1.3. Divert Airfields – Reviewed.

A7.2.1.4. Fuel Level – Checked.

A7.2.1.5. Bingo and Joker Fuel – Reviewed.

A7.2.1.6. Weather Check – Accomplished.

A7.2.1.7. Navigation and Strobe Lights – Set, as required.

A7.2.1.8. DGPS Source Select – Both Non-DGPS.

A7.2.1.9. GPS Antijam – Enable.

A7.2.1.10. IFF/SIF – Set, as required.

A7.2.1.10.1. Modes 1, 2, 3, and X-Pulse

A7.2.1.10.2. Mode 4

A7.2.1.11. Lost Link and Contingency Planning – Reviewed.

A7.2.1.12. Sensors – Checked

A7.2.1.13. Collection Priorities and Sequence – Reviewed.

A7.2.2. Communications.

A7.2.2.1. Radios – Check in with Controlling Agency IAW SPINS.

A7.2.2.2. Intercom – Set as Required

A7.2.3. Threats – Review Current Situation.

A7.3. Combat Egress Checklist.

A7.3.1. Air Vehicle.

A7.3.1.1. Air Vehicle and Shelter Systems – Check.

A7.3.1.2. Airspace, Aircraft, and Altitude – Check and De-conflict, as required.

A7.3.1.3. Landing and Alternate Airfields – Reviewed.

A7.3.1.4. Fuel Level – Checked.

A7.3.1.5. Weather Check – Accomplished.

A7.3.1.6. . Navigation and Strobe Lights – Set, as required.

A7.3.1.7. . DGPS Source Select – Both Auto.

A7.3.1.8. GPS Antijam – Disable.

A7.3.1.9. IFF/SIF – Set, as required.

A7.3.1.9.1. Modes 1, 2, 3, and X-Pulse.

A7.3.1.9.2. Mode 4.

A7.3.1.10. j. Lost Link and Contingency Planning – Reviewed.

A7.3.2. Communications.

A7.3.2.1. Radios – Check in with Controlling Agency IAW SPINS.

A7.3.2.2. Intercom – Set as Required.

Attachment 8

CSAR AND OSC CHECKLISTS

A8.1. General. Checklists are provided for use in the event of a 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 of downed aircrew or survivors becomes less likely as the time for rescue forces to reach them increases. The GHOC or MCE crew should establish communications with the appropriate AOC CSAR cell or Rescue Coordination Center (RCC), and the SAR 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.

A8.1.1. Aviate:

A8.1.1.1. Establish safe course or loiter pattern.

A8.1.1.1.1. Altitude.

A8.1.1.1.2. Airspeed.

A8.1.1.1.3. Heading.

A8.1.1.2. . Avoid threats.

A8.1.2. Stack:

A8.1.2.1. Direct all aircraft to an altitude above the last known parachute altitude.

A8.1.2.2. De-conflict assisting aircraft by altitude, non-essential aircraft return to base.

A8.1.3. Squawk (peace time):

A8.1.3.1. If on-scene when a survivor situation develops, set IFF to emergency 7700 alerting ATC or controlling agency of distress situation.

A8.1.3.2. Have the GHOC call C2 agencies (AOC, RCC, etc.).

A8.1.4. Communicate:

A8.1.4.1. Monitor Guard for initial contact with survivor.

A8.1.4.2. . Establish radio contact with controlling agencies.

A8.1.4.3. When contact is established with survivor – push 282.8 if able.

A8.1.4.4. Relay critical information as required and brief assisting aircraft as necessary.

A8.1.5. Mark and Identify:

A8.1.5.1. Location of survivor and/or crash site with geographic references, coordinates, radial/distance measuring equipment (DME), or a search and rescue point (SARDOT).

A8.1.5.2. Hostile environment and enemy activity:

A8.1.5.2.1. Unfriendly persons and enemy activity.

A8.1.5.2.2. Terrain considerations for recovery.

A8.1.5.2.3. Weather considerations.

A8.1.5.2.4. Necessary standoff to avoid highlighting survivor position.

A8.1.5.3. Authenticate (may be difficult due to communication limitations):

A8.1.5.3.1. Check SPINS.

A8.1.5.3.2. ISOPREP.

A8.1.6. Assess Aircraft:

A8.1.6.1. Establish bingo fuel.

A8.1.6.2. Sensor status.

A8.1.7. Direct (if able direct elements participating to affect recovery):

A8.1.7.1. . Rescue escort and/or recovery vehicles to survivor.

A8.1.7.2. Survivor to:

A8.1.7.2.1. Signal.

A8.1.7.2.2. Move to better position.

A8.1.8. Handoff:

A8.1.8.1. Brief Airborne Mission Commander, new OSC or "SANDY" if being relieved.

A8.1.8.2. Provide imagery of survivor area to AOC if able.

Attachment 9

RQ-4 AIRFIELD SURVEY AND COORDINATION DOCUMENTATION

A9.1. General.

A9.1.1. The following will be used to document airfield survey and coordination documentation, and will be provided to the relevant approval authority for approval prior to airfield use to include stitching any approach to a mission planned route.

A9.1.2. CONUS airfields will be coordinated telephonically to the maximum extent possible. This also includes airfields in Hawaii, Alaska and Guam.

A9.1.3. OCONUS and non-US airfields require physical site surveys and face-to-face coordination, unless specifically waived by MAJCOM/A3 or COMAFFOR.

A9.1.4. Memoranda of Agreement and Memoranda of Understanding for alternate airfields will be coordinated at the OG/CC level and will not be delegated lower.

A9.2. Alternate Airfield Documentation Form.

Table A9.1. Alternate Airfield Documentation Form.

Airfield Emergency/Alternate Coordination Documentation	
<i>“Insert Name of Airfield”</i>	
<i>Criteria</i>	<i>OG/CC Approved</i>
Site Survey Complete (Note 1)	
Host Nation Agreement in-place (Note 1)	
Runway Dimensions (Note 2)	
Arrival, Go-Around, Departure (Note 3)	
Air Traffic Control Coordination (Note 4)	
1.	
2.	
3.	
4.	
5.	
Airfield/Base Agencies (Note 5)	
1.	
2.	
3.	
4.	
5.	
MOA/MOU on file (alternate only)	
<i>By signing above, the OG/CC ensures all required coordination for RQ-4 emergency / alternate operations has taken place and that planning for this airfield is ready for review and approval.</i>	
NOTE 1: OCONUS and non-US airfields only.	
NOTE 2: Airfield dimensions are within the “suitable” or “better” categories IAW AFI 11-2RQ-4V3, Atch 2. OG/CC signature for this criterion ensures that runway meets minimum dimensions, or that no other alternative exists for emergency use.	
NOTE 3: RQ-4 approach and go-around procedures have either been: (1) constructed and	

comply with AFI 11-2RQ-4V3 para 2.5.2.1; or (2) a MAJCOM/A3 (or COMAFFOR) waiver has been obtained. RQ-4 departure procedure has been constructed.

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.