

3 September 2009

Aviation

Unmanned Aircraft System Flight Regulations

---

For the Commander:

BYRON S. BAGBY  
*Major General, US Army*  
*Chief of Staff*

Official:



DWAYNE J. VIERGUTZ  
*Chief, Army in Europe*  
*Document Management*

---

**Summary.** This regulation—

- Provides policy on unmanned aircraft system operations, unmanned aircraft crewmember training and currency requirements, and flight rules.
- Covers Army unmanned aircraft system general provisions, training, standardization, and management of unmanned aircraft system resources.
- Must be used with AR 95-23.

**Applicability.** This regulation applies to members of the active Army, Army Reserve, and Army National Guard; and DOD civilians and civilian contractors who provide training on or are involved in the operation, standardization, and maintenance of unmanned aircraft systems. During mobilization, the policy in this regulation may be modified by the proponent.

**Supplementation.** Organizations will not supplement this regulation without USAREUR G3 (AEAGC-AV) approval.

**Forms.** AE and higher level forms are available through the Army in Europe Publishing System (AEPUBS).

**Records Management.** Records created as a result of processes prescribed by this regulation must be identified, maintained, and disposed of according to AR 25-400-2. Record titles and descriptions are available on the Army Records Information Management System website at <https://www.arims.army.mil>.

**Suggested Improvements.** The proponent of this regulation is the USAREUR G3 (AEAGC-AV, DSN 370-3429). Users may suggest improvements to this regulation by sending DA Form 2028 to the USAREUR G3 (AEAGC-AV), Unit 29351, APO AE 09014-9351.

**Distribution.** C (AEPUBS).

---

## CONTENTS

### CHAPTER 1 GENERAL

- 1-1. Purpose
- 1-2. References
- 1-3. Explanation of Abbreviations and Terms
- 1-4. Responsibilities
- 1-5. Exceptions and Waivers
- 1-6. Deviations
- 1-7. Flight Violations
- 1-8. Persons Authorized to Fly USAREUR UAS Aircraft
- 1-9. Participation of USAREUR UAS Aircraft in Aerial Demonstrations
- 1-10. Use of Army Airfields and Heliports
- 1-11. Local Flying Areas
- 1-12. USAREUR Local UAS Flying Rules
- 1-13. Special Use of Airspace
- 1-14. Individual Flight Records Folders

### CHAPTER 2 OPERATION AND CONTROL OF USAREUR AIRFIELDS, HELIPORTS, AND HELIPADS

- 2-1. General
- 2-2. ATC Communication and Separation Procedures
- 2-3. Landing and Takeoff Criteria

### CHAPTER 3 OPERATIONS AND SAFETY

#### SECTION I OPERATIONS

- 3-1. Approval for Aviation Air and Ground Support Operations

#### SECTION II SAFETY

- 3-2. Mishap Reports
- 3-3. Aviation Safety Personnel

## **CHAPTER 4 TRAINING AND STANDARDIZATION**

### **SECTION I AIRCREW TRAINING PROGRAM**

- 4-1. Unit Training
- 4-2. Crewmember Training
- 4-3. Special Training
- 4-4. Requests for Waivers to UAS Operator or Aircrew Training Program Requirements

### **SECTION II STANDARDIZATION**

- 4-5. Standardization Authorities for USAREUR
- 4-6. USAREUR Aviation Leadership Committee
- 4-7. Installation Aviation Standardization Committees
- 4-8. Command UAS Training Responsibilities
- 4-9. Unit Evaluations

### **SECTION III ADMINISTRATIVE PROCEDURES**

- 4-10. UAS Crewmember Selection and Evaluation Requirements
- 4-11. Request for SO Evaluations

## **CHAPTER 5 FLIGHT PROCEDURES AND RULES**

- 5-1. General
- 5-2. Flight Planning
- 5-3. VFR Weather Minimums
- 5-4. Inadvertent IMC Flight Procedures (For Emergency Use Only)
- 5-5. Operating Times in Germany

## **CHAPTER 6 MAINTENANCE PROCEDURES**

- 6-1. Maintenance Training
- 6-2. Maintenance Messages

### **Appendixes**

- A. References
- B. Format for Local Flying Rules
- C. Minimum UAS Surface and Clearance Requirements
- D. Unit Certification Requirements
- E. UAS Unit Evaluations
- F. United States Army Aeronautical Services Detachment, Europe, Area of Responsibility

## **Figures**

- 1-1. UAS Characteristics and Capabilities
- 3-1. Notification of an Accident or Incident in Operation of a Foreign Military Aircraft
- 4-1. Sample Risk-Assessment Matrix
- 4-2. Sample Request for Individual Waiver
- 4-3. Sample Request for Flight Evaluation
- B-1. Format for Local Flying Rules
- C-1. Surface and Clearance Requirements for Bi-Directional UAS Launch and Recovery

## **Glossary**

---

## **CHAPTER 1 GENERAL**

### **1-1. PURPOSE**

This regulation—

a. Prescribes policy and procedures for Army unmanned aircraft system (UAS) aircrew training and standardization, and for operating UASs in USEUCOM areas under CG, USAREUR, control.

b. Is not intended to be used in place of AR 95-23. The intent of this regulation is to provide additional guidance for UAS operations in USAREUR. When differences between the policy in this regulation and AR 95-23 exist, the more stringent policy will be followed.

c. Applies to all Army UASs, including Hunter, Raven, Shadow, and Warrior. Personnel responsible for other military or nonstandard UASs will adhere to all UAS regulations and coordinate with the USAREUR G3 (AEAGC-AV) before using these systems for flight operations.

### **1-2. REFERENCES**

Appendix A lists references.

### **1-3. EXPLANATION OF ABBREVIATIONS AND TERMS**

The glossary defines abbreviations and terms.

### **1-4. RESPONSIBILITIES**

The USAREUR G3 has staff responsibility for all aspects of Army UASs (including policy, standardization, and training) in the USAREUR area of responsibility (AOR). The brigade aviation element (BAE) of each brigade combat team will ensure it provides aviation standardization oversight of UAS units. The Commander, Kosovo Force, will provide aviation standardization oversight of UAS units during rotations.

### **1-5. EXCEPTIONS AND WAIVERS**

The CG, USAREUR, has the authority to approve exceptions and waivers to this regulation that are consistent with applicable laws and regulations. The CG, USAREUR, may delegate this authority in writing when appropriate. Requests for waivers will be sent to the Aviation Operations Support Branch, Current Operations Division, Office of the Deputy Chief of Staff, G3, HQ USAREUR, Unit 29351, APO AE 09014-9351.

**NOTE:** During deployments, the USAREUR G3 may modify the policy in this regulation.

## 1-6. DEVIATIONS

Personnel may deviate from the provisions of this regulation during emergencies, but must adhere to the following:

a. Individuals who deviate from the provisions of this regulation, AR 95-23, International Civil Aviation Organization (ICAO) rules, Federal Aviation Administration (FAA) regulations, local training area regulations (for example, the United States Army Joint Multinational Readiness Center (JMRC)), local Raven training areas, or host-country regulations will report the details of the deviation directly to their unit commander. The deviation must be reported within 24 hours after it occurs.

b. Commanders will report deviations from host-country regulations and procedures to the following:

(1) The Army Flight Operations Detachment (AFOD):

(a) Mailing Address: Army Flight Operations Detachment, Unit 29231, APO AE 09102-9231.

(b) Telephone: DSN 373-6201 or civilian 06221-17-6201.

(c) E-mail: afodflightoperations@eur.army.mil.

(d) Fax: DSN 373-6542 or civilian 06221-17-6542.

**NOTE:** The Commander, AFOD, will coordinate with civil and military agencies as necessary.

(2) The USAREUR G3 Aviation Operations Support Branch:

(a) Mailing Address: Aviation Operations Support Branch, Current Operations Division, Office of the Deputy Chief of Staff, G3, HQ USAREUR, Unit 29351, APO AE 09014-9351.

(b) Telephone: DSN 370-9461/9462/9473/9488/9489/3246/3247/3259 or civilian 06221-57-9461/9462/9473/9488/9489/3246/3247/3259.

(c) Fax: DSN 370-8924 or civilian 06221-57-8924.

## 1-7. FLIGHT VIOLATIONS

**a. Violations.** Violations of this regulation, AR 95-23, ICAO rules, FAA regulations, host-nation regulations, local training area regulations (for example, JMRC regulations), or other applicable aviation regulations will be reported as prescribed by AR 95-23. Violations occurring in the USAREUR AOR will be reported to the AFOD. The AFOD will forward reports to the Aviation Operations Support Branch and to the United States Army Aeronautical Services Detachment, Europe (USAASD-E).

**b. Reporting Investigation Results.** Results of investigations conducted will be reported through command channels to HQ USAREUR (AEAGC-AV and AEAGA-SA).

**c. Restricted Information.** Names of crewmembers of military UASs involved in actual or alleged violations will be treated as restricted information and will not be released to the public or any agency outside DOD except by proper authority. Personnel who receive requests for the names of crewmembers of military UASs should direct these requests to the Aviation Operations Support Branch (para 1-6b(2)).

### **1-8. PERSONS AUTHORIZED TO FLY USAREUR UAS AIRCRAFT**

Flights by other than U.S. military personnel with USAREUR-owned or -controlled UASs are authorized only when conducted according to AR 95-23.

### **1-9. PARTICIPATION OF USAREUR UAS AIRCRAFT IN AERIAL DEMONSTRATIONS**

The participation of USAREUR UASs in aerial demonstrations is not authorized.

### **1-10. USE OF ARMY AIRFIELDS AND HELIPORTS**

The use of airfields and heliports in the USAREUR AOR will be according to DOD flight information publications (FLIPs), AR 95-1, AR 95-2, AE Regulation 95-1, airfield standing operating procedures (SOPs), and airfield commander policy letters.

### **1-11. LOCAL FLYING AREAS**

The following rules apply to local flying areas in the USAREUR AOR:

a. Local flying areas will not be outside of military restricted airspace (for example, EDR 116, EDR 136, EDR 137) without written consent from the USAREUR G3 Aviation Operations Support Branch and the USAASD-E.

b. Local flying areas will be depicted on a local range map (for example, the Grafenwöhr Training Area (GTA) Hohenfels range-control map) and a 1:250,000-scale map. This map will be referenced for permission briefings and posted in the operating shelter or operations and flight planning area. Overlays of local flying areas or current AORs will be loaded in the ground-control station before conducting flight operations.

### **1-12. USAREUR LOCAL UAS FLYING RULES**

a. The Commanding Generals, 21st Theater Sustainment Command, United States Army Southern European Task Force, and Seventh United States Army Joint Multinational Training Command, will approve local flying rules and changes for organizations that fall under their command and control or operate in their AOR. The USAREUR G3 will approve local flying rules and changes for all organizations that cannot be approved by these commanders. Local flying rules that have not already been established will be reviewed by Aviation Operations Support Branch before being submitted for approval. Appendix B provides a format for local flying rules. Commanders will contact the USAASD-E before coordinating local flying rules with host-country airspace-control agencies. The USAASD-E may be contacted as follows:

(1) Mailing Address: USAASD-E (ATAS-AD), Unit 29243, APO AE 09102-9243.

(2) Telephone: DSN 373-8079/6426 or civilian 06221-17-8079/6426.

(3) Fax: DSN 373-8957 or civilian 06221-17-8957.

(4) E-mail: [usaasde@eur.army.mil](mailto:usaasde@eur.army.mil).

b. Flight altitudes will be established with consideration given to noise abatement and safety. Traffic-pattern altitudes and noise-abatement procedures for each airfield will be sent to the USAASD-E for publication in DOD FLIPs.

### 1-13. SPECIAL USE OF AIRSPACE

a. Units will contact the AFOD for training events (for example, field training exercises) that require a notice to airmen (NOTAM) and flight information region notification. (Procedures are available in the Aviation Procedures Guide (APG) on the Training and Resources Management System (TRMS) website at <https://trms.7atc.army.mil/trms5/default.aspx> (under *Library*).)

b. Units will contact the USAASD-E for mission or training events that require the establishment of special-use airspace. First-time requests to conduct UAS operations in countries where no prior certificate of authorization (COA) or approval documents exist must include the following information as a minimum:

(1) The dates and times of the missions.

(2) A detailed description (for example, altitudes, latitudes and longitudes) of the intended flight operation, including the classification of the airspace (C, D, E, F, or G) to be used. A 1:250,000-scale map showing the area of operation must also be provided.

(3) The physical characteristics and capabilities of the UAS, and an explanation of how the aircraft launches and recovers. The format in figure 1-1 should be used to provide this information.

---

<b>Characteristics</b>	
Airspeed	
Altitude	
Climb rate	
Endurance	
Range	
Weight	
Wing span and rotor diameter	
<b>Capabilities</b>	
Armed and unarmed	
Launch and recovery	
Primary payloads	
Transponder	

---

**Figure 1-1. UAS Characteristics and Capabilities**

(4) Proof of airworthiness certification. An airworthiness release from the Aviation Engineering Directorate, United States Army Aviation and Missile Command, is required.

(5) Provisions to ensure an equivalent level of safety for “seeing and avoiding” (Code of Federal Regulations, Title 14, part 91.113 (14 CFR 91.113)) other airspace users. This includes qualifications and procedures for chase plane, ground, and radar observers, as applicable.

(6) Detailed communications procedures (observer to pilot/operator and air traffic control (ATC) to pilot/operator).

(7) The hazards involved with dropping objects or hazardous materials. If the intended use of the UAS includes carrying hazardous materials or dropping or spraying aircraft stores, the request to conduct UAS operations must specifically address this hazard and make a clear case that injury to persons on the ground is very unlikely.

(8) Lost-link procedures. The UAS must provide a means of automatic recovery in case of a lost link. The unit will have predesignated return-home points loaded in the UAS, which will remain inside the restricted airspace of operations. The intent is to ensure that airborne operations are predictable in case of a lost link, and that the air vehicle (AV) remains in the training area in case the unit is unable to regain the link (which would result in the parachute being deployed to reduce the possibility of damage to the aircraft when it hits the ground).

(9) The risk involved with flight over congested or populated areas. If flight over congested areas, heavily trafficked roads, or an open-air assembly of persons is requested, the applicant must provide information that clearly establishes that the risk of injury to persons on the ground is highly unlikely.

(10) Additional technical and safety information as required by the host nation.

**NOTE:** A test and flight-capabilities exercise for host-nation officials may be required.

#### **1-14. INDIVIDUAL FLIGHT RECORDS FOLDERS**

a. Unit commanders will appoint (in writing) a custodian for individual flight records folders (IFRFs) (regardless of the individual’s military occupational specialty (MOS)) when an aviation operations specialist with MOS 15P is not assigned to or part of the unit modified table of organization and equipment (MTOE). The appointed custodian must be trained in and fully capable of performing flight-operation duties, including duties required to maintain a flight-planning area. Commanders may request and coordinate training from their organic BAE or the United States Army Europe Aviation Safety and Standardization Detachment (UASSD).

b. Commanders of USAREUR UAS units will keep IFRFs for operational operators assigned in or near their geographic location.

c. IFRFs will accompany the unit to field training exercises, situational training exercises, and deployments.

d. IFRFs will be maintained according to FM 3-04.300.



## CHAPTER 2

# OPERATION AND CONTROL OF USAREUR AIRFIELDS, HELIPORTS, AND HELIPADS

### 2-1. GENERAL

a. The senior mission commander at airfields, heliports, and helipads is designated the “airfield, heliport, or helipad commander” and will support tenant and visiting UAS units in flight and ground operations.

b. All flight and ground operations will be according to DOD FLIPs, AR 95-1, AR 95-2, AE Regulation 95-1, airfield SOPs, and airfield commander policy letters. For flight operations not under a designated airfield, coordination must be made with the garrison commander or equivalent before the operations begin.

### 2-2. ATC COMMUNICATION AND SEPARATION PROCEDURES

#### a. Air Traffic Control Separation and Phraseology.

(1) U.S. Army ATC facilities will apply standard category (CAT) A instrument flight rules separation standards to UAS operations according to Joint Operations Order 7110.65.

(2) The restricted or segregated airspace-controlling agency or authority will establish separation criteria to ensure safe operations within these areas.

(3) U.S. Army ATC facilities will use standard phraseology according to Joint Operations Order 7110.65 (for example, taxi to, cleared for takeoff, cleared to land) for communications between ATC and UAS operators. All communication between ATC and UAS operators should always use standard phraseology.

#### b. Ground and Radar Observers.

(1) Unit commanders will establish SOP certification requirements for ground and radar observers. Training must include the rules and responsibilities established in 14 CFR 91.111 and 91.113, and AR 95-23.

(2) Observers certified by the unit commander will provide traffic information to the UAS operator using standard clock directions, distance, and direction of flight (for example, “Traffic one o’clock, 2 miles, northbound”). The UAS operator is responsible for adjusting the AV flight route to avoid other traffic.

(3) Radar observers must be qualified ATC personnel. Primary radar returns should be enabled. Secondary radar may be used in addition to primary radar or if primary radar is not available.

**NOTE:** UAS operations must comply with the approved COA or applicable host-nation regulations and restrictions.

**c. Approaches.** UAS operations require a precoordinated missed-approach procedure established in a letter of agreement (LOA) and in accordance with an approved COA or host-nation approval document. The LOA will cover procedures for lost link, loss of visual contact, or both.

## **2-3. LANDING AND TAKEOFF CRITERIA**

**a. Introduction.** Subparagraph b below provides launch and recovery criteria for operating UASs at U.S. Army facilities or training locations unless specified in applicable technical manuals (TMs) or waived by the appropriate authority. Paragraph 1-5 provides information on waiver authority.

### **b. Criteria.**

**NOTE:** (1) through (4) below do not apply to small unmanned aerial vehicles or UASs (for example, Dragon Eye, Pathfinder, Pointer, Raven).

(1) The minimum UAS surface and obstacle clearance, and departure and approach angle requirements in appendix C must be observed.

(2) The minimum pavement classification number must support the heaviest equipment and aircraft that will operate on it.

(3) The minimum required climb rate for departure is 200 feet per nautical mile.

(4) A 3-degree glide slope is recommended for UAS launch and recovery operations. A clearance of 300 feet is required over obstacles and obstructions that interfere with the departure and approach slope.

(5) UAS and manned aircraft must not be mixed in the same traffic pattern (for example, both airframes in north pattern). A manned chase aircraft may follow a UAS on final. A comprehensive LOA is required between the unit commander, the airfield commander or manager, and the chief of the affected ATC facility.

## **CHAPTER 3 OPERATIONS AND SAFETY**

### **SECTION I OPERATIONS**

#### **3-1. APPROVAL FOR AVIATION AIR AND GROUND SUPPORT OPERATIONS**

Unit commanders or their designated representatives will approve all air and ground aviation operations that require engine starts, whether for maintenance, training, or other operational reasons. This is in addition to the requirement for mission-briefing procedures in this regulation and AR 95-23.

### **SECTION II SAFETY**

#### **3-2. MISHAP REPORTS**

Aircraft accident and incident reporting and investigations will be conducted according to AR 385-10, DA Pamphlet 385-40, and AE Regulation 385-40.

a. Commanders who have assigned or attached UAS aircraft involved in a mishap as defined in AR 385-10 will report the mishap immediately to the AFOD (DSN 373-6201, civilian 06221-17-6201, or e-mail: afodflightoperations@eur.army.mil).

b. Commanders will immediately report all UAS accidents and incidents by telephone to the USAREUR G3 Current Operations Division (DSN 370-8966/8662/7067, civilian 06221-57-XXXX). Accidents and incidents must also be reported within 2 hours using the form in figure 3-1. The form may be sent by e-mail (g3watchofficer@eur.army.mil) (preferred) or fax (DSN 370-7852).

**NOTE:** This form is a translation of the German form used to report UAS accidents and incidents (*Meldung eines Unfalls/Zwischenfalls beim Betrieb eines ausländischen militärischen Luftfahrzeuges*). It is available at [http://www.mil-aip.de/pams/aip/enr/ET\\_ENR\\_1\\_14\\_en.pdf](http://www.mil-aip.de/pams/aip/enr/ET_ENR_1_14_en.pdf).

c. Commanders will immediately report all class A through D UAS accidents through the appropriate USAREUR command (AE Reg 10-5, app A) to the Safety Division, Office of the Chief of Staff, HQ USAREUR, as outlined in AE Regulation 385-40, paragraph 5a. Commanders will use DA Form 7305 to report mishaps by e-mail.

d. All applicable host-nation accident- and incident-reporting procedures will be followed.

### **3-3. AVIATION SAFETY PERSONNEL**

UAS units and leadership down to platoon level will complete all required safety training according to Army and Army in Europe regulations.

## **CHAPTER 4 TRAINING AND STANDARDIZATION**

### **SECTION I AIRCREW TRAINING PROGRAM**

#### **4-1. UNIT TRAINING**

**a. Aircrew Training Programs (ATPs).** Commanders of UAS units will—

(1) Develop and implement ATPs according to applicable training regulations and manuals. Commanders will implement policy that ensures crewmembers attend or make up training. Electronic or paper training documentation and attendance rosters will be kept in unit files for 3 years.

(2) Ensure flight training is conducted in coordinated and approved areas in compliance with DOD FLIP AP/2 and APG and host-nation restrictions.

**b. Failure to Meet ATP Requirements.** Waivers for personnel who fail to meet ATP requirements will be processed according to AR 95-23.

**c. Synthetic Flight Training System Requirements.** The minimum UAS operator synthetic flight-training-system requirements must comply with this regulation, AR 95-23, and the applicable aircrew training manual (ATM).

**Notification of an Accident or Incident in Operation  
of a foreign military Aircraft**

This report shall be transmitted by phone or via telefax. Please fill in or mark fields.			
a	Person reporting	Name:	Location: Phone:
b	Location of accident/ incident	Location:	
	Date, Time, Timeline	Date:	Time: Timeline: <input type="checkbox"/> UTC <input type="checkbox"/> MEZ <input type="checkbox"/> MESZ
c	Aircraft*)	Manufacturer:	Model:
	Registration, State	Registration:	State:
d	Operator of Aircraft	Wing/Squadron:	
	Address and State of Operator	Address:	State:
e	Type of Operation	<input type="checkbox"/> Combat <input type="checkbox"/> Low Level <input type="checkbox"/> Passenger <input type="checkbox"/> Aerial Attack <input type="checkbox"/> Training <input type="checkbox"/> Cargo <input type="checkbox"/> <input type="checkbox"/> Ferry <input type="checkbox"/> Other	
	Aerodrome of Departure and Destination	Departure:	Destination:
f	Pilot in Command	Name:	First Name:
g	Number of Persons on board	Crew:	Passengers:
h	Number of Persons injured	Crew	Passengers
	- serious injuries		
	- minor injuries		
	- no injuries		
	Damage of Aircraft	<input type="checkbox"/> substantial <input type="checkbox"/> minor <input type="checkbox"/> none <input type="checkbox"/> unknown	
Third party damage (e.g. Buildings, Vehicles)			
i	Dangerous Goods / Ammunition / Pyrotechnics on board	<input type="checkbox"/> none	

\*) For each aircraft a separate report is necessary.

(will be continued at the next page)

**Figure 3-1. Notification of an Accident or Incident in Operation of a Foreign Military Aircraft**

**Notification of an Accident or Incident in Operation of a foreign military Aircraft (Continued)**

<b>j</b>	<b>Description of the Accident/Incident</b>			
	Phase of Flight	<input type="checkbox"/> Parking <input type="checkbox"/> Taxiing <input type="checkbox"/> Take-Off	<input type="checkbox"/> Climb <input type="checkbox"/> Enroute <input type="checkbox"/> Change of Flight Level	<input type="checkbox"/> Descent <input type="checkbox"/> Landing <input type="checkbox"/> Taxiing after Landing <input type="checkbox"/> Others
	Please give a short description of the circumstances of the accident/incident, damages, type of injuries and meteorological conditions.			
Light Conditions at the Moment of the Event		<input type="checkbox"/> Daylight <input type="checkbox"/> unknown	<input type="checkbox"/> Dawn <input type="checkbox"/> Dusk/Twilight	<input type="checkbox"/> Night-dark <input type="checkbox"/> Night-moonlight
<b>Confirmation</b>				
		Date	Signature	
File Number (will be defined by Director, Bundeswehr Flight Safety)				

**Figure 3-1. Notification of an Accident or Incident in Operation of a Foreign Military Aircraft—Continued**

## 4-2. CREWMEMBER TRAINING

**a. General.** Unit crewmember training programs will be established according to Training Circular (TC) 1-600, TC 1-611, applicable ATMs, and the unit mission-essential task list.

### **b. Orientation Training.**

(1) USAREUR operators occupying flying positions will complete local-area orientations prescribed by TC 1-600 and TC 1-611.

(2) Before progressing to readiness level (RL) 1 or mission-qualified, USAREUR UAS operators will receive a visual flight rules (VFR) orientation flight in the local flight area conducted by an instructor operator (IO), standardization operator (SO), unit trainer (UT), or Raven master trainer (MT) as appropriate. UAS operators will also receive academic training in the following topics:

- (a) The policy and procedures in this regulation and other Army in Europe directives.
- (b) Airspace structure.
- (c) DOD FLIPs.
- (d) Flight-violation reporting procedures.
- (e) Inadvertent instrument meteorological conditions (IMC) flight procedures.
- (f) Lost-link flight procedures.
- (g) Risk assessment. Figure 4-1 is a sample risk-assessment matrix that may be used for this training.
- (h) VFR requirements.

(3) Unit commanders will ensure the training requirements in (2) above are documented in individual aircrew training folders (IATFs).

## 4-3. SPECIAL TRAINING

### **a. Unit Certification.**

(1) Certification will be required after 12 months or more have elapsed since the unit last conducted flight operations in USAREUR, or may be requested within less than 12 months at the discretion of the commander. UAS units will implement certification programs before conducting normal flight operations in USAREUR when required.

(2) Programs will have at least two gates, beyond which the unit may not proceed until approved by the certifying officer. These gates are defined as *Safe to Conduct Flight Operations* and *Development of Proficiency in UAS Operations*. These gates are prerequisites to collective training exercises for deployment. (Appendix D provides requirements for each gate.)

MISSION COMPLEXITY		CREW SELECTION		FREQUENCY MANAGEMENT	
Command Relationship		VO Experience	Total Flight Time	No interference	0
Organic	1	Total Time in Local Area	>=500	Possible interference	2
Attached	2	CE Experience	<500	Interference	4
Direct Support/OPCON	3	Total Flight Time	>=500	Sub-Total	
Sub-Total					
Mission Planning		IOSO Experience	Total Flight Time	>1 UAS unit flying in the vicinity	4
Mission Statement/Time	>12 hrs	Total Flight Time	<500	LOS interference	X
Specific	1	Total Time in Local Area	>=500		
Implied	2	MC Experience	<500		
Vague	3	Total Flight Time	>=500		
Sub-Total					
Mission Type		MISCELLANEOUS ADDITIONAL RISK FACTORS			
Type of Mission	Day	VO	CE	IO/IC	
Nonactical	1	Day	Night	Day	Night
Special Tasks	2	Night	Day	Day	Night
Single Ship Tactical	3	Day	Day	Day	Day
Multi-Ship Tactical	4	Night	Night	Night	Night
	5	Night	Day	Day	Night
Sub-Total					
Additional Factors		RISK ASSESSMENT TOTAL			
L/R Within SAM/Mortar Range	5	X = Automatic High Risk			
RL 2/3 VO/EP	3	XX = Automatic Extreme Risk			
Special Tasks	5				
Mountain Operations	5				
MOPP 3/4	5				
Sub-Total					
Total					

ENVIRONMENTAL FACTORS				Frequency of Flight in Mission				
SFC Winds	0-9 kts	10-19 kts	20-25 kts	>25 kts	Day	Night	Day	Night
Tail Wind >5 kts	X	5	X	XX	>65 Days	>180 Days	>60 Days	>60 Days
Weather	LL/LSI	Mod	Few	Sev/Set	Day	Night	Day	Night
Icing	5	X	XX	XX	X	X	3	3
Snow/Dust	X	XX	XX	XX	X	X	3	3
Thunderstorms	3	X	XX	XX	X	X	4	5
Turbulence	3	5	X	X	X	X	3	3
Precipitation	3	X	XX	XX	X	X	3	3
Visibility	>7 nm	3-7 nm	<3 nm		3	3	3	3
Ceiling	>7 k	3-7 k	3-5 k	<3 k				
Illumination	100-75%	74-50%	49-24%	<23%				
Carb Icing Conditions	7° 61%RH	5° 70%RH	X	XX				
	X	XX	XX	XX				
Sub-Total								
Total								

FIGHTER MANAGEMENT				Mission Risk Assessment Guidelines			
Use worst cast CM/Rest period	>=10 hrs	<10 hrs	Duty extension in last 14 days	Low	<28	PL/Tech	
Duty remain w/in SOP no ext.	0	2	1 hr	Moderate	29-35	Co Cdr	
Duty will exceed SOP w/ext.	2	4	3	High	36-40	Bn/Bde Cdr	
			5	Extreme	>40	CG	
Sub-Total							
Total							
System Faults				Mission Assessment			
Piece of equipment			Ctr X				
Shelter	1	3	5				
GD/TLRT	1	3	5				
AV	1	3	5				
Sub-Total							
Total							
Additional Factors				Risk Assessment Summary			
Crew has one pilot with <12 months in unit			2				
MC has <100 hours MC experience			2				
Crew has one pilot with <200 hours flight time			2				
Mission backbriefing and rehearsals not conducted			2				
Crew on mission duty cycle for previous 72 hours			2				
Sub-Total							
Total							

ANNOTATE THE RISK MITIGATION APPLIED TO THIS MISSION AND THE RESIDUAL RISK APPLIED

Mission Risk Assessment Guidelines	
Low	<28
Moderate	29-35
High	36-40
Extreme	>40

Mission Commander:	Name	Signature	Date
Risk Assessment Briefed By:			
Mission Approved By:			
Risk Assessment Approved By:			

Figure 4-1. Sample Risk-Assessment Matrix

**b. POL Training.** Unit commanders will—

(1) Train personnel performing duties as fuel handlers in petroleum, oils, and lubricants (POL) procedures as required every 6 months. This training will include safe-handling procedures for aviation fuel, including the following:

- (a) Dispensing.
- (b) Fire emergency procedures.
- (c) Inspecting POL facilities and equipment.
- (d) Maintaining POL package products.
- (e) Quality-assurance requirements and procedures.
- (f) Spill prevention and cleanup.
- (g) Storage.

**NOTE:** Operators and UAS maintenance personnel will receive annual training in POL procedures that they may be reasonably expected to perform as part of their normal duties (including visual and preflight sampling procedures).

(2) Issue DD Form 1902 to personnel who may be required to do either of the following:

- (a) Operate a fuel-dispensing vehicle.
- (b) Refuel aircraft.

**c. Environmental Training.** Unit commanders will—

(1) Establish an environmental training program for all assigned UAS personnel. The program will require an annual weather briefing for assigned operators.

(2) Annotate the appropriate training records to show the date an individual successfully completed required training.

(3) Ensure an annual weather briefing for Army UAS operators includes the following topics:

- (a) Climatology.
- (b) Cloud formations.
- (c) Fog.
- (d) Frontal systems.
- (e) Icing.



(f) Procedures for completing and interpreting DD Form 175-1.

(g) Thunderstorms.

(4) Ensure operators and UAS maintenance personnel receive preseasonal safety training on operators manual requirements, procedures, and restrictions while operating in adverse winter environmental conditions. Training will include proper techniques and precautions to be used when taking off from, landing on, and operating near snow- or ice-covered terrain.

#### **4-4. REQUESTS FOR WAIVERS TO UAS OPERATOR OR AIRCREW TRAINING PROGRAM REQUIREMENTS**

Figure 4-2 provides the format for requesting individual waivers to UAS operator or aircrew training program requirements.

## **SECTION II STANDARDIZATION**

#### **4-5. STANDARDIZATION AUTHORITIES FOR USAREUR**

**a. UASSD.** The UASSD is the proponent for the USAREUR Aviation Standardization Program. The UASSD—

(1) Coordinates standardization issues not resolved by unit, installation, and area standardization committees.

(2) Is the executive agency for the USAREUR Aviation Leadership Committee.

(3) Conducts aviation resource management surveys (ARMSs) of USAREUR units throughout the theater. Evaluations conducted at non-USAREUR units will be done according to established memorandums of understanding or with the concurrence of the commander of the unit being evaluated.

(4) Conducts staff assistance visits on request.

**NOTE:** Instructors, evaluators, and their designees may conduct evaluations throughout the European theater.

**b. Air Traffic Services Standardization Detachment.** The Air Traffic Services Standardization Detachment, Aviation Operations Support Branch, Current Operations Division, Office of the Deputy Chief of Staff, G3, HQ USAREUR, is the USAREUR proponent for air-traffic services safety and standardization according to AR 95-2.

---

## LETTERHEAD

*Office Symbol*

*Date*

MEMORANDUM THROUGH Unit Commander

FOR First Lieutenant Colonel or Above in the Chain of Command

SUBJECT: Request for Individual Waiver

1. Cite the specific paragraph of the applicable regulation or aircrew training manual for the type of waiver requested and include appropriate justification. The justification must be thorough and include procedures to prohibit recurrence.
2. Provide the following information about the person for whom the waiver is requested:
  - a. Name, social security number, grade, unit and duty assignment, birth date, and date eligible for return from overseas.
  - b. Total time in the type, model, and series of aircraft.
  - c. Total flight time.
  - d. Date the operator was suspended (if applicable).
3. State relevant qualifications of the person for whom the waiver is requested.
4. Enclose (as encl 1) a copy of the person's most recent DA Form 759.
5. Enclose (as encl 2) a copy of the person's current worksheet.
6. Enclose (as encl 3) a copy of the suspending document (if applicable).
7. Include a history of previous waivers, suspensions, and flight evaluation boards, if applicable.

3 Encls  
1. DA Form 759  
2. Worksheet  
3. Suspending Document

Operator's signature block

---

**Figure 4-2. Sample Request for Individual Waiver**

#### **4-6. USAREUR AVIATION LEADERSHIP COMMITTEE**

The USAREUR Aviation Leadership Committee monitors and implements U.S. Army aviation standardization in Europe. The committee should convene annually in conjunction with the USAREUR Aviation Conference according to AE Regulation 95-1.

#### **4-7. INSTALLATION AVIATION STANDARDIZATION COMMITTEES**

USAREUR units will include UAS units in installation standardization committees according to AE Regulation 95-1.

#### **4-8. COMMAND UAS TRAINING RESPONSIBILITIES**

Commanders will—

- a. Comply with AE Regulation 350-1.
- b. Ensure UAS interoperability with NATO allies and units complies with appropriate standardization agreements.
- c. Ensure unit certification is completed before collective training exercises.
- d. Ensure UAS training programs are evaluated and appropriate external evaluations (EXEVALs) are administered according to AE Regulation 350-1.
- e. Ensure UAS academic and flight training programs are established. These training programs will ensure operator safety and proficiency comply with host-nation regulations, adverse weather conditions, and major-exercise coordination altitudes.
- f. Ensure unit SOPs are established according to AR 95-23, DA Pamphlet 385-90, TC 1-600, TC 1-611, DOD FLIP AP/2, and this regulation.
- g. Establish a crew-endurance policy in writing for all flight and ground crewmembers according to AR 95-23.

#### **4-9. UNIT EVALUATIONS**

- a. A UAS unit's ability to execute its combat missions will be evaluated using an EXEVAL. The EXEVAL will be controlled at an echelon above the unit being evaluated.
- b. The UASSD will schedule an ARMS for every UAS unit in USAREUR. UAS units will be evaluated about every 18 to 24 months.
- c. Commanders will not schedule any training event during an ARMS that prevents the inspected unit from participating exclusively in the scheduled evaluation.
- d. The UASSD will—
  - (1) Advise the USAREUR G3 on the status of UAS flight-standardization activities.
  - (2) Inform UAS units on standardization policy and procedures.

e. Appendix E provides procedures for conducting UASSD-administered ARMSs.

f. The UASSD ARMS checklist provides guidelines to help UAS units comply with published policy and training guidance. Use of this checklist will improve safety and standardization of UAS flight procedures, operations, and maintenance, and enhance combat readiness. Checklists can be found at <http://www.uassd.army.mil/checklists.html>.

### **SECTION III ADMINISTRATIVE PROCEDURES**

#### **4-10. UAS CREWMEMBER SELECTION AND EVALUATION REQUIREMENTS**

##### **a. General Evaluation Requirements.**

(1) Before initial evaluations for evaluators or trainers are conducted, the orientation requirements in this regulation must be met.

(2) Unit SOP requirements for operator selection, qualification, and evaluation must be met.

(3) Individuals must demonstrate proficiency to an IO or SO in the airframe in which they are expected to train, evaluate, or both. IOs and SOs will be evaluated by an SO.

**b. Initial SO Evaluations.** UASSD will conduct or approve (in writing) initial SO evaluations.

**c. Initial IO Evaluations.** Any USAREUR SO may conduct initial IO evaluations.

##### **d. Annual Evaluations.**

(1) The UASSD will conduct or approve (in writing) annual SO evaluations.

(2) Any USAREUR SO may conduct annual evaluations for IOs.

(3) Any USAREUR IO or SO may conduct annual evaluations for AV operators.

(4) UASSD personnel will designate unit SOs to administer evaluations with UAS aircraft when the UASSD does not have an evaluator qualified or available to perform the evaluation.

**e. Performing Duties in Another Unit.** Any USAREUR crewmember in one unit may perform duties in another unit when both unit commanders agree. The approval of both commanders will be documented on mission briefing forms.

#### **4-11. REQUEST FOR SO EVALUATIONS**

a. Unit commanders will approve requests for UASSD flight evaluations. (Figure 4-3 provides the format for requesting SO evaluations.)

---

## LETTERHEAD

*Office Symbol*

*Date*

MEMORANDUM FOR UASSD (AEAGC-AV-SSD), CMR 416, Box D, APO AE 09140

SUBJECT: Standardization Operator Flight Evaluator/Standardization Operator Flight Evaluation

1. This is a request to administer a standardization operator evaluation for the following individual:
  - a. Name, grade, social security number, birth month, military occupational specialty, unit, APO number, branch, date eligible for return from overseas, and telephone number.
  - b. Type, model, and series of aircraft (for example, RQ-7).
  - c. Primary and alternate dates the evaluation is requested.
  - d. Total SO time in type, model, and series.
  - e. Enclosure 1 is documentation of SO qualification (for example, DA Form 759).
2. Enter the grade and name of the alternate evaluator or designee, the person authorizing the evaluation to be administered by other than UASSD, and the date authorization was obtained (for example, Designee: SFC G. Smith. UASSD authorization by SFC P. Jones on 20 Jul 06).
3. The commander has selected the following base, special, or additional tasks to be evaluated in addition to the base tasks identified with an X in the aircrew training manual:
  - a. Xxx.
  - b. Xxx

2 Encls

Commander's signature block

---

### Figure 4-3. Sample Request for Flight Evaluation

b. Unit SOs will—

(1) Send evaluation requests by fax or e-mail to the appropriate UASSD standardization officer at least 3 weeks before the desired mission date for initial evaluations, and 3 weeks before the beginning of the annual proficiency and readiness test (APART) period for annual evaluations. (Call the appropriate UASSD evaluator to coordinate the mission date before sending a request.)

(2) Provide IFRFs and IATFs for the evaluation.

c. After successful completion of the flight evaluation, send copies of the completed DA Form 7122-R, pages 1 and 2, to the UAS Evaluator, UAASD (AEAGC-AV-SSD), CMR 416, Box D, APO AE 09140.

## **CHAPTER 5 FLIGHT PROCEDURES AND RULES**

### **5-1. GENERAL**

This chapter provides specific flight rules and procedures for operating U.S. Army UASs in the USAREUR AOR. DOD FLIPs provide ICAO and foreign-government rules that apply to military users. Questions about ICAO or foreign-country procedural issues and additions, deletions, or corrections to DOD FLIPs must be submitted through the USAASD-E (para 1-12a(1)) according to appendix F.

### **5-2. FLIGHT PLANNING**

**a. Mission Briefing.** Only the most experienced current and qualified UAS operators may be designated briefers. Commissioned and warrant officers who are trained and familiar with aviation briefing procedures may also be designated as briefing officers.

**b. NOTAM.** NOTAMs are available, controlled, and managed according to AE Regulation 95-40.

#### **c. Flight Weather Planning.**

**(1) Flights Into Icing Conditions or Turbulence.** Flights into icing conditions or turbulence will not be approved unless the requirements of AR 95-23 and the operators manual are met.

**(2) VFR Weather Minimums.** AR 95-23 and local regulations (for example, published by the GTA) prescribe VFR weather minimums for flights in USAREUR restricted airspace.

### **5-3. VFR WEATHER MINIMUMS**

**a. Conducting USA Operations Under VFR.** All UAS operations will be conducted under VFR only during visual meteorological conditions (VMC). UAS units will adhere to the localized controlling-agency requirements and, as a minimum, stay clear of clouds. The weather must be forecasted to remain under VFR for the entire route of flight until 1 hour after the estimated time of arrival.

**b. Flight Weather Briefing.** Operators will obtain—

(1) A flight weather briefing for the entire route of flight. Flight weather briefings will be obtained from one of the following agencies (in the order shown):

(a) The USAFE weather forecaster at the airfield of departure.

(b) The host-nation forecaster at the airfield of departure.

(c) The USAFE Operational Weather Squadron.

**NOTE:** Unit operations personnel will obtain forecasts for an exercise area from one of the sources in (1) above and provide this forecast to unit UAS operators during field training exercises.

(2) Weather updates are required every 4 hours or between flights and may be relayed through the ATC or flight operations if necessary.

**c. VFR Flights in Local Areas.** In the event a UAS departs one restricted airspace training area en route to another training area (for example, the GTA to Hohenfels) through a designated corridor, the UAS operator will conform to the VFR rules for that classification of airspace (for example, class E airspace). VFR flights in local areas do not require a written DD Form 175-1, but must receive a local weather briefing before the flight.

#### **5-4. INADVERTENT IMC FLIGHT PROCEDURES (FOR EMERGENCY USE ONLY)**

a. ICAO host nations do not always recognize inadvertent IMC as a valid recovery procedure. Aircrews are strongly cautioned when flying in unforecasted poor weather to land before committing to unplanned inadvertent IMC. This does not preclude operators from executing an inadvertent IMC recovery if the situation requires.

b. AVs that are unable to land will comply with the inadvertent IMC recovery procedure specified in the appropriate ATM and host-nation procedures specified in the local regulation (for example, the GTA SOP).

#### **5-5. OPERATING TIMES IN GERMANY**

Operating times for day and night operations will be according to guidance published in local training area regulations (for example, the GTA SOP) and DOD FLIP AP/2.

### **CHAPTER 6 MAINTENANCE PROCEDURES**

#### **6-1. MAINTENANCE TRAINING**

Individuals identified at UAS organizations to perform duties as technical inspectors will become familiar with the appropriate publications governing aviation maintenance, AR 95-1, DA Pamphlet 738-751, FM 3-04.500, and the Technical Manual 1-1500-204-23 series. Emphasis will be placed on the following areas as a minimum:

- a. Contracting officer's representative and quality-assurance representative as required.
- b. Designated representatives.
- c. Historical records.
- d. Maintenance Standard Army Management Information Systems (STAMIS) processes.
- e. Quality-control office management.
- f. Quality deficiency reports.
- g. Shop safety inspections.
- h. Technical inspector stamps procedures and management.
- i. Weight and balance.

#### **6-2. MAINTENANCE MESSAGES**

All messages will comply with AR 95-1 and AR 95-23.

## **APPENDIX A REFERENCES**

### **SECTION I PUBLICATIONS**

NATO Status of Forces Agreement and Supplementary Agreement

Code of Federal Regulations, Title 14, part 91.111, Operating Near Other Aircraft

Code of Federal Regulations, Title 14, part 91.113, Right-of-Way Rules: Except Water Operations

Federal Aviation Regulation

[http://www.airweb.faa.gov/Regulatory\\_and\\_Guidance\\_Library/rgFAR.nsf](http://www.airweb.faa.gov/Regulatory_and_Guidance_Library/rgFAR.nsf)

DOD Foreign Clearance Manual

<https://www.fcg.pentagon.mil/>

AR 25-400-2, The Army Records Information Management System (ARIMS)

AR 95-1, Flight Regulations

AR 95-2, Airspace, Airfields/Heliports, Flight Activities, Air Traffic Control, and Navigational Aids

AR 95-23, Unmanned Aircraft System Flight Regulations

AR 115-10, Weather Support for the U.S. Army

AR 385-10, Army Safety Program

DA Pamphlet 385-40, Army Accident Investigation and Reporting

DA Pamphlet 385-90, Army Aviation Accident Prevention Program

DA Pamphlet 738-751, Functional Users Manual for The Army Maintenance Management System—Aviation (TAMMS-A)

FM 3-04.300, Airfield and Flight Operations Procedures

FM 3-04.303, Air Traffic Services Facility Operations, Training, Maintenance, and Standardization

FM 3-04.500, Army Aviation Maintenance

FM 10-67-1, Concepts and Equipment of Petroleum Operations

Technical Manual 1-1500-204-23 series, Aviation Unit Maintenance (AVUM) and Aviation Intermediate Maintenance (AVIM) Manual for General Aircraft Maintenance

Training Circular (TC) 1-400, Brigade Aviation Element Handbook

TC 1-600, Unmanned Aircraft Systems Commander's Guide and Aircrew Training Guide

TC 1-611, Small Unmanned Aircraft System Aircrew Training Manual



AE Regulation 10-5, Headquarters, United States Army Europe

AE Regulation 95-1, General Provisions and Flight Regulations for Army Aviation

AE Regulation 95-40, U.S. Army Flight Services Procedures, Europe

AE Regulation 350-1, Training in the Army in Europe

AE Regulation 385-40, Accident Reporting and Records

DOD Flight Information Publication (FLIP) AP/2, Area Planning, Europe-Africa-Middle East

DOD FLIP AP/2A, Special Use Airspace, Europe-Africa-Middle East

DOD FLIP AP/4, Area Planning, Eastern Europe and Asia

DOD FLIP AP/4A, Special Use Airspace, Eastern Europe and Asia

Unified Facilities Criteria (UFC) 3-260-01, Airfield and Heliport Planning and Design

[http://www.wbdg.org/ccb/DOD/UFC/ufc\\_3\\_260\\_01.pdf](http://www.wbdg.org/ccb/DOD/UFC/ufc_3_260_01.pdf)

UFC 3-600-01, Fire Protection Engineering for Facilities

[http://www.wbdg.org/ccb/DOD/UFC/ufc\\_3\\_600\\_01.pdf](http://www.wbdg.org/ccb/DOD/UFC/ufc_3_600_01.pdf)

Aviation Procedures Guide

<https://trms.7atc.army.mil/trms5/default.aspx> (under *Library*)

Joint Operations Order 7110.65, Air Traffic Control

<http://www.faa.gov/documentLibrary/media/Order/ATC.pdf>

Military Aeronautical Information Publication Germany ENR 1.14-5 and 1.14-6

[http://www.mil-aip.de/pams/aip/enr/ET\\_ENR\\_1\\_14\\_en.pdf](http://www.mil-aip.de/pams/aip/enr/ET_ENR_1_14_en.pdf)

## **SECTION II FORMS**

DD Form 175-1, Flight Weather Briefing

DD Form 1902, Certificate of Qualification

DA Form 759, Individual Flight Record and Flight Certificate—Army

DA Form 2028, Recommended Changes to Publications and Blank Forms

DA Form 3513, Individual Flight Records Folder, United States Army

DA Form 7122-R, Crew Member Training Record

DA Form 7305, Worksheet for Telephonic Notification of Aviation Accident/Incident

DA Form 7525, UAS Mission Schedule/Brief

## **APPENDIX B FORMAT FOR LOCAL FLYING RULES**

Figure B-1 provides the format for local flying rules.

---

### **1. GENERAL**

- a. References.
- b. Purpose.
- c. Applicability.

### **2. LOCAL FLYING RULES**

- a. Military and host-nation flight regulations.
  - b. German Coastal and Baltic areas, identification zone, and deconfliction line procedures.
  - c. Control zones.
  - d. Air traffic control.
  - e. Flight following.
  - f. Traffic patterns.
  - g. Flight planning.
  - h. Notice to airmen.
  - i. Weather minimums.
  - j. Airspace duty officer.
  - k. Lost-link procedures.
  - l. Ground handling safety.
  - m. Engine start and shutdown procedures.
  - n. Crosswind operations and limitations.
  - o. Test-flight procedures.
- 

**Figure B-1. Format for Local Flying Rules**

- 
- p. Operating hours.
  - q. Noise abatement.
  - r. Search-and-recover procedures.
  - s. Violations.
  - t. Inadvertent instrument meteorological conditions recovery procedures.

### **3. LOCAL FLYING AREA**

- a. Description.
- b. Danger and restricted areas.
- c. Tactical and terrain-flight areas.
- d. Test-flight areas.
- e. Emergency-procedure training areas.

### **4. MISCELLANEOUS**

### **5. APPENDIXES**

- a. Pre-accident plan.
  - b. Severe-weather plan.
  - c. Designated landing sites.
  - d. Airfield night vision goggle operations, as applicable.
- 

**Figure B-1. Format for Local Flying Rules —Continued**

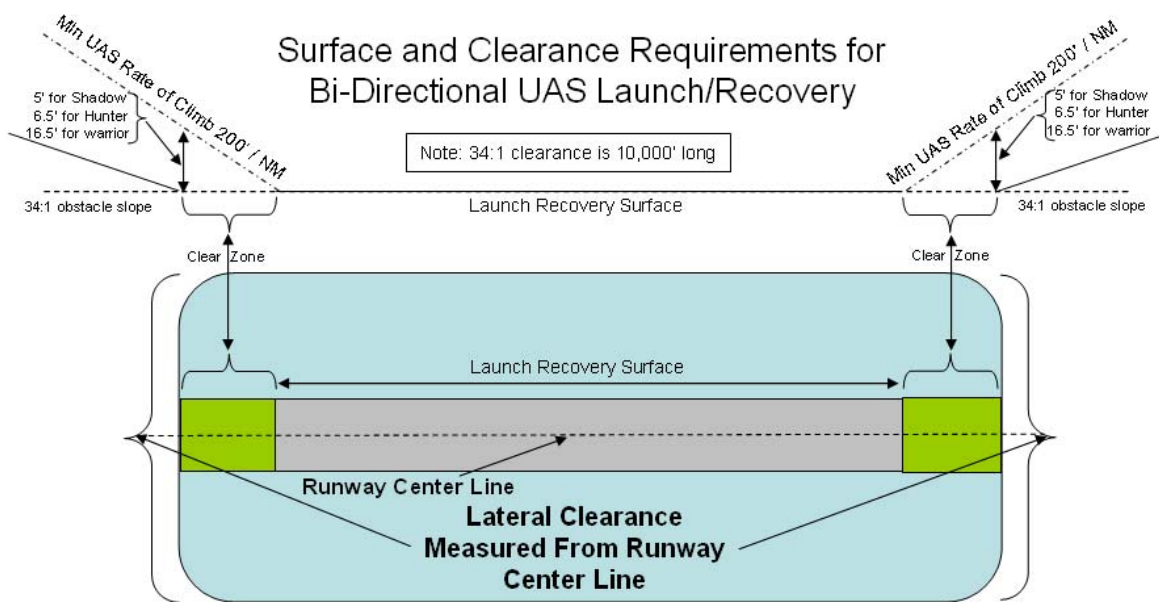
**APPENDIX C**  
**MINIMUM UAS SURFACE AND CLEARANCE REQUIREMENTS**

The chart below and figure C-1 provide the minimum unmanned aircraft system (UAS) surface and clearance requirements for USAREUR. These requirements will be met unless otherwise specified in applicable technical manuals or waived by the USAREUR G3 Aviation Operations Support Branch.

UAS	Landing/Takeoff Surface (feet)	Lateral Clearance (feet)	Clear Zone (feet) No obstacles of any kind above the surface
Shadow	800 x 50	150 from landing/takeoff centerline	150
Hunter	3,200 x 50*	300 from landing/takeoff centerline	200
Warrior	5,000 x 100	500 from landing/takeoff centerline	500

\*3,200 feet from touchdown point.

**NOTES:** 1. No construction will take place within the clear zones without a waiver approval by the USAREUR G3 Aviation Operations Support Branch.  
 2: Waivers for landing/takeoff surface, lateral clearance, and clear-zone requirements will be submitted to the USAREUR G3 Aviation Operations Support Branch (for locations where tree-clearance and environmental concerns prevent following the guidelines set forth).

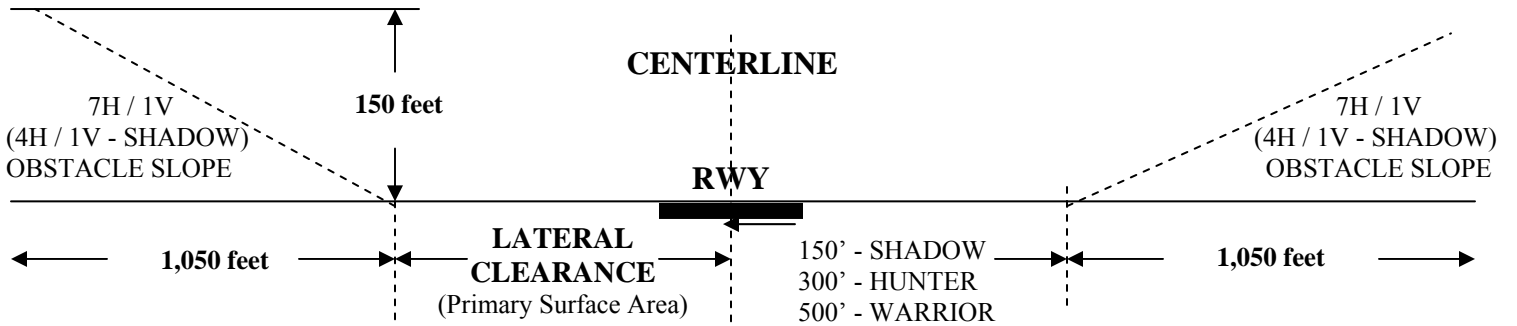


Note: Minimum distances may be reduced if conducting Uni-Directional operations. i.e. the Clear Zone & Obstacle Slope distances may be reduced to zero on the opposite End of the runway from Launch/Recovery when conducting Uni-Directional operations.

**Figure C-1. Surface and Clearance Requirements for Bi-Directional UAS Launch and Recovery**

---

**UAS WILL MAINTAIN A MINIMUM OF 300' CLEARANCE ABOVE OBSTACLES  
DURING FLIGHT OPERATIONS**



**NOTE:** Without a waiver, no obstacle may exceed runway elevation within the lateral clearance (primary surface area) or runway-end clear zone, or penetrate imaginary 7/1 (4/1 Shadow) or 34/1 obstacle slope surfaces.

---

**Figure C-1. Surface and Clearance Requirements for Bi-Directional UAS Launch and Recovery—Continued**

## **APPENDIX D UNIT CERTIFICATION REQUIREMENTS**

### **GATE 1: SAFE TO CONDUCT FLIGHT OPERATIONS**

1. The unit will—

a. Conduct an internal aviation resource management survey (ARMS) using ARMS unmanned aircraft system (UAS) checklists of the United States Army Europe Aviation Safety and Standardization Detachment (UASSD). All deficiencies will be annotated in an electronic unit hazard-abatement log (HazLog).

b. Complete an internal review of unit standing operating procedures (SOPs).

c. Conduct an academic review of the following areas:

- (1) Aerodynamics.
- (2) Aeromedical factors.
- (3) Aircraft publications, forms, and records.
- (4) Aircrew coordination training.
- (5) Appropriate range-control requirements and procedures.
- (6) AR 95-1 and AE Regulation 95-1 requirements.
- (7) AR 95-23 and AE Regulation 95-23 requirements.
- (8) ATP requirements.
- (9) Composite risk management.
- (10) Fratricide prevention.
- (11) Local area orientation (LAO) academics.
- (12) Mission briefing and risk-approval authority procedures.
- (13) Newcomer's safety orientation and briefing.
- (14) Night mission operations and deployment considerations.
- (15) Night vision, visual illusions, and spatial disorientation.
- (16) Operating limits and restrictions.
- (17) Oral evaluations (group level).

(18) Safety directives and messages from the Vice Chief of Staff of the Army (VCSA) and USAREUR.

(19) UAS base, mission, and special tasks.

(20) UAS checklist warnings, cautions, and notes.

(21) UAS maintenance procedures and tasks.

(22) UAS tactical and special mission tasks.

(23) UAS unit SOP requirements.

(24) Weather requirements.

(25) Weight and balance requirements.

d. Review the unit SOP to ensure it addresses all applicable requirements of AR 385-10 and DA Pamphlet 385-90.

e. Conduct and document a pre-accident plan (PAP) rehearsal and crash drill according to a published PAP, the unit PAP, or both using all primary crash alarm system (PCAS) assets and review all secondary crash alarm system (SCAS) actions in the event of a mishap.

f. Complete one daytime mission rehearsal from the pre-mission planning phase up to but not including engine-start procedures. Conduct a detailed after-action review.

2. The first lieutenant colonel in the UAS chain of command will designate (in writing) instructor operators (IOs), standardization operators (SOs), unit trainers (UTs), and Raven master trainers.

3. The battalion commander will designate (in writing) the mission-approval authorities, mission briefing officers, and risk-approval authorities according to VCSA safety directives and guidance and USAREUR messages.

4. IOs and SOs will complete day and night system LAOs and proficiency flight evaluations in the simulator. Evaluate all 1000- and 2000-series tasks according to the applicable aircrew training manual (ATM). The chain of command will approve progressions in appropriate readiness level (RL) status on all applicable individual aircrew training folders (IATFs).

5. Standardization personnel will review IATFs to ensure all operators are correctly integrated into the ATP and have received and documented all requirements for the applicable RL levels according to the applicable ATM.

6. The ground crewmember UT and unit IO and SO will conduct and document all required day and night training requirements for a minimum of three ground crewmembers.

7. Approval is required by the first colonel in the UAS unit chain of command before the unit conducts its first flight.

## **GATE 2: DEVELOPMENT OF PROFICIENCY IN UAS OPERATIONS**

1. IOs, SOs, and the designated flight records clerk will rescreen IATF records of “first-flight” operators to ensure all are at RL 1.
2. The first day of flight will include an RL 1 SO as a crewmember and trained ground crewmembers. The SO and ground crewmembers will be the most experienced and fully trained. The IO and SO will evaluate all operators and ground crewmembers in all 1000- and 2000-series tasks during this and subsequent flights.
3. The UAS commander will conduct night-operations training when all operators demonstrate proficiency during daytime operations. The unit will conduct at least two “dry runs,” including engine start, before the first night flight.
4. The unit will conduct additional RL progression training. All subsequent UAS operators and ground crewmembers will complete applicable iterations and training in the same sequence as “first-flight” operators.
5. IOs and SOs will train individuals on all 3000-series tasks and on intelligence-gathering and reporting requirements.
6. Final UAS certification should conclude with a platoon- or company-level exercise in direct support of a maneuver unit when possible.
7. The first colonel in the chain of command will provide a unit-certification completion memorandum to the USAREUR G3 (AEAGC-AV) and the UASSD UAS Division.

### **NOTES:**

1. Units will use external subject-matter experts during the training and assessment of flight-related tasks. This assistance and assessment team may come from the brigade aviation element or UASSD.
2. Certifying officers (first colonel in UAS unit chain of command) will ensure the appropriate level of leadership is decisively involved throughout the certification process.
3. Most experienced current operators will be used during the certification when available.
4. Units with small UASs (for example, Raven) will develop a tailored certification requirement encompassing applicable steps from Gates 1 and 2.



## **APPENDIX E**

### **UAS UNIT EVALUATIONS**

#### **E-1. APPLICABILITY**

This appendix applies to aviation resource management surveys (ARMSs) conducted by the United States Army Europe Aviation Safety and Standardization Detachment (UASSD).

#### **E-2. POLICY**

a. The UASSD will schedule and conduct an ARMS for each USAREUR unmanned aircraft system (UAS) unit. USAREUR's goal is to schedule and conduct an ARMS for every UAS unit on an 18- to 24-month cycle.

b. On request, the UASSD will conduct staff assistance visits in coordination with units that have aviation assets. Unit assistance visits may be scheduled directly through the UASSD when the visits are not in the period before a unit's scheduled ARMS. Aviation assistance teams will—

(1) Respond directly to units requesting assistance.

(2) Give the results of assistance evaluations to the unit or higher level commander or as specifically requested.

#### **E-3. EVALUATION AREAS**

a. The UASSD checklist provides guidelines to help UAS units meet policy and training guidance to improve standardized aviation procedures and operations, and enhance combat readiness.

b. The primary areas of interest to be evaluated during an ARMS include the following:

(1) Airfield operations.

(2) Aviation maintenance.

(3) Aviation safety.

(4) Flight operations.

(5) Petroleum, oils, and lubricants (POL) operations.

(6) Standardization and aircrew training program (ATP).

c. The ARMS will also assess whether or not the following comply with flight standards and proficiency:

(1) Instructor operators (IOs).

(2) Operators.

(3) Raven master trainers (MTs).

(4) Standardization operators (SOs).

(5) Unit trainers (UTs).

#### **E-4. NOTIFICATION OF ARMS**

a. The UASSD will notify UAS units of projected ARMS dates in writing. Commanders will—

(1) Provide the UASSD written confirmation of ARMS dates or contact the Operations Division, UASSD (DSN 467-4325), as soon as possible if conflicts in the unit's schedule require a change.

(2) Not schedule any training event during an ARMS that prevents the inspected unit from participating exclusively in the scheduled ARMS.

b. UAS units being evaluated by the UASSD will send the following to the UASSD, CMR 416, Box D, APO AE 09140:

(1) Mission statement that relates specifically to the mission-essential task list of the unit and each assigned subordinate element.

(2) Number of individual flight records by company, platoon, or detachment that the unit is required to maintain.

(3) Number of IOs, SOs, UTs, or MTs assigned by platoon, company, troop, or detachment.

(4) Number and type of aircraft assigned by platoon, company, troop, or detachment.

(5) A statement indicating whether or not the unit is responsible for airfield operations or advisory service.

(6) The type and number of refueling systems by platoon, company, troop, or detachment.

#### **E-5. CONDUCTING EVALUATIONS**

a. Selected UASSD evaluators may arrive before the rest of the team to begin standardization evaluations or technical inspections, if required. Evaluations (including synthetic flight training systems) may be conducted within 30 days before a scheduled visit and will apply to the ARMS.

b. Half of all UAS personnel and assigned operators, by type of air vehicle, must be available for announced ARMSs. When this is not possible, the ARMS team will note the unit's inability to meet this requirement and make arrangements to complete the standardization evaluation later.

c. The following personnel or their representatives will be available for an ARMS:

(1) Unit commander.

(2) UAS operations technician and noncommissioned officer in charge (NCOIC).

(3) Training officer and NCOIC.

- (4) SO.
- (5) Unit IO and UT.
- (6) Aviation maintenance officer, NCOIC, or both.
- (7) POL NCOIC.
- (8) Aviation safety officer, NCOIC, or both.

d. A goal of the ARMS is for at least 70 percent of crewmembers with readiness level 1 to receive oral, written, or flight evaluations.

e. Operator testing will be mission-related and conducted according to applicable aircrew training manuals. Operators will be given oral, written, or flight evaluations on the following items:

- (1) Aircraft operating limitations.
- (2) Aviation regulations, DOD flight information publications (FLIPs), and unit standing operating procedures.
- (3) Emergency procedures.
- (4) Knowledge of aviation skills.
- (5) Mapreading.
- (6) Safety.
- (7) Unit command directives.
- (8) Unit-selected or -designated operating systems.

f. Other areas that may be evaluated include the following:

- (1) Noise abatement.
- (2) Skill qualification tasks.

g. Adequate aircraft must be available for flight evaluations.

h. The ARMS team chief will—

- (1) Debrief the senior unit commander or representative.
- (2) Coordinate an outbriefing time with the unit commander.
- (3) Provide a consolidated packet of ARMS comment worksheets to each evaluated unit commander during the outbriefing.

## **E-6. ARMS EVALUATION RATINGS**

- a. Areas of primary and special interest are color-coded green, amber, and red to indicate which areas require the commander's attention. Overall unit ratings, however, will not be given.
- b. Unit commanders will use the findings of the ARMS to assess overall unit readiness and to help determine training requirements.
- c. The USAREUR G3 (AEAGC-AV) will direct unit reevaluations.

## **E-7. ARMS REPORTS**

- a. The USAREUR G3 (AEAGC-AV) will send a memorandum reporting the results of the ARMS to the commander of the evaluated unit.
- b. On receipt of the memorandum, the commander of the evaluated unit will—
  - (1) Take immediate action to correct deficiencies.
  - (2) Identify deficiencies outside the commander's control.
  - (3) Send a response to the memorandum to the USAREUR G3 (AEAGC-AV) and UASSD within 60 days after the date the memorandum is sent. The response must describe which actions were taken to correct deficiencies and identify deficiencies outside the commander's control.

## **APPENDIX F**

### **UNITED STATES ARMY AERONAUTICAL SERVICES DETACHMENT, EUROPE, AREA OF RESPONSIBILITY**

#### **F-1. PURPOSE**

This appendix—

a. Provides guidance on the United States Army Aeronautical Services Detachment, Europe (USAASD-E), mission within its area of responsibility (AOR). The USAASD-E AOR includes Afghanistan, Africa, Europe, and the Middle East.

b. Explains responsibilities for matters requiring coordination with the USAASD-E.

#### **F-2. MISSION**

As a forward-deployed detachment of the United States Army Aeronautical Services Agency (USAASA) (AR 95-2), the USAASD-E—

a. Is the HQDA regional representative throughout the USAASD-E AOR.

b. Is the HQDA agent for U.S. Army flight procedure policy in the USAASD-E AOR. In this capacity, the USAASD-E is authorized direct contact with other DA elements, Army commands and installations, other military departments, and other Government, civil, and international agencies.

c. Has tasking and monitoring authority from the Federal Aviation Administration and host nations in the USAASD-E AOR for negotiating and processing airspace requirements and matters pertaining to visual and instrument flight procedures.

d. Is the U.S. Army POC for acquiring, distributing, and updating aeronautical information products in the USAASD-E AOR.

e. Is the designating authority for control-tower-operator certification.

f. Is the HQDA-designated authority for establishing noise-abatement and fly-neighborly programs.

g. Is the HQDA monitor for “notice to airmen” and aviation weather support to U.S. Army aviation elements throughout the USAASD-E AOR.

#### **F-3. SPECIAL USE AIRSPACE**

a. The USAASD-E is the POC for establishing special-use airspace. Activities requiring airspace that may be hazardous to nonparticipants require coordination with host-nation agencies. (This does not include airspace controlled by the U.S. Army (for example, U.S. Army control zones, U.S. Army restricted areas).) Requests for assistance should be sent through the USAREUR G3 (AEAGC-AV), Unit 29351, APO AE 09014-9351, to the USAASD-E (ATAS-AD), Unit 29243, APO AE 09102-9243.

b. The USAASD-E will provide the necessary coordination channels to develop and publish standard instrument arrival, approach, and departure procedures for U.S. Army, host-nation, or other military aviation facilities. This includes fixed-base requirements support of field training exercises and operational deployments in the USAASD-E AOR.

#### **F-4. AERONAUTICAL INFORMATION PUBLICATIONS**

Aeronautical information publications include DOD flight information publications (FLIPs). The USAASD-E is the DOD FLIP account manager for U.S. Army units in the USAASD-E AOR. Requests for FLIP support will be sent to the USAASD-E (ATAS-AD), Unit 29243, APO AE 09102-9243. The USAASD-E will forward these requests to the appropriate agencies.

a. Requests for Defense Logistics Agency support from the continental United States are normally filled in 56 days. The Defense Logistics Agency - Europe has a limited stock of FLIP products. These requests (normally emergency-issue only) can be filled in 14 days or less when the product is in stock. Based on these lead times, commanders should identify FLIP requirements at the earliest possible stage of an operation.

b. The USAASD-E does not stock maps. To request map support, units should—

(1) Call DSN 373-6426/8079 or civilian 06221-17-6426/8079, or send a request by e-mail to [usaasde@eur.army.mil](mailto:usaasde@eur.army.mil).

(2) Send requests by fax to DSN 373-8957 or civilian 06221-17-8957.

#### **F-5. AIRFIELD ENGINEERING SURVEYS**

The USAASD-E will—

a. Process waivers for airfield construction requirements (AR 95-2, para 6-4f). Commanders will send requests for waivers through the USAREUR G3 (AEAGC-AV), Unit 29351, APO AE 09014-9351, to the USAASD-E, Unit 29243, APO AE 09102-9243.

b. Coordinate obstacle evaluations and their effect on UAS operations at U.S. Army airfields and heliports.

## GLOSSARY

### SECTION I ABBREVIATIONS

AFOD	Army Flight Operations Detachment
AOR	area of responsibility
APART	annual proficiency and readiness test
APG	Aviation Procedures Guidance
APO	Army post office
AR	Army regulation
ARMS	aviation resource management survey
ATC	air traffic control
ATM	aircrew training manual
ATP	aircrew training program
AV	air vehicle
BAE	brigade aviation element
CFR	Code of Federal Regulations
CG, USAREUR	Commanding General, United States Army Europe
COA	certificate of authorization
DA	Department of the Army
DOD	Department of Defense
EXEVAL	external evaluation
FAA	Federal Aviation Administration
FLIP	flight information publication
FM	field manual
G3	Deputy Chief of Staff, G3, United States Army Europe
GTA	Grafenwöhr Training Area
HazLog	hazard-abatement log
HQ USAREUR	Headquarters, United States Army Europe
HQDA	Headquarters, Department of the Army
IATF	individual aircrew training folder
ICAO	International Civil Aviation Organization
IFRF	individual flight records folder
IMC	instrument meteorological conditions
IO	instructor operator
JMRC	United States Army Joint Multinational Readiness Center
LAO	local area orientation
LOA	letter of agreement
MEZ	<i>Mitteleuropäischer Zeit</i>
MESZ	<i>Mitteleuropäische Sommerzeit</i>
MOS	military occupational specialty
MT	master trainer
MTOE	modification table of organization and equipment
NCOIC	noncommissioned officer in charge
NOTAM	notice to airmen
PAP	pre-accident plan
PCAS	primary crash alarm system
POC	point of contact

POL	petroleum, oils, and lubricants
RL	readiness level
SCAS	secondary crash alarm system
SO	standardization operator
SOP	standing operating procedure
STAMIS	Standard Army Management Information System
TC	training circular
UASSD	United States Army Europe Aviation Safety and Standardization Detachment
UAS	unmanned aircraft system
UFC	Unified Facilities Criteria
U.S.	United States
USAASA	United States Army Aeronautical Services Agency
USAASD-E	United States Army Aeronautical Services Detachment, Europe
USAFE	United States Air Forces in Europe
USAREUR	United States Army Europe
USEUCOM	United States European Command
UT	unit trainer
UTC	Universal Time Coordinated
VCSA	Vice Chief of Staff of the Army
VFR	visual flight rules

## **SECTION II**

### **TERMS**

#### **aerial demonstration**

The use or display of Army aircraft and personnel in any aerial event (for example, aircraft demonstration, flyover, parachute demonstration, static display).

#### **aircraft demonstration**

An aerial activity designed to demonstrate performance techniques by one or several aircraft and personnel.

#### **flyover**

A straight and level flight of by not more than four military aircraft from a single military service over a predetermined point on the ground at a specified time and not involving aerobatics or demonstrations.

#### **geographic area of responsibility**

The geographic area associated with a command within which a commander has authority to plan and conduct operations.

#### **interoperability**

Operations that include but are not limited to joint military training exercises; airmobile, air assault, and airborne training; or liaison duties.

#### **parachute demonstration**

A demonstration of free-fall or static-line parachuting techniques.

#### **senior mission commander**

Senior aviation commander of an airfield, heliport, or helipad.



**senior officials**

General or flag officers, members of the Senior Executive Service, or equivalent, and higher-level employees.

**static display**

The ground display of aircraft and related equipment that does not involve flying, taxiing, or starting the engine.