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SECRETARY OF THE AIR FORCE

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Flying Operations

U-2 OPERATIONS PROCEDURES

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This manual implements AFPD11-2 and AFPD11-4 *Aviation Service*; AFI 11-200, *Aircrew Training, Standardization/Evaluation, and General Operations Structure*; and AFI 11-202V3, *General Flight Rules*. It prescribes operational guidance for use by pilots who operate Air Force U-2 aircraft. This manual applies to the Regular Air Force and does not apply to the Air National Guard (ANG) or the Air Force Reserve (AFR)

Major Commands (MAJCOMs)/Direct Reporting Units (DRUs)/Field Operating Agencies (FOAs) are to forward proposed MAJCOM/DRU/FOA-level supplements to this volume to AF/A3O-AI through ACC/A3MH for approval prior to publication in accordance with (IAW) AFI 11-200. (NOTE: The terms DRU and FOA as used in this paragraph refer only to those DRUs/FOAs that report directly to HQ AF). Keep supplements current by complying with AFI 33-360, *Publications and Forms Management*. See **paragraph 1.2** 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 IAW AFMAN 33-363, *Management of Records*, and disposed of IAW the Air Force Records Disposition Schedule (RDS) maintained in the Air Force Records Information Management System (AFRIMS). Refer recommended changes and questions about this publication to the Office of Primary Responsibility (OPR) using the AF Form 847, *Recommendation for Change of Publication*; route AF Forms 847 from the field through the appropriate functional chain-of-command. This Manual requires the collection and or maintenance of information protected by the Privacy Act of 1974 authorized by Title 5 United States Code, Section 552a, 37 USC § 301a *Incentive Pay,* Public Law 92-204 § 715,

Appropriations Act of 1973, PL 93-570, *Appropriations Act for 1974*, PL 93-294, *Aviation Career Incentive 1974*, DoDD 7730.57, *Aviation Career Incentive Act and Required Annual Report*, AFI 11-401, *Aviation Management* and Executive Order 13478, *Amendments to Executive Order 9397 Relating to Federal Agency Use of Social Security Numbers*. The applicable SORN F011 AF XO A, Aviation Resource Management System (ARMS) is available at: **http://dpclo.defense.gov/Privacy/SORNs.aspx**

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*.

Waiver Authority

The authorities to waive wing/unit level requirements in this publication are identified with a Tier ("T-0, T-1, T-2, T-3") number following the compliance statement. See AFI 33-360 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.

IAW AFI 11-202 V3 the waiver authority for all other provisions of this volume is the MAJCOM/A3, unless stated otherwise. Commander of Air Force Forces (COMAFFOR) is the waiver authority for forces under his/her operational control (OPCON), and will notify ACC/A3 of waivers within 72 hours of approval. When appropriate, operational waiver coordination and approval processes should be published in mission or theater Concept of Operations (CONOPs) documents. Waiver authority for supplemental guidance will be as specified in the supplement and approved through higher level coordination authority.

SUMMARY OF CHANGES

This document has been substantially revised and needs to be completely reviewed. Tiered waiver guidance has been added IAW AFI 33-360. **Chapter 2** has been significantly revised to include the Mission Planning Cell construct. **Chapter 6** has been significantly revised to reflect changes in Air Force monitoring and reporting of space weather events which impact high altitude operations. **Chapter 7** has been significantly revised to improve clarity of guidance, and for inclusion of applicable guidance previously contained in other AFIs (now rescinded). **Chapter 10** has been deleted (duplicative and unnecessary).

Chapter 1

GENERAL GUIDANCE

1.1. General.

1.1.1. Abbreviations, Acronyms and Terms are at the end of this Volume. See **Attachment 1**.

1.1.2. This manual provides procedural guidance for U-2 operations under most circumstances, but is not a substitute for sound judgment.

1.1.3. Guidelines provided in this volume apply to U-2 aircrews, and all management levels concerned with operation of the U-2 aircraft. They are a compilation of information from aircraft flight manuals, flight information publications (FLIP), Air Force Instructions (AFI), and other governing directives and original source documents.

1.2. Processing Changes.

1.2.1. When a controlling source publication changes, that publication takes precedence until the change is incorporated herein. Required changes to this instruction will be accomplished and distributed in a timely manner. **(T-2)**

1.2.2. MAJCOMs will forward approved recommendations to Air Combat Command/ A3 (ACC/A3).

1.2.3. ACC/A3 will: **(T-2)**

1.2.4.1. Process recommendations for change. Approval authority for changes is AF/A3. **(T-2)**

1.2.4.2. Address time sensitive changes by immediate action message. **(T-2)**

1.3. Key Words and Definitions.

1.3.1. “Will” and “shall” and “must” indicate a mandatory requirement.

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

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

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

Chapter 2

MISSION PLANNING

2.1. Mission Planning Responsibility.

2.1.1. The pilot retains ultimate responsibility for proper mission planning.

2.1.2. Commanders.

2.1.2.1. Will ensure Risk Management (RM) processes, specific to the operation, mission, or activity, are established and employed.. At a minimum, RM assessments must address pilot circadian rhythm, fatigue, and fatigue countermeasures (e.g. nutrition, pharmaceutical support, adaptation, and physical conditioning). **(T-2)**

2.1.2.2. Will ensure availability of current mission planning materials, consistent with command guidance. **(T-2)**.

2.1.3. Operations Officers.

2.1.3.1. Will ensure adequate mission planning time is scheduled and provided prior to flight. **(T-2)**.

2.1.4. Units.

2.1.4.1. Commanders are responsible for developing mission plans based upon mission type, collection prioritization and objective(s), sensor selection, threat environment, and airspace/communications requirements. **(T-2)**.

2.1.4.1.1. Operational Reconnaissance Missions. Refer to mission or theater CONOPs, directives, or similar guidance.

2.1.4.1.2. Higher Headquarters (HHQ) Directed Missions.

2.1.4.1.2.1. Mission support exercises, inspections, and tests. Taskings should be provided by the organization/agency controlling the event. In the absence of specific guidance, coordinate with the tasking agency to ensure all mission objectives are adequately defined.

2.1.4.1.2.2. Operational movements (e.g. deployment, redeployment, Enroute Transfer, and Programmed Depot Maintenance (PDM) input or delivery). Coordinate, as required, to ensure aircraft delivery is planned for arrival at the specified location within the defined/ordered timeline.

2.1.4.1.3. Training missions. Mission plans will be determined by syllabus guidance, local training objectives, or unit requirements. **(T-3)**.

2.1.4.2. Pilots/mission planners will ensure planned routes of flight are assessed against the threat environment (when appropriate) and are responsible for requesting and obtaining route and country clearances. **(T-2)**.

2.2. Mission Planning Procedures.

2.2.1. Mission plans may be developed at a Forward Operating Location, an operational training squadron or a centrally-located Mission Planning Cell. At a minimum, mission plans

will encompass fuel requirements, chart preparation, mission objectives, threat assessment (when applicable), departure/arrival procedures, and communications procedures. **(T-2)**.

2.2.2. Preparation of Materials.

2.2.2.1. All mission materials (other than FLIP) will be placed on boards to ease handling in the full pressure suit (FPS). **(T-3)**.

2.2.2.2. On all maps/charts, annotate route of flight, restricted/prohibited areas, emergency airfields, and known threats. **(T-2)**.

2.3. Briefing and Debriefing.

2.3.1. The pilot in command is responsible for briefing the mobile officer prior to each flight. For flights in the TU-2S, briefings will address cockpit/crew resource management and crew coordination between the front and rear cockpits. **(T-2)**.

2.3.2. Brief and debrief all missions in a suitable briefing environment, using guidance in this instruction, the inflight guide, and any locally-developed directives. Pilot currencies and training requirements will be reviewed prior to the briefing. Items understood by all participants may be briefed as "standard." Specific items not pertinent to the mission need not be covered.

2.3.3. Simulated emergency procedures (EP) will not be accomplished without briefing the mobile officer. **(T-3)**.

2.3.4. The squadron or FOL operations officer will approve all formation flights, to include dissimilar formations. When U-2 aircraft are flown in formation, proper aircraft positioning, pilot/crew responsibilities, and aircraft unique requirements will be briefed to all crew members for each phase of flight. **(T-3)**.

2.3.5. All missions will be debriefed. **(T-2)**.

2.3.6. All pre-flight briefings will include: **(T-2)**

2.3.6.1. Applicable "Go, No-Go" items. **(T-2)**

2.3.6.2. Mission data and planned route of flight. **(T-2)**

2.3.6.3. Weather, Notice to Airmen, and flight restrictions. **(T-2)**

2.3.6.4. Mission objectives and requirements. **(T-2)**

2.3.6.5. RM assessment and mitigation. **(T-2)**

2.3.6.6. Cockpit/crew resource management

2.3.6.6.1. Pilot/mobile/supervisor of flying (SOF) interaction. **(T-2)**

2.3.6.6.2. Task management. **(T-2)**

2.3.6.6.3. Situational awareness. **(T-2)**

2.3.6.6.4. Decision making. **(T-2)**

2.3.6.6.5. Visual search responsibilities. **(T-2)**

2.3.6.7. Mid-Air Collision Avoidance from: **(T-2)**

2.3.6.7.1. Other military aircraft. **(T-2)**

2.3.6.7.2. Civilian aircraft. **(T-2)**

2.3.6.7.3. Tethered aerostats and high-altitude balloons. **(T-2)**

2.3.6.8. Training rules and procedures. **(T-2)**

2.3.6.9. Night procedures (when applicable). **(T-2)**

2.3.6.10. EPs and assistance desired from the mobile officer. **(T-2)**

2.3.6.11. Divert airfields and fuel reserve requirements. **(T-2)**

2.3.7. For high-altitude flights (operational or training), the briefing will include the following items, as applicable: **(T-2)**

2.3.7.1. Payload operations and restrictions. **(T-2)**

2.3.7.2. Mission timing, taskings, and route study. **(T-2)**

2.3.7.3. Theater-specific operational procedures/guidance. **(T-2)**

2.3.7.4. Theater-specific intelligence, threats, restricted/no-fly areas, and Command and Control coordination. **(T-2)**

2.3.7.5. Physiological concerns, fatigue management, and duty day limitations. **(T-2)**

2.3.7.6. Search and Rescue (SAR) or Combat Search and Rescue (CSAR) procedures. **(T-2)**

2.3.8. For ferry flights or BUSY RELAY missions, the briefing will include the following items, as applicable: **(T-2)**

2.3.8.1. Flight plan and diplomatic clearances. **(T-2)**

2.3.8.2. Passport/visa requirements. **(T-2)**

2.3.8.3. Required FLIP. **(T-2)**

2.3.8.4. Launch authority and mission monitoring. **(T-2)**

2.3.8.5. Communications plan, inclusive of High Frequency (HF) radio usage. **(T-2)**

2.4. Flight Manuals.

2.4.1. Commanders will ensure all U-2 pilots are provided access to electronic flight manuals. **(T-1)**.

2.4.2. U-2 pilots are personally responsible for maintaining knowledge of flight manual procedures. **(T-1)**.

2.5. Checklists. Each crewmember will have, and refer to, appropriate checklists during flight operations to ensure accomplishment of required actions. **(T-1)**. Appropriate checklists are defined as the technical order (TO) 1U-2S-1CL-1/CL-2, the electronic flight aid, or a local pilot aid.

2.6. Local Pilot Aids and Briefing Guides.

2.6.1. Locally-developed pilot aids (e.g. those which combine steps from the TO 1U-2S-1CL-1 and TO 1U-2S-1CL-2 into a single product) are authorized for flight operations.

2.6.2. Units at FOLs or deployed locations will develop a local Inflight Guide, inclusive of the following: **(T-2)**

2.6.2.1. Briefing guide and RM matrix. **(T-2)**

2.6.2.2. Local UHF/VHF/HQ/HF channelization. **(T-2)**

2.6.2.3. Airfield diagram(s). **(T-2)**

2.6.2.4. Taxi procedures. **(T-2)**

2.6.2.5. Local departure and arrival/recovery procedures. **(T-2)**

2.6.2.6. Local EP and no radio guidance. **(T-2)**

2.6.2.7. Local fuel dump guidance and hung pogo procedures. **(T-2)**

2.6.2.8. Divert/alternate base information. **(T-2)**

2.6.2.9. On-scene commander guidance for CSAR operations. **(T-2)**

2.6.2.10. Any other information deemed necessary by the operations officer. **(T-2)**

2.7. Flight Crew Information File (FCIF). Pilots and mobile officers will review FCIF Volume 1, Parts B/C, before all missions or ground aircrew duties, and update the FCIF currency record. **(T-2)**.

Chapter 3

NORMAL OPERATING PROCEDURES

3.1. Pre-Flight.

3.1.1. General. The pilot is responsible for knowing the aircraft condition prior to acceptance for flight, and will review the aircraft forms, including weight and balance data.

3.1.2. Low Flights. The pilot will accomplish the aircraft pre-flight, to include the exterior inspection. **(T-3)**. The mobile officer may perform the exterior inspection if conditions warrant.

3.1.3. High Flights. The mobile officer will: **(T-3)**

3.1.3.1. Review the aircraft forms, including weight and balance data. **(T-3)**

3.1.3.2. Accomplish the exterior inspection. **(T-3)**

3.1.3.3. Perform the interior inspection, to include checking navigation system data (destination points, emergency airfields, and bullseyes). **(T-3)**

3.2. Ground Visual Signals.

3.2.1. Prior to engine start, establish radio contact with the mobile officer (N/A for communication-out launches).

3.2.2. For engine start and ground operations prior to taxi, the pilot will maintain two-way voice communication with the crew chief via intercom. If the intercom is inoperative, the pilot may elect to use visual signals.

3.3. Taxi.

3.3.1. Taxi only after the mobile officer provides a radio transmission or visual signal confirming the ground crew is clear. **(T-3)**.

3.3.2. If unable to complete a turn, stop the aircraft and following the mobile officer's instructions. Close coordination between pilot, mobile officer and ground crew is necessary to safely push an aircraft. The pilot will not actuate control surfaces, advance the throttle, or roll forward until cleared by the mobile officer.**(T-3)**

3.3.3. When Electronic Warfare System (EWS) wingtip receivers are installed, pilots will not taxi with a wingtip in contact with the runway or taxiway. **(T-3)**.

3.4. Runway Line Up and Takeoff.

3.4.1. Intersection Takeoffs.

3.4.1.1. Avoid performing intersection takeoffs if stopping distance is critical and use of the entire runway is operationally feasible.

3.4.1.2. On training missions, intersection takeoffs will not be performed if the takeoff ground distance plus abort stopping distance exceed the available runway remaining. **(T-2)**.

3.4.2. On crowned runways, avoid lining up on runway centerline with fuel loads less than R-6, unless operationally necessary. One or both pogos may fall out when the pins are removed, and a hand launch may be necessary.

3.4.3. Takeoffs Without One or Both Pogos.

3.4.3.1. On training missions, a hand launch is permissible at fuel loads of R-3 or less. At fuel loads above R-3, at least one pogo is required. **(T-3)**.

3.4.3.2. On operational or HHQ-directed missions, hand launches are at the discretion of the squadron or FOL commander.

3.4.4. Before Takeoff. Do not advance the throttle to initiate the takeoff procedure until after takeoff clearance is received, and the mobile officer has provided a radio transmission or visual signal confirming the ground crew is clear.

3.5. Descent. Descent at maximum airspeeds should be avoided unless mission requirements, tactics, or training requirements dictate.

3.6. Stall Training.

3.6.1. Stall training will only be accomplished on functional check flight, training missions, or with a TU-2S qualified instructor pilot (IP) on board. **(T-2)**.

3.6.2. Intentional stalls from nose high attitudes, and accelerated stalls, are prohibited.

3.6.3. Flights on which aircraft handling characteristics demonstrations or desired learning objectives include an intent to stall, or approach to stall, will abide by the following restrictions: **(T-2)**

3.6.3.1. Operate in Visual Meteorological Conditions (VMC).

3.6.3.2. Maximum allowable altitude is flight level FL-400.

3.6.3.3. Minimum allowable altitude is 10,000 feet above ground level (AGL), and at least 5,000 feet above an undercast cloud deck.

3.6.3.4. Stall strips will be extended, with the yaw string centered and fuel balanced.

3.6.3.5. Immediately recover if any unusual stall characteristics develop.

3.7. Visual Flight Rules (VFR) Patterns.

3.7.1. Closed Patterns. Airspeed during the closed pattern will be no lower than 90 knots indicated airspeed (KIAS), or no-flap T+10, whichever is greater.

3.7.2. Night VFR patterns and touch-and-go landings are authorized.

3.8. Low Approaches. Initiate a low approach, missed approach, or go-around at 10 feet or above (**Exception:** when performing the landing attitude demonstration in the TU-2S).

3.9. Mobile Officer Duties During Landing.

3.9.1. The mobile officer will chase all landings unless safety considerations preclude chase, or when conducting mobile officer training from a static position. **(T-2)**.

3.9.1.1. If the mobile officer will not be chasing the landing, inform the pilot by transmitting "Call Sign, Mobile, Negative Chase." This call may include a short explanation, if warranted.

3.9.1.2. If the mobile officer has to discontinue chasing the landing, or loses sight of the aircraft, inform the pilot as soon as possible. This call may include a short explanation, as safety and conditions allow.

3.9.2. Mobile officer training from a static position is permitted under the following conditions: **(T-2)**.

3.9.2.1. Day. **(T-3)**

3.9.2.2. Visibility of 2 statute miles or greater. **(T-3)**

3.9.2.3. Crosswinds of 10 knots or less. **(T-3)**

3.9.2.4. An IP on board the aircraft being monitored. **(T-3)**

3.9.2.5. The mobile officer in a position from which he can clearly view the final approach, touchdown, and rollout/takeoff. **(T-3)**

3.10. Touch-and-Go Landings.

3.10.1. All touch-and-go landings will be supervised by an experienced U-2 pilot (per AFI 11-2U-2 Volume 1 Aircrew Training definition). **(T-3)**.

3.10.2. Minimum runway length for touch-and-go landings is 6,000 feet. **(T-2)**.

3.10.3. Runway surface may be dry or wet. Touch-and-go landings are not permitted on runways which are icy or snow covered. **(T-2)**.

3.10.4. The landing zone for all U-2 landings is the first third of the runway. Initiate the takeoff phase of a touch-and-go landing with no less than one-third of the runway remaining. **(T-3)**

3.10.5. Touch-and-go landings will not be performed when the aircraft is configured with primary mission equipment (PME). **(T-3)**. For the purpose of touch-and-go landings, EWS and line-of-sight data links (either forward, aft, or both) are not considered PME. However, touch-and-go landings should be limited when the aircraft is configured with either or both of these payloads. **(T-3)**

3.11. No-Voice Landings.

3.11.1. On all landings, mobile officers will provide altitude calls unless the pilot asks for a no-voice landing.

3.11.2. No-voice landings are not considered a simulated EP and may be flown on any pattern/landing under the following conditions: **(T-3)**.

3.11.2.1. Crosswinds of 10 knots or less.

3.11.2.2. Dry or wet runway only (no snow, slush, or ice).

3.11.2.3. Not in conjunction with an actual emergency or precautionary landing.

3.11.2.4. Training missions only.

3.12. Full Stop Landings.

3.12.1. Computed landing distance will not exceed 80 percent of the available runway. **(T-2)**.

3.12.2. When the aircraft is configured with PME, the pilot will stop straight ahead on the runway, and may taxi once pogos are installed. **(T-2)**.

3.13. Takeoff and Landing with Arresting Gear. U-2 aircraft may takeoff or land on a runway with arresting gear, provided the takeoff or landing can be safely accomplished between the barriers. **(T-2)**.

3.14. Alert Launch Procedures. Alert launch procedures specified in TO 1U-2S-1 and TO 1U-2S-CL-1 are only to be used during real-world operations when an actual alert launch is required. **(T-2)**.

3.15. Interfly.

3.15.1. Normally, interfly should be limited to special circumstances (e.g. test events or exercises), but may be used to relieve short-term shortfalls of qualified manpower. Pilots assigned to ACC headquarters may fly with any MAJCOM for the purpose of inspections, evaluations, and training management visits, provided the host MAJCOM concurs.

3.15.2. ACC/A3TV maintains current memoranda of agreement (MOA) for interfly using ACC-assigned aircraft.

3.15.3. Guidance:

3.15.3.1. Aircraft ownership will not be transferred. **(T-2)**

3.15.3.2. The operational squadron will prepare and sign flight orders. **(T-2)**

3.15.3.3. At a minimum, pilots will be qualified in the aircraft, as well as qualified to operate the configured systems and payloads required for the mission being flown. **(T-2)**

3.15.3.4. Pilots will follow operational procedures defined in this AFMAN, Air Force Tactics, Techniques and Procedures (AFTTP) 3-1.U-2, *Tactical Employment—U-2*, and TO 1U-2S-1 (inclusive of the CL-1 and CL-2).

3.15.3.5. Reference AFI 91-204, *Safety Investigations and Reports*, **chapter 5** for determining investigation responsibilities. **(T-2)**

3.15.4. Approval Authority.

3.15.4.1. With a valid MOA, the group commander or COMAFFOR is the approval authority for interfly on ACC aircraft under his/her control.

3.15.4.2. Without a valid MOA, ACC/A3TV is the approval authority for interfly on ACC aircraft.

3.15.4.3. Interfly on ACC-owned aircraft during contingency operations must be approved by both the ACC/A3 and the respective MAJCOM/A3.

Chapter 4

SIMULATED EMERGENCY PROCEDURES

4.1. General.

4.1.1. Simulated EPs may be practiced:

4.1.1.1. By experienced U-2 pilots (per AFI 11-2U-2 V1 definition).

4.1.1.2. By inexperienced U-2 pilots (per AFI 11-2U-2 V1 definition) only while under the supervision of an experienced U-2 pilot (from the mobile vehicle) or an IP (in the aircraft).

4.1.2. Weather Requirements. **(T-3)**

4.1.2.1. U-2S: Day VMC, including the period of civil twilight. **(T-3)**

4.1.2.2. TU-2S (with a current/qualified TU-2S IP on board): Day IMC, with weather conditions at or above published circling minima for the approach being flown. **(T-3)**

4.2. Simulated Flameout (SFO) Patterns. (T-3)

4.2.1. Pilots will not practice SFOs from the initial takeoff leg of the pattern. **(T-3)**.

4.2.2. Enter all SFOs from a stabilized pitch attitude and power setting.

4.2.3. SFO patterns will be flown from a high key or low key point, as described in TO 1U-2S-1, but may begin from other positions at altitudes above those points.

4.3. No-Flap Patterns. Practice no-flap patterns/landings may be flown without the use of pitch trim to simulate a loss of hydraulic pressure. Pitch trim will be set between one unit nose down and two units nose up prior to initiating the simulation. **(T-2)**.

4.4. Full Stop Landings from a Simulated Emergency Procedure. Full stop landings from a simulated EP pattern are authorized if necessary to satisfy required training. Comply with all normal full stop landing guidance (reference **paragraph 3.12**). **(T-2)**.

Chapter 5

EMERGENCY PROCEDURES

5.1. General. Guidance in this chapter is additive to procedures outlined in TO 1U-2S-1, and does not supersede or replace flight manual guidance or sound judgment.

5.2. Takeoff Aborts. If hot brakes are suspected or confirmed, declare an emergency and do not taxi the aircraft.

5.3. Hung Pogo.

5.3.1. If a pogo does not release on takeoff, the pilot should declare an emergency and avoid making abrupt pitch and power changes while maneuvering to the locally designated drop zone.

5.3.2. When executing the hung pogo procedure, descend to not less than 1,000 feet AGL.

5.3.3. If a pogo fails to release:

5.3.3.1. At aircraft gross weights of greater than 24,300 pounds (T-speed greater than 78.6 KIAS), proceed to the locally-defined hung pogo fuel dump area (conditions permitting) and adjust aircraft gross weight as required for landing.

5.3.3.2. At aircraft gross weights of 24,300 pounds or less (T-speed 78.6 KIAS or less), perform a hung pogo landing. After landing, stop straight ahead on the runway. If the hung pogo did not drop during landing, terminate the mission.

5.3.4. If a hung pogo drops during landing:

5.3.4.1. Terminate the emergency.

5.3.4.2. Have the aircraft inspected for damage.

5.3.4.3. If no damage is evident, it is permissible to re-launch using hand launch procedures (reference **paragraph 3.4**).

5.4. Fuel Restrictions.

5.4.1. Declare minimum fuel whenever usable fuel at touchdown will be less than 125 gallons.

5.4.2. Declare emergency fuel whenever usable fuel at touchdown will be less than 50 gallons.

5.4.3. After landing, shut down the engine whenever sump quantity indications become unreliable, regardless of how much fuel remaining is indicated on the counter. Do not allow the engine to flame out.

Chapter 6

WEATHER RESTRICTIONS

6.1. Ceiling and Visibility Requirements.

6.1.1. Qualified pilots will comply with AFI 11-202V3 (as supplemented) ceiling and visibility criteria for filing flight plan, takeoff, and approach/landing criteria. **(T-1)**.

6.1.2. For student training, comply with syllabus guidance and restrictions. **(T-2)**.

6.2. Surface Winds (Ejection or Bailout).

6.2.1. Training Missions. Maximum steady-state wind speed (forecast or reported) is 30 knots. **(T-1)**.

6.2.2. Operational or HHQ-directed Missions. Maximum steady-state wind speed (forecast or reported) is 40 knots. **(T-1)**.

6.3. Crosswinds.

6.3.1. Maximum crosswind component is 12 knots for touch-and-go landings on runways at least 300 feet wide. **(T-1)**.

6.3.2. Maximum crosswind component is 10 knots for touch-and-go landings on runways less than 300 feet wide. **(T-1)**.

6.4. Tailwinds.

6.4.1. Maximum tailwind component is 10 knots for takeoffs and full stop landings. **(T-1)**.

6.4.2. Maximum tailwind component is 5 knots for touch-and-go landings. **(T-1)**.

6.5. Turbulence.

6.6.1. U-2 missions will not be flown into areas of forecast or reported severe turbulence. **(T-1)**.

6.6.2. Pilots will not loiter in any area where encountered turbulence is moderate or greater. **(T-1)**.

6.6. Space Weather.

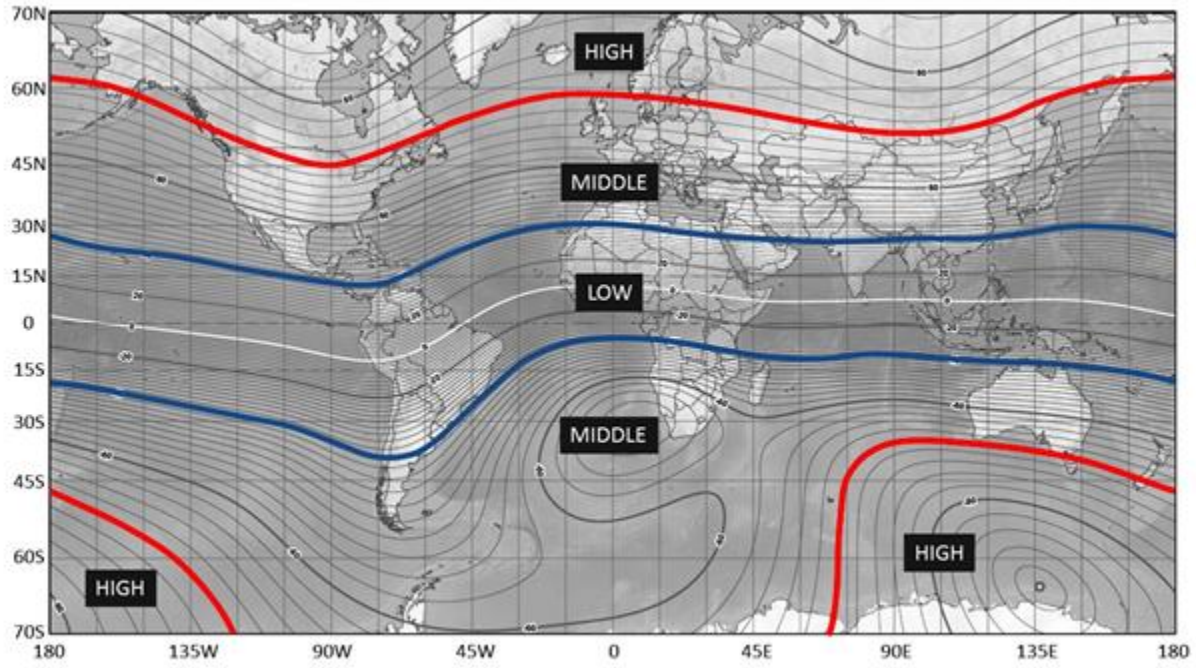
6.6.1. High altitude flight exposes pilots to increased levels of solar radiation, with potential exposure to significant levels of radiation emanating from coronal mass ejections. Exposure levels are dependent upon three primary factors:

6.6.1.1. Altitude. Exposure increases with altitude, commensurate with reduced atmospheric density and associated shielding effects.

6.6.1.2. Latitude. Exposure increases at higher geographic and geomagnetic latitudes, with the atmosphere providing the least amount of shielding near the poles (see **Figure 6.1**).

6.6.1.3. Duration. Exposure increases with time spent aloft.

Figure 6.1. Geomagnetic Latitude and Exposure Risk



6.6.2. Space Weather Monitoring.

6.6.2.1. Space weather monitoring is provided by the Space Weather Operations Center (SWOC), part of the 557 Weather Wing at Offutt AFB, NE.

6.6.2.2. Space Weather Operations Center Capabilities.

6.6.2.2.1. Works in conjunction with the National Oceanic and Atmospheric Administration Space Weather Prediction Center to generate space weather analysis and forecast products, and makes these products available on all three security enclaves through the Air Force Weather Web Services (AFW-WEBS).

6.6.2.2.2. Provides around-the-clock, real-time monitoring of geostationary operational environment satellite data measuring the flux of X-rays and protons generated by major solar flares and other cosmic sources.

6.6.2.2.3. Utilizes a statistical algorithm combining real-time observations with empirical data to generate predictive estimates of the resultant maximum radiation dosage present in the high altitude flight environment.

6.6.2.2.4. Generates and transmits alerts regarding solar events and associated radiation hazards.

6.6.2.3. SWOC Limitations.

6.6.2.3.1. SWOC estimates only provide a rough order of magnitude of the actual radiation dosage hazard. Multiple other variables affect the actual amount of particle energy which reaches the earth's lower atmosphere, but many are not measured operationally for analysis (e.g. influence of solar winds, influence of interplanetary

magnetic fields, influence of the earth's magnetosphere, and actual/unique properties of individual coronal mass ejections).

6.6.2.3.2. SWOC's ability to provide lead times for significant space events may be extremely limited. Given the speed of solar particles, variables in orbital geometry between the earth and sun can reduce advance notification to a matter of minutes.

6.6.3. Support to U-2 Flying Operations

6.6.3.1. The 9th Operations Group (9OG/CC) is the designated OPR for solar event information impacting worldwide U-2 flying operations.

6.6.3.2. 9th Operational Support Squadron (OSS/OSW) is the 24-hour focal point for integrating solar event information into worldwide U-2 flying operations, and distributing SWOC solar event alerts to affected U-2 units.

6.6.3.3. Meteorological Watch and Notifications.

6.6.3.3.1. These procedures define the required actions to be undertaken when SWOC predicts radiation from a solar event presents a potential hazard to U-2 flying operations.

6.6.3.3.2. SWOC.

6.6.3.3.2.1. Provide telephone and e-mail notification to 9 OSS/OSW with impacts to U-2 flying operations (e.g. locations and maximum estimated radiation dosage). **(T-2)**.

6.6.3.3.3. 9 OSS/OSW.

6.6.3.3.3.1. Notify the 9 OG/CC and 9th Mission Support Group (MSG/SGP). Notification will include the SWOC forecast for when the event will begin and/or end, and the estimated maximum radiation dosage. **(T-2)**.

6.6.3.3.3.2. Post radiation impacts to all applicable mission weather products. **(T-2)**.

6.6.3.3.4. 9th Operations Group Commander

6.6.3.3.4.1. Determine impacts to worldwide U-2 flying operations (reference **Table 6.1**), and provide immediate notification to squadron or FOL commanders at all affected locations. **(T-2)**.

6.6.3.3.5. Squadron/Deployed Commanders.

6.6.3.3.5.1. Coordinate via chain-of-command to the tasking authority exercising OPCON or tactical control to determine whether tasked U-2 missions will continue or terminate. **(T-2)**.

Table 6.1. U-2 Flying Operations Radiation Exposure Decision Matrix.

Estimated Maximum Radiation Dosage	**Geomagnetic Latitude (ref. Figure 6.1.)**		
	LOW 30º S to 30 º N	**MIDDLE 30º N to 60 º N 30º S to 60 º S**	**HIGH 60º N to 90 º N 60º S to 90 º S**
≥30 mRem/hr	Red (Note 1)	Red	Red
≥10 to <30 mRem/hr	Yellow (Note 2)	Red	Red
≥3 to <10 mRem/hr	Green (Note 3)	Yellow	Red
<3 mRem/hr	Green	Green	Yellow

NOTES

1. Red: discontinue non-essential high altitude operations. Consider discontinuing/suspending essential high altitude operations.
2. Yellow: consider discontinuing/suspending non-essential high altitude operations.
3. Green: continue normal operations
4. Non-essential high altitude operations include training, exercises, test missions, and BUSY RELAY movements.
5. Essential high altitude operations include all real-world collection missions (e.g. sensitive reconnaissance operations, Joint Task Force support, and wartime or contingency taskings).

Chapter 7

FLIGHT READINESS

7.1. Crew Rest.

7.1.1. When determining suitability of facilities, commanders will take into account the unique physiological demands associated with solo, extended duration, high altitude flight.

7.1.2. Crew Rest Facilities.

7.1.2.1. Crew rest facilities will be single occupancy, climate-controlled, hard billets at an easily accessible location separated from noise and bright lighting. **(T-3)**.

7.1.2.2. Fabric-based billets (e.g. tents) or multi-occupancy billets will not be used due to noise and occupancy disruptions. **(T-3)**.

7.1.2.3. At FOLs and deployed locations, crew rest facilities will be inspected by the squadron or FOL commander to determine compliance and suitability. **(T-3)**. Acceptance of facilities which do not meet the requirements set forth in **paragraph 7.1.2.1** is at the discretion of the squadron or FOL commander and the increased risk will be accounted for in the unit's RM process. **(T-3)**

7.1.3. Dining Facilities.

7.1.3.1. A suitable dining facility is required to provide the mission pilot and mobile officer a high protein, low residue pre-flight meal. **(T-3)**.

7.1.3.2. Where dining facilities are not available to meet mission timelines, a cooking facility is considered a suitable substitute for preparation of pre-flight meals. **(T-3)**.

7.1.3.3. The importance of proper pre-flight nutrition cannot be overemphasized, and the lack thereof presents a potential significant risk to mission accomplishment. At FOLs and deployed locations where suitable facilities are not available, the squadron or FOL commander will account for the increased risk in the unit's RM process. **(T-3)**

7.2. Scheduling and Duty Day.

7.2.1. Crew duty day for mobile officers is 12 hours. Any crew duty day extension for the pilot also applies to the mobile officer and SOF.

7.2.2. Low Altitude Flights.

7.2.2.1. For flights landing within normal duty hours, pilots will complete the remainder of the normal duty day. **(T-2)**.

7.2.2.2. For flights landing after 1930 (local time), both the pilot and mobile officer are excused from duty for 13 hours after actual landing time, or 12 hours after completion of post-flight duties, whichever is later. **(T-2)**.

7.2.2.3. For successive low altitude flights (U-2 to U-2, U-2 to Companion Trainer Program, or Companion Trainer Program to U-2), a minimum of 3 hours will be scheduled from landing to the successive takeoff. **(T-2)**.

7.2.3. High Altitude Flights.

7.2.3.1. For flights landing within normal duty hours, pilots will not be scheduled for any additional activities for the remainder of the normal duty day. **(T-2)**.

7.2.3.2. For flights landing after 1930 (local time), both the pilot and mobile officer are excused from duty for 13 hours after actual landing, or 12 hours after completion of post-flight duties, whichever is later. **(T-2)**.

7.2.4. Crossing Time Zones.

7.2.4.1. When travel to an FOL or deployed location involves crossing more than three time zones, pilots will be scheduled for a minimum of 48 hours ground time at the location prior to first flight to allow for circadian rhythm synchronization. **(T-1)**.

7.2.4.2. When travel as part of a BUSY RELAY movement involves crossing more than three time zones, mandated ground time for circadian rhythm synchronization is not required. Scheduled ground time must be sufficient to allow for adequate mission planning and crew rest. **(T-2)**.

7.3. High Altitude Flights.

7.3.1. Jewelry. All jewelry will be removed prior to donning the FPS. Wear of jewelry, including watches, under the FPS is prohibited. **(T-1)**.

7.3.2. Prebreathing. A minimum of 60 minutes prebreathing of 100% oxygen is required for high altitude flights in aircraft not modified with the Cabin Altitude Reduction Effort (CARE). **(T-1)**. The 60 minute prebreathe must be complete prior to departing the traffic pattern. **(T-1)**.

7.3.3. Exercise. Avoid heavy exercise for 12 hours after high altitude flights in non-CARE aircraft due to increased susceptibility to decompression sickness (DCS) and the potential masking of DCS symptoms. **(T-1)**.

7.3.4. Aborted flights of less than 2.5 hours duration may be re-launched with the same pilot, given consideration for the circumstances of the aborted flight, the mission, and the pilot's physical/mental condition. If the backup pilot is used for the re-launched flight, the original pilot may perform as the mobile officer.

7.3.5. Flight Recovery Periods.

7.3.5.1. Given the physiological stress exerted on the human body during high altitude flight, a flight recovery period is mandated to mitigate risk associated with DCS, and manage fatigue induced from repeated, long-duration exposure to the high altitude environment. **(T-3)**

7.3.5.2. Flights of 9.0 hours or longer.

7.3.5.2.1. The first 24-hour period after landing will be compensatory time off (CTO). **(T-3)**.

7.3.5.2.2. At FOLs or deployed locations, supervisors may perform SOF duties in lieu of CTO if approved by the squadron or FOL commander. Adhere to crew rest provisions mandated by AFI 11-418, *Operations Supervision* (as supplemented). **(T-3)**.

7.3.5.2.3. The second 24-hour period after landing will be ground duties only. **(T-3)**.

7.3.5.3. For waivers to flight recovery periods, consider the pilot's recent duty history, pilot's physical condition, and the importance of the mission.

Table 7.1. High Altitude Flight Recovery Period.

	Minimum Recovery Period	
High Flight Duration	**To High Flight**	**To Low Flight**
< 2.5 hours	13 hours	13 hours
2.5 to < 6.5 hours	36 hours	18 hours
6.5 to < 9.0 hours	48 hours	36 hours
9.0 hours or longer	72 hours (Note 2)	48 hours

NOTES
1. Times are landing to successive takeoff, except for high flights of < 2.5 hours, for which the 13-hour recovery period is from landing to start of official duties.
2. For high flights of 9.0 hours or longer, the 72-hour flight recovery period may be waived to not less than 48 hours by the wing/CC. Waiver authority may be delegated, but not lower than the squadron or FOL commander.
3. Flight recovery periods will not normally be waived for training missions.

7.4. Chemical, Biological, Radiological, Nuclear and High-Yield Explosives (CBRNE) Environment.

7.4.1. The U-2 is not designed for operations in a CBRNE environment.

7.4.2. The FPS is not considered an Aircrew Chemical Defense Ensemble nor does it provide a similar level of protection.

7.4.3. Contamination avoidance is the most important defense measure for both the aircraft and pilot. If contamination is suspected, the pilot should remain on oxygen and process through a Contamination Control Area. Assistance will be necessary to safely remove the pilot from the FPS.

Chapter 8

ORIENTATION FLIGHTS

8.1. Policy.

8.1.1. U-2 orientation flights will be conducted IAW AFI 11-401, *Aviation Management* (as supplemented) and this volume. **(T-2)**.

8.1.2. U-2 orientation flights will be limited to those individuals who must possess a first-hand knowledge of the U-2 program or U-2 operations. **(T-2)**.

8.1.3. Refer to AFI 11-401 (as supplemented) for passenger categories and approval authorities.

8.2. Responsibilities.

8.2.1. ACC/A3T. OPR for coordinating all U-2 orientation flights requiring COMACC approval or higher.

8.2.2. 9 RW/CC. Responsible for hosting orientation flight recipients, as necessary.

8.2.3. 9 OG/CC. Responsible for designing and administering the U-2 orientation flight program.

8.3. Mission Profiles.

8.3.1. For distinguished visitors (DV), a high altitude flight profile should be planned.

8.3.2. For all other categories, a high altitude or low altitude profile may be planned, as appropriate.

8.4. Sensitive Information.

8.4.1. Sensitive and classified information regarding U-2 platform and sensor capabilities will be appropriately safeguarded for those orientation flight recipients who do not possess the necessary security clearance or need-to-know. **(T-1)**.

8.4.2. If necessary, orientation flight recipients will complete a non-disclosure agreement (NDA) establishing ground rules regarding any exchange of sensitive information. 9th Reconnaissance Wing (9RW/PA) is the designated OPR for NDAs. The nondisclosure provisions in this manual are consistent with and do not supersede, conflict with, or otherwise alter the employee obligations, rights, or liabilities created by existing statute or Executive order relating to (1) classified information, (2) communications to Congress, (3) the reporting to an Inspector General of a violation of any law, rule, or regulation, or mismanagement, a gross waste of funds, an abuse of authority, or a substantial and specific danger to public health or safety, or (4) any other whistleblower protection. The definitions, requirements, obligations, rights, sanctions, and liabilities created by controlling Executive orders and statutory provisions are incorporated into this manual and are controlling. **(T-1)**.

Chapter 9

U-2 AIRCRAFT SECURITY

9.1. General.

9.1.1. Aircraft security requirements are defined in AFI 31-101, *Integrated Defense* (as supplemented). Additive guidance unique to the base or operating location may also be specified in an Installation Defense Plan (IDP).

9.1.2. Security Requirements and Responsibilities.

9.1.2.1. When operating at an FOL or deployed location which is US-controlled, the squadron or FOL commander will coordinate security requirements with the organization responsible for providing security. **(T-2)**.

9.1.2.2. When operating at an FOL or deployed location which is not US-controlled, the squadron or FOL commander will coordinate security requirements with appropriate host base or host nation personnel. If the host base cannot provide security commensurate with Protection Level (PL) 2 standards, coordinate with the tasking US agency to obtain additional support or move aircraft to a location where adequate security is available. **(T-2)**.

9.1.2.3. When an aircraft is in transient status (e.g. an aircraft divert), the pilot is responsible for coordinating security requirements with the host base or local authorities. Pilots will ensure adequate security is in place prior to leaving the aircraft. **(T-2)**. Refer to AFI 31-101 (as supplemented), **Chapter 9**, for specific transient aircraft security guidelines.

9.1.3. Securing Classified Material.

9.1.3.1. Security personnel are not responsible for securing classified material.

9.1.3.2. Maintenance and/or operations personnel will protect classified material and components IAW DOD Manual 5200.01, *DOD Information Security Program*, and AFI 16-1404, *Air Force Information Security Program*. **(T-1)**.

9.2. Protection Levels.

9.2.1. U-2 aircraft are designated a PL 3 resource when in CONUS, Alaska, or Hawaii.

9.2.2. U-2 aircraft are designated a PL 2 resourced when:

9.2.2.1. Located OCONUS (excluding Alaska and Hawaii).

9.2.2.2. Sensitive Compartmented Information configured.

9.2.2.3. When supporting a Reconnaissance in Support of Nuclear Operations (RISNO) tasking, inclusive of being placed on alert for a RISNO tasking.

9.3. BUSY RELAY Movements.

9.3.1. For all BUSY RELAY movements, coordinate with the appropriate organization(s) at each enroute stop to ensure adequate security is available. **(T-2)**.

9.3.2. When an aircraft is present at an enroute stop:

9.3.2.1. Provide an Entry Authority List (EAL) to the appropriate security agency. **(T-2)**. Ensure those individuals with escort authority are annotated on the EAL. **(T-2)**.

9.3.2.2. Unescorted entry to the aircraft is granted to operations, support and maintenance personnel who are assigned to the movement and possess their home station AF Form 1199, *USAF Restricted Area Badge*, supported by the EAL. **(T-2)**.

9.3.2.3. Personnel not identified in **paragraph 9.3.2.2** will be escorted. **(T-2)**. Pilots, mission planners and assigned crew chiefs have escort authority.

9.4. Photographic Privileges.

9.4.1. All active U-2 pilots are authorized photographic privileges of U-2 aircraft within PL 2 and PL 3 restricted areas.

9.4.2. Pilots will ensure they comply with all requirements, restrictions and limitations as published in: **(T-3)**.

9.4.2.1. The SENIOR YEAR Program Security Classification Guide.

9.4.2.2. Base or installation security guidelines (e.g. IDP).

MARK C. NOWLAND, Lt Gen, USAF
Deputy Chief of Staff for Operations

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*, 10 August 2016

AFI 11-2U-2V1, *U-2 – Aircrew Training*, 30 May 2012

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

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

AFI 16-1404, *Air Force Information Security Program*, 29 May 2015

AFI 31-101, *Integrated Defense* (FOUO), 5 July 2017

AFI 33-324, *The Air Force Information Collections and Reports Management Program*, 6 March 2013

AFI 33-360, *Publications and Forms Management*, 1 December 2015

AFI 91-204, *Safety Investigations and Reports*, 27 April 2018

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

AFTTP 3-1.U-2, *Tactical Employment-U-2* (S), 4 June 2015

DODM 5200.01, *DOD Information Security Program*, 24 February 2012

Privacy Act of 1974, 5 U.S.C. § 552a

Title 37, U.S.C., § 301a, 3 January 2007

T.O. 1U-2S-1, Utility Flight Manual, 1 December 2016

SENIOR YEAR Program Security Classification Guide, 20 December 2016

Adopted Forms

AF Form 847, *Recommendation for Change of Publication*

AF Form 1199, *USAF Restricted Area Badge*

Abbreviations and Acronyms

A3MH—High Altitude ISR Operations Branch

A3T—Flight Operations Division

ACC—Air Combat Command

ACDE—Aircrew Chemical Defense Ensemble

AFI—Air Force Instruction

AFMAN—Air Force Manual

AFRC—Air Force Reserve Command

AFRIMS—Air Force Records Information Management System

AFTTP—Air Force Tactics, Techniques and Procedures

AFW-WEBS—Air Force Weather Web Services

AGL—Above Ground Level

ANG—Air National Guard

ARMS—Aviation Resource Management System

CARE—Cabin Altitude Reduction Effort

CBRNE—Chemical, Biological, Radiological, Nuclear Environment

CCA—Contamination Control Area

COMACC—Commander, ACC

COMAFFOR—Commander of Air Force Forces

CONOPs—Concept of Operations

CONUS—Continental United States

CSAR—Combat Search and Rescue

CTO—Compensatory Time Off

CTP—Companion Trainer Program

DCS—Decompression Sickness

DOD—Department of Defense

DODM—Department of Defense Manual

DRU—Direct Reporting Unit

DV—Distinguished Visitor

EAL—Entry Authority List

EFA—Electronic Flight Aid

EP—Emergency Procedure

EWS—Electronic Warfare System

FCIF—Flight Crew Information File

FL—Flight Level

FLIP—Flight Information Publications

FOA—Field Operating Agency

FOL—Forward Operating Location

FPS—Full Pressure Suit

GDO—Ground Duty Only

HHQ—Higher Headquarters

IAW—In Accordance With

IDP—Installation Defense Plan

IMC—Instrument Meteorological Condition

IP—Instructor Pilot

JTF—Joint Task Force

KIAS—Knots Indicated Airspeed

MACA—Mid-Air Collision Avoidance

MAJCOM—Major Command

METWATCH—Meteorological Watch

MOA—Memorandum of Agreement

MPC—Mission Planning Cell

N/A—Not Applicable

NAF—Numbered Air Force

NDA—Non Disclosure Agreement

NOAA—National Oceanic and Atmospheric Agency

OCONUS—Outside the Continental United States

OG/CC—Operations Group Commander

OPCON—Operational Control

OPR—Office of Primary Responsibility

OSC—On Scene Commander

PDM—Programmed Depot Maintenance

PIC—Pilot in Command

PL—Protection Level

PME—Primary Mission Equipment

RDS—Records Disposition Schedule

RISNO—Reconnaissance in Support of Nuclear Operations

RM—Risk Management

ROM—Rough Order of Magnitude

SAR—Search and Rescue

SCI—Sensitive Compartmented Information

SFO—Simulated Flameout

SOF—Supervisor of Flying

SOP—Standard Operating Procedure

SRO—Sensitive Reconnaissance Operations

SWOC—Space Weather Operations Center

SYPSCG—SENIOR YEAR Program Security Classification Guide

TACON—Tactical Control

TO—Technical Order

VMC—Visual Meteorological Condition

Terms

Civil Twilight—Time permitted for VFR flights which is Sunset + 30 min or Sunrise -30 minutes.

Crowned Runway—A runway with its center slightly elevated or "crowned" that tapers to the edge for water run-off.

Decompression Sickness—A sometimes fatal condition caused by the release of nitrogen gas bubbles as they leave their dissolved form throughout the body upon a rapid decrease in barometric pressure during ascent to high altitude. Symptoms are typically marked by joint pain, accompanied in mild forms by fatigue and skin irritation (e.g. itching, burning, or blotching), and in severe forms by shortness of breath, chest pain, paralysis and confusion.

Geomagnetic Latitude—A system of latitude reckoned in similar fashion to geographic latitude, but measured in reference to terrestrial magnetism, i.e. geomagnetic meridians referenced to the geomagnetic equator.

HHQ Directed Mission—A mission tasked at or above the Numbered Air Force (NAF) level, not inclusive of operational reconnaissance missions. Such missions typically include deployment, redeployment, and missions flown in support of inspections, test events, joint or flag-level exercises, and delivery of aircraft to/from PDM.

Hot Brakes—Brakes overheated from heavy, or excessive braking or from mechanical defect.

Interfly—Permits pilots to fly with other units. Normally limited to special circumstances (e.g. test events or exercises), but may be used to relieve short-term shortfalls of qualified manpower. Pilots assigned to ACC headquarters may fly with any MAJCOM for the purpose of inspections, evaluations, and training management visits, provided the host MAJCOM concurs.

Mission Planning Cell—A centrally-located facility or organization which is resourced to conduct all U-2 mission planning tasks, inclusive of transmitting completed mission planning products and associated electronic files to forward locations.

Mobile Officer—A qualified U-2 pilot who provides safety-of-flight oversight and necessary assistance to a U-2 mission pilot.

No Voice Landing—A landing executed without altitude calls from the mobile officer.

Nondisclosure Agreement—A binding agreement between two parties, which defines what sensitive information may, and may not, be shared or made public.

Operational Reconnaissance Mission—A real-world mission tasked by a combatant command, and on which collection of imagery or signals intelligence information is executed to support the command's objectives. Missions typically include Sensitive Reconnaissance Operations, Joint Task Force support, and wartime or contingency operations, but may also include Defense Support to Civil Authorities (DSCA) when such missions are authorized/approved.

POGOS—Pogo's are removable wheeled struts for support of the wings. They are used for ground operations. They are manually unpinned by ground crews on the runway prior to take off and drop off on take-off roll. They are manually re-inserted by ground crews after landing for continued ground operations.

Primary Mission Equipment—Payloads with which the U-2 may be configured for mission operations, inclusive of sensors, data links and electronic warfare systems.

Visual Meteorological Condition—Weather that satisfies criteria permitting flight by reference to visual cues.