

TERMS & DEFINITIONS

APPLICABLE TO

UNMANNED AERIAL VEHICLES (UAV) SYSTEMS



Edition V

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INCLUDES DEFINITIONS ELABORATED BY OR ORIGINATING FROM:

- CASA, AUSTRALIA - Advisory Circular 101-1(0)
- MOD, UK - DEF STAN 00-970/1 PART 9
- FAA, USA - Doc. No. 1150, 27 FR4588, May 15, 1962
- IABG, GERMANY
- JAR21-ESG1
- SWEDISH MILITARY FLIGHT SAFETY INSPECT.
- UAVS, UK
- US ARMY
- DO-289 – Minimum Aviation System Performance Standards for Aircraft Surveillance Applications (ASA)
- DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications
- FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005
- Access 5 HALE ROA Concept of Operations, Version 2, March 2005
- AIAA, USA DRAFT Terminology for Unmanned for Unmanned Aerial Vehicles and Remotely Operated Aircraft, 2003
- ICAO Doc 9650
- CAA, UK
- EURO UVS
- FAA, USA - AC 23.1309-1C
- JOINT JAA/EUROCONTROL UAV TASK FORCE FINAL REPORT
- NATO
- WTD 61, GERMANY - LTG 1550-001
- UK Defence Aviation Safety Board
- UVS INTERNATIONAL
- CAA-D/FLYING, UK
- FAA, USA - ORDER 76104
- ICAO ANNEX 8
- NAVDROC STUDY
- UAV DACH (A, CH, D, NL)
- UK MOD - Joint Service Publi. 553
- RTCA SC 203 Original Def.

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TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Acceptance flight

[US Army]

A flight made to accept a contractor-produced aircraft, or one on which a contractor or Army depot has performed maintenance or contract modification before return to the operational inventory. It can also be a flight made by the receiving unit upon transfer of aircraft between components and/or units.

Active air defense mission

[FAA Order 76104]

One or more aircraft, which in the interest of national security or flight safety, are employed for the purpose of recognition and determination of the intentions of an airborne object.

Active guard and reserve (AGR)

Guard members and Reservists on full-time active duty for periods of 180 days or more to provide full-time support to the Reserve Components.

Administrator

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Federal Aviation Administrator or any person to whom he has delegated his authority in the matter concerned.

Advisory circular (AC)

Advisory Circular (ACs) are advisory only. ACs provide recommendations and guidance to illustrate a method, or several methods, not necessarily being the only method by which legislative requirements may be met. They also provide a means of illustrating the meaning of certain requirements by offering interpretative and explanatory guidance. ACs should always be read in conjunction with the referenced regulations.

Advisory circular-Joint

ACJs are paragraphs of the section 2 – Acceptable Means of Compliance and Interpretations. Each of them is applicable to a JAR paragraph.

Aerobatic flight

[US Army]

Intentional maneuvers involving an abrupt change in an aircraft's altitude, and abnormal attitude, or abnormal acceleration not needed for normal flight.

Aerodynamic coefficients

[FAA, Doc.No. 1150, 27 FR 4588, May 15, 1962]

Non-dimensional coefficients for aerodynamic forces and moments.

Aerodyne (aircraft, heavier than air)

[Swedish Military Flight Safety Inspectorate]

Any aircraft deriving its lift in flight chiefly from aerodynamic forces.

Aeronautical information manual

[US Army]

A manual that provides the aviation community with basic flight information and ATC procedures for use in the National Airspace System (NAS) of the United States. It also contains items of interest to pilots and aircrew members concerning health and medical facts, factors affecting flight safety, a pilot/controller glossary of terms used in the Air Traffic Control System, and information on safety, accident, and hazard reporting.

Aeronautical product

[Swedish Military Flight Safety Inspectorate]

Any materiel system, sub-system, manned or unmanned aircraft, other product, parts and appliances, software product, basic data, mission data, ground materiel or consumable and expendable product that may have an influence on the level of flight safety. (RML-G1.9).

Aeroplane

[ICAO Annex 8]

A power-driven heavier-than-air aircraft, deriving its lift in flight chiefly from aerodynamic reactions on surfaces which remain fixed under given conditions of flight.

Aerostat

[Swedish Military Flight Safety Inspectorate]

Any aircraft supported chiefly by its buoyancy in the air. This category includes airships, free balloons as well as captive, moored or tethered balloons.

Air carrier

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A person who undertakes directly by lease, or other arrangement, to engage in air transportation.

Air combat maneuvers (ACM)

[FAA Order 76104]

One or a combination of basic ACT flight maneuvers calculated to provide an offensive tactical advantage over another aircraft.

Air combat tactics (ACT)

[FAA Order 76104]

Flight involving basic flight maneuvers, air combat maneuvers, or defensive combat maneuvers, singly or in combination.

Air commerce

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Interstate, overseas, or foreign air commerce or the transportation of mail by aircraft or any operation or navigation of aircraft within the limits of any Federal airway or any operation or navigation of aircraft which directly affects, or which may endanger safety in, interstate, overseas, or foreign air commerce.

Air data terminal

[NATO]

The data link element consists of the air data terminal in the air vehicle and the ground data terminal (GDT) on the ground. Connectivity between the GDT and ADT is prerequisite for Level 2+ interoperability.

Air Defense Control Facility (ADCF)

[FAA Order 76104]

A military radar unit (ROCC/SOCC/AWACS) primarily used for air defense, including air-sovereignty and counter-drug operations. ADCF's are the only MRU's authorized to direct interceptors.

NOTE: Specifically designated military units, when identified, may provide augmentation for NORAD and function as ADCF's.

Air defense emergency

[FAA Order 76104]

A military emergency condition declared by a designated authority. This condition exists when an attack upon the continental United States, Alaska, Canada, or U.S. installations in Greenland by hostile aircraft or missiles is considered probable, is imminent, or is taking place. (Refer to the AIM).

Air Defense Identification Zone (ADIZ)

[FAA Order 76104]

The area of airspace over land or water, extending upward from the surface, within which the ready identification, the location, and the control of aircraft are required in the interest of national security.

- Domestic Air Defense Identification Zone. An ADIZ within the United States along an international boundary of the United States.
- Coastal Air Defense Identification Zone. An ADIZ over the coastal waters of the United States.
- Distant Early Warning Identification Zone (DEWIZ). An ADIZ over the coastal waters of the State of Alaska. ADIZ locations and operating and flight plan requirements for civil aircraft operations are specified in CFR 14 part 99. (Refer to the AIM.)

Air Navigation System

[DO-264 - Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

The aggregate of organizations, people, infrastructure, equipment, procedures, rules and information used to provide to airspace users air navigation services in order to ensure the safety, regularity and efficiency of air navigation.

Air publication (AP)

[DefStan 00-970/1-Part 9]

Where used in this Defence Standard, the term AP refers to documentation provided to support an aircraft (see definition of aircraft). Various numbered topics within the AP contain descriptive or procedural information. APs are amended to match the aircraft design standard as this is changed throughout the aircraft life by modifications and upgrades.

Air reconnaissance

[NATO]

The collection of information of intelligence interest either by visual observation from the air or through the use of airborne sensors.

Air refuelling control point (ARCP)

[FAA Order 76104]

The geographical point over which the receiver arrives in the observation/refuelling position with respect to the assigned tanker.

Air refuelling initial point (ARIP)

[FAA Order 76104]

The geographical point at which the receiver aircraft enters the refuelling track/anchor, initiates radio contact with the tanker, and begins

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

maneuver to rendezvous.

Air route traffic control center (ARTCC)

[FAA Order 76104]

A facility established to provide air traffic control service to aircraft operating on IFR flight plans within controlled airspace and principally during the en route phase of flight. When equipment capabilities and work load permit, certain advisory/assistance services may be provided to VFR aircraft.

Air sovereignty test (AST)

[FAA Order 76104]

An aircraft on a NOPAR flight plan or ALTRV that is designed to test the detection, identification, and reporting functions of the air defense forces (ADCF and interceptor/fighter units).

Air surveillance

[NATO]

The systematic observation of air space by electronic, visual or other means, primarily for the purpose of identifying and determining the movements of aircraft and missiles, friendly and enemy, in the air space under observation.

Air traffic

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

Air traffic clearance

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An authorization by air traffic control, for the purpose of preventing collision between known aircraft, for an aircraft to proceed under specified traffic conditions within controlled airspace.

Air traffic control (ATC)

[FAA Order 76104]

A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Air traffic control [FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

Air traffic control

[NATO]

A service provided for the purposes of:

- a) preventing collisions between aircraft and in the maneuvering area between aircraft and obstructions; and
- b) expediting and maintaining an orderly flow of air traffic.

Air traffic control service (Control)

[FAA Order 76104]

(See Air Traffic Control.)

Air traffic incidence report

Report on incidents that adversely affect the FAA air traffic service facilities in providing safe, orderly, and expeditious movements of air traffic. AT1 report is usually prepared by FAA on FAA Form 8020-11.

Air Traffic Management

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

The aggregation of functions, comprising variously those of air traffic services, airspace management, air traffic flow management including their interacting aircraft functional capabilities, required to ensure the safe and efficient movement of aircraft during all phases of operations.

Air Traffic Services

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

A generic term meaning variously, flight information service, alerting service, air traffic advisory service, air traffic control service (area control service, approach control service or aerodrome control service) and air traffic management.

Air transportation

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Interstate, overseas, or foreign air transportation or the transportation of mail by aircraft.

Airborne order

[FAA Order 76104]

A command and authorization for flight to become airborne with takeoff at a specified time.

Airborne radar unit (ARU)

[FAA Order 76104]

An airborne radar unit used as an extension of a military radar unit during planned exercises and daily training missions.

Airborne warning and control system (AWACS)

[FAA Order 76104]

An airborne military radar unit engaged in radar surveillance and/or control of aircraft for the purpose of training, exercise, air defense, and counter-drug operations.

Aircraft

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A device that is used or intended to be used for flight in the air.

Aircraft

[ICAO Annex 8]

Any machine that can derive support in the atmosphere from the reactions of the air other than the reactions of the air against the earth's surface.

Aircraft, heavier than air (aerodyne)

[Swedish Military Flight Safety Inspectorate]

Any aircraft deriving its lift in flight chiefly from aerodynamic forces.

Aircraft, lighter than air (aerostat)

[Swedish Military Flight Safety Inspectorate]

Any aircraft supported chiefly by its buoyancy in the air. This category includes airships, free balloons as well as captive, moored or tethered balloons.

Aircraft crewmember

A person who performs duties aboard an aircraft in flight that are essential to the operation of the aircraft.

Aircraft Design Authority

[DEF STAN 00-970/1 Part 9]

The agency appointed by the MOD IPT/L as being responsible for the airworthiness of the design of the aircraft or system (in the case of a UAV System). The Aircraft Design Authority (DA) is often the original design contractor for the aircraft/UAV System. The DA maintains the aircraft and system drawing set, associated analytical work and test results, and has staff with appropriate skills that are well versed in the design details of the aircraft/UAV System.

Aircraft engine

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An engine that is used or intended to be used for propelling aircraft. It includes turbosuperchargers, appurtenances, and accessories necessary for its functioning, but does not include propellers.

Aircraft handover

[NATO]

The process of transferring control of aircraft from one controlling authority to another.

Aircraft movement information service (AMIS)

[FAA Order 76104]

Service provided by an air route traffic control center, established by the Federal Aviation Administration, to provide for the acquisition, processing, and dissemination of aircraft movement information for use by the air defense facilities, whether or not such air defense facilities are associated with an Air Defense Identification Zone (ADIZ). Such information pertains to friendly aircraft and airborne objects which are or will be operating in the air defense facility(ies) area(s).

Aircraft non-crewmember

A person who performs duties aboard an aircraft in flight that is directly related to the in-flight mission of the aircraft, but not essential to the operation of the aircraft.

Aircraft registration

[DefStan 00-970/1-Part 9]

The identification numbers and/or letters specific to a particular airframe. Aircraft registration may be civil or military, and the regulatory authority for the aircraft follows the type of aircraft registration. Civil registration implies an aircraft identification in the form of a national letter or letters followed by letters or numbers (for the UK, G and four other letters). UK military registration implies aircraft identification in the form of two letters followed by three numbers. AD/ADRP vets registration applications and maintains the UK Military Aircraft Register.

Air traffic

Aircraft operating in the air or on an airport surface, exclusive of

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

loading ramps and parking areas.

Air traffic incident report

Report on incidents that adversely affect the FAA air traffic service facilities in providing safe, orderly, and expeditious movement of air traffic. ATI report usually is prepared by FAA on FAA Form 8020-11.

Air vehicle

[NATO]

The air vehicle is the core platform consisting of all flight relevant subsystems but without payload and data link.

Air vehicle

[US Army]

An engine-driven fixed-wing aircraft heavier than air, remotely operated by personnel on the ground, that is supported in flight by the dynamic reaction of the air against its wings.

Air vehicle control station

[US Army]

A flight deck on the ground without external flight environment clues, i.e., no direct visual contact with the UAV, used for control of a UAV(s).

Air vehicle crewmember

[US Army]

An individual who performs duties controlling the flight of an unmanned aerial vehicle or the operation of its mission equipment that is essential to the operation of the UAV (i.e., an air vehicle operator/internal pilot, an external pilot, flight engineer, and/or a mission payload operator).

Aircrew training Manual (ATM)

A publication that contains Army training requirements for Army flight crewmembers and programs for qualification, refresher, mission, and continuation training in support of the aircrew training program (ATP), including unmanned aerial vehicle crewmembers training programs.

Aircrew training Program (ATP)

Army aviation aircrew standardized training and evaluation program.

Airframe

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The fuselage, booms, nacelles, cowlings, fairings, airfoil surfaces (including rotors but excluding propellers and rotating airfoils of engines), and landing gear of an aircraft and their accessories and controls.

Airplane

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An engine-driven fixed-wing aircraft heavier than air that is supported in flight by the dynamic reaction of the air against its wings.

Airplane

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An engine-driven fixed-wing aircraft heavier than air, that is supported in flight by the dynamic reaction of the air against its wings.

Airport

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An area of land or water that is used or intended to be used for the landing and takeoff of aircraft, and includes its buildings and facilities, if any.

Airship

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An engine-driven lighter-than-air aircraft that can be steered.

Airship or dirigible

[DefStan 00-970/1-Part 9]

An aircraft that can be lighter than air and is equipped with a means of steering and horizontal propulsion. Airships are normally ballasted to be close to neutral buoyancy, but without ballast are lighter than air. The word Dirigible means 'able to be directed' (i.e. steered). Some airships have a rigid primary structure; some depend on pressure within an envelope to maintain shape. Dirigibles are differentiated from a balloon because a balloon has no means of horizontal propulsion or steering.

Airspace & navigation team

The ANT is working within the European Air Traffic Management Programme (EATMP). It strives to ensure harmonisation and communality of ATM airspace, procedures and navigation issues, from a Pan European perspective.

Airworthiness

[DefStan 00-970/1-Part 9]

The ability of an aircraft or other airborne equipment or system to operate without significant hazard to air crew, ground crew, passengers (where relevant) or to the general public over which such airborne systems are flown.

Airworthiness

[Joint JAA/Eurocontrol UAV Task Force Final Report]

An aircraft is deemed airworthy within the EU if it meets or exceeds the essential requirements as defined in the EASA basic regulation (EC1592/2002 Annex 1).

Statement of Issue

The definition of "airworthiness" stated above is "*an aircraft is deemed to be airworthy within the EU if it meets or exceeds the essential requirements as defined in the EASA basic requirement EC1592/2002 Annex 1*". While providing an accurate statement, in the context of developing airworthiness requirements for UAV Systems, a need was identified to expand on this definition and to provide clear guidance on what should and what should not be addressed within the scope of airworthiness requirements.

Summary of the discussion

Prior to EASA, there was no accepted definition of airworthiness and Authorities often adopted a working definition that considered an aircraft as airworthy if it was in compliance with all applicable airworthiness requirements as specified by the State of Registration. As different states applied their own airworthiness requirements to reflect their individual experiences and safety culture, airworthiness was not a fixed concept and the level of requirements demanded would vary from State to State.

With the introduction of EASA Essential Requirements, the concept of airworthiness is now better defined and with the adoption of implementing rules and certification specifications, provides the basis for a harmonised and common interpretation. However, until such time as these requirements are fully developed and due to the unique features of UAV Systems, further clarity is provided to establish the scope of airworthiness requirements.

Recommendations

Items deemed to be part of an "Airworthiness" approval typically include:

- Safety related aspects of aircraft performance & flight characteristics.
- Design and production of aircraft structure (including launch and recovery loads).
- Design and production of mechanical/hydraulic/pneumatic/ electrical systems.
- Design and production of aircraft propulsion systems and APUs.
- Design and production of avionic systems and equipment (including software) in so far as ensuring they perform their intended function to the expected safety level.
- The instructions for continued airworthiness.
- Flight Manual, including emergency procedures and limitations
- Safety assessment of the UAV Communication Link including its susceptibility to environmental effects (HIRF, Lightning, Interference)
- The design and production of any element of the Control Station the failure of which could prejudice safe control of the aircraft.
- Human Factors aspects of the Control Station where relevant to the safe control of the UAV.
- Design and production of any Flight Termination system

Items not covered under "Airworthiness":

- Control station security.
- Security of the Flight Control link from wilful interference.
- Segregation of Aircraft.
- The competence/training of UAV pilots & operating personnel.
- The type of operation (other than to define flight envelope limitations and other aircraft limitations).
- Frequency spectrum allocation.
- Noise & Emission certification.
- Launch/recovery equipment that is not safety critical and which does not form part of the type certification basis.
- Operation of the payload (other than its potential to hazard the aircraft)

Note. Items not covered under "airworthiness" may be subject to other forms of approval.

Airworthiness

[Swedish Military Flight Safety Inspectorate]

An aircraft is airworthy if designed, produced, verified, equipped and maintained in such a way and has such qualities that all safety requirements are satisfied. (RML-V 5.2.22 and RML-V 6.5.14)

Airworthiness

[Federal Aviation Administration recommended definitions]

The condition in which the UAS conforms to its type certificate and is in condition for safe operation.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Alaskan NORAD Region (ANR)

[FAA Order 76104]
(See NORAD Region).

Alert area

[FAA Order 76104]
Special use airspace wherein a high volume of pilot training activities or an unusual type of aerial activity is conducted, neither of which is hazardous to aircraft. Nonparticipating pilots are advised to be particularly alert when flying in these areas. All activities shall be conducted in accordance with applicable sections of Title 14 CFR, without waiver.

Alert area

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]
An alert area is established to inform pilots of a specific area wherein a high volume of pilot training or an unusual type of aeronautical activity is conducted.

Alert force evaluation (AFE)

[FAA Order 76104]
A higher headquarters evaluation of a unit's active air and scramble capability. (A 72-hour notice to the appropriate ARTCC is required.)

Alleged violations

Those infractions of applicable FAA, ICAO, and host country flight regulations that create an unsafe condition or result in an incident or accident.

Allied Data Publication – 3 (ADatP-3)

[NATO]
ADatP-3 is the NATO standard for formatted messages and can be considered as the military version of Electronic Data Interchange, EDI. The standard consists of an 'abstract' and a 'specific' part. The abstract part describes the form these formatting rules can take. The specific part, the actual formatting rules, is periodically delivered by NATO in a database. ADatP-3 messages are the NATO equivalent to USMTF.

Allied joint operation

[NATO]
An operation carried out by forces of two or more NATO nations, in which elements of more than one service participate.

Alternate airport

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]
An airport at which an aircraft may land if a landing at the intended airport becomes inadvisable.

Alternate entry track

[FAA Order 76104]
A track along which en route descent is made to an intermediate point on an MTR.

Alternate penetration Fix

[FAA Order 76104]
The fix from which the MTR Alternate Entry Track begins. This fix shall be described by reference to a ground-based navigational aid.

Alternate route (AR)

[FAA Order 76104]
A preplanned departure track designed to allow receivers to depart in one direction and tanker support to depart in another direction from the same airport with the intent to rendezvous for scheduled air refuelling.

Altitude

[NATO]
The vertical distance of a level, a point or an object considered as a point, measured from mean sea level. The terms most relevant to UAV operations are:

Absolute Altitude: The height of an aircraft directly above the surface or terrain over which it is flying.

Critical Altitude: The altitude beyond which an aircraft or air-breathing guided missile ceases to perform satisfactorily.

True Altitude: The height of an aircraft as measured from mean sea level.

Altitude engine

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]
A reciprocating aircraft engine having a rated takeoff power that is producible from sea level to an established higher altitude.

Altitude reservation (ALTRV)

[FAA Order 76104]
Airspace utilization under prescribed conditions normally employed for

the mass movement of aircraft or other special user requirements which cannot otherwise be accomplished. ALTRV's are approved by the appropriate air traffic facility or the Central Altitude Reservation Function (CARF).

Amber warning

[FAA Order 76104]
A term that postures (prepares and/or positions) aircraft prior to being launched for survival. It may precede a flush order.

Analysis

[NATO]
In intelligence usage, a step in the processing phase of the intelligence cycle in which information is subjected to review in order to identify significant facts for subsequent interpretation.

Anchor area

[FAA Order 76104]
A defined area encompassing both a racetrack shape aerial refuelling track and its protected airspace.

Anchor point

[FAA Order 76104]
A designed reference point upon which an anchor refuelling track is oriented.

Antenna

[DefStan 00-970/1-Part 9]
A device designed for the radiation or reception of electromagnetic wave energy.

Anticipated operating conditions

[ICAO Annex 8]
Those conditions which are known from experience or which can be reasonably envisaged to occur during the operational life of the aircraft taking into account the operations for which the aircraft is made eligible., the conditions so considered being relative to the meteorological state of the atmosphere, to the configuration of terrain, to the functioning of the aircraft, to the efficiency of personnel and to all the factors affecting safety in flight. Anticipated operating conditions do not include:

- those extremes which can be effectively avoided by means of operating procedures; and
- those extremes which occur so infrequently that to require the Standards to be met in such extremes would give a higher level of airworthiness than experience has shown to be necessary and practical.

Appliance A

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]
Any instrument, mechanism, equipment, part, apparatus, appurtenance, or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight, is installed in or attached to the aircraft, and is not part of an airframe, engine, or propeller.

Appropriate airworthiness requirement

[ICAO Annex 8]
The comprehensive and detailed airworthiness codes established by a Contracting State for the class of the aircraft under consideration.

Approval authority

An individual (i.e., Commander, MC) authorised to approve and/or sign a flight plan.

Approval of Parts

[JAR21-ESG1]
Subpart K and Subpart NK of JAR-21 envisages only four routes to approve parts:

- In conjunction with Type Certification or with change to Type Certification procedures;
- Where applicable under the JTSO authorisation procedures of subparts O or NO of JAR-21;
- Where applicable under the Joint Parts Approval (JPA) Procedures of subparts P of JAR-21;
- In case of standard parts in accordance with established industry of governmental specifications.

Approved

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]
Unless used with reference to another person, means approved by the Administrator.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Approved

[ICAO Annex 8]

Accepted by a Contracting State as suitable for a particular purpose.

Architecture

[DefStan 00-970/1-Part 9]

The structure of levels and/or branches that partition a system into its constituent parts or components. Architecture may consist of:

- high level designs for the system to be built;
- definition of the principal components;
- an overall system structure, showing the organisation of components and their interactions;
- a model for the overall behaviour of the system;
- a view of how the system will be laid out or assembled;
- the basis for an integration strategy for the final product.

Area navigation (RNAV)

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A method of navigation that permits aircraft operations on any desired course within the coverage of station-referenced navigation signals or within the limits of self-contained system capability.

Area navigation low route

[FAA, Doc.No. 1150, 27 FR 4588, May 15, 1962]

An area navigation route within the airspace extending upward from 1,200 feet above the surface of the earth to, but not including, 18,000 feet MSL.

Area navigation high route

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An area navigation route within the airspace extending upward from, and including, 18,000 feet MSL to flight level 450.

Armed Forces

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The Army, Navy, Air Force, Marine Corps, and Coast Guard, including their regular and reserve components and members serving without component status.

Army aircraft

Aircraft (including manned and unmanned) under the jurisdiction of the US Department of the Army.

Army aviation disaster, search, and rescue unit

A temporarily organised unit employed during an emergency. The unit equips, supplies, safeguards, maintains, and operates Army aircraft during a disaster, an air search, or rescue.

Army aviation standardisation

The use of uniform tested procedures and techniques to attain a high level of readiness and professionalism in the operation and employment of Army aircraft, including unmanned aerial vehicles. This is achieved through standardised publications and training literature, a disciplined instructor pilot force, tests, flight checks, and command supervision. Standardisation includes aviator cockpit, performance, aircrew teamwork, tactics, maintenance, and safety. For UAVs, standardisation includes external pilot/external air vehicle crewmember performance, air vehicle crewmember/air vehicle operator, and mission payload operator performance, aircrew teamwork, tactics, maintenance, and safety.

Army aviator

An aeronautical designation awarded to members of the U.S. Army by the Secretary of the Army or designated officers.

Army Equipment Support Publication (AESP)

[DefStan 00-970/1-Part 9]

Where identified in this Defence Standard, the term AESP refers to documentation used to support materiel, operated and maintained by the Army.

Army safety action team (ASAT)

Standing committee that meets on call to address HQDA-level Safety of Flight and Safety of Use issues, provide co-ordinated recommendations to the OCSA and expedite corrective actions to maximise readiness, safety and training. See AR 385-16 for specific objectives, membership and procedures.

Area standardisation committee

A committee established within a non-defined geographical area composed of units too small to effectively set up their own standardisation committee. The committee may be formed from various commands with aviation assets.

Area search

[NATO]

Reconnaissance or search of a specific area to provide new or updated information on general or specific situations and/or activities.

Assessment stage

[DEF STAN 00-970/1 Part 9]

The second stage in the Smart Acquisition lifecycle, beginning after a project has passed Initial Gate. During this stage the IPT:

- produces and baselines a System Requirements Document;
- identifies the most cost-effective technological and procurement options for the requirement;
- reduces risk to a level consistent with delivering an acceptable level of performance to tightly controlled time and cost budgets;
- assembles a business case for the Main Gate Approval.

Associated tracks

[FAA Order 76104]

MTR Alternate Entry, Primary Entry, Climb-out, and Re-entry tracks.

ATC assigned airspace (ATCAA)

[FAA Order 76104]

Airspace of defined vertical/lateral limits, assigned by ATC, for the purpose of providing air traffic segregation between the specified activities being conducted within the assigned airspace and other IFR air traffic.

Automated take-off

[DefStan 00-970/1-Part 9]

Automated take-off is the ability of the air vehicle to be launched with a single command once planning and pre-flight checks have been conducted and permission to launch has been granted.

Automated take-off & landing

[NATO]

Automated take-off is the ability of the air vehicle to be launched with a single command once planning and pre-flight has been conducted and permission to launch has been granted. Automated take-off includes releasing the air vehicle from a securing device and flight of the air vehicle to the first waypoint.

Automated landing is the ability to land and secure the air vehicle with a single command once the air vehicle has been stationed at a gate position no closer than 100 meters to the landing spot.

Automatic

[RTCA SC 203 Original definition]

The execution of a predefined process without intervention.

Automatic

[DefStan 00-970/1-Part 9]

The execution of a predefined process or event that requires UAV System crew initiation.

Autonomous

[RTCA SC 203 Original definition]

Not controlled by others or outside forces. Independent judgment.

Autonomous

[DefStan 00-970/1-Part 9]

The execution of processes or events that do not require direct UAV System crew intervention. The operation of a subsystem according to a predefined plan without recourse to UAV System crew control.

Autonomous flight

[DefStan 00-970/1-Part 9]

Flight independent of real time UAV-pilot control input.

Autonomous flight

[WTD 61, Germany-LTG 1550-001]

Flight under exclusive and direct control of the UAV onboard automatic flight control system. There is no monitoring or intervention by the authorised UAV operator.

Autonomous operation

[US Army]

A programmable, automated flight profile that does not require human intervention for normal operation.

Autonomy

[RTCA SC 203 Original definition]

The quality of being autonomous; self determination.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Autonomy

[Joint JAA/Eurocontrol UAV Task Force Final Report]

The ability to execute processes or missions using on-board decision capabilities.

Autorotation

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A rotorcraft flight condition in which the lifting rotor is driven entirely by action of the air when the rotorcraft is in motion.

Auxiliary rotor

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A rotor that serves either to counteract the effect of the main rotor torque on a rotorcraft or to maneuver the rotorcraft about one or more of its three principal axes.

AVANA

[FAA Order 76104]

(ALTRV APVL void for aircraft not airborne by (time)) used by ATC to advise an aircraft that the ALTRV is automatically canceled at a specified time.

Availability

[DefStan 00-970/1-Part 9]

The probability that the system or equipment used under stated conditions will be in an operable and committable state at any given time. Note: There are a variety of sub-definitions of availability that are meaningful in different operational and management situations. Further details can be found in Def Stan 00-49/Issue 1 and ARMP-7.

Aviation officer

[US Army]

An Army or DA civilian aviator who commands an aviation unit or is a member of a commander's staff and advises or supervises Army aviation functions.

Aviation related service

[Swedish Military Flight Safety Inspectorate]

The provision of services, including the training of people, aeronautical products, ground, constructions, premises which are required for the military aviation system (RML-G-1.8).

Aviation safety

[UK Defence Aviation Safety Board]

The scope of aviation safety covers every activity that could impact on the ability to deliver safe aviation.

It includes:

- The design, manufacture, build, maintenance & support of aircraft;
- Operating aircraft;
- Support to aircraft operation including, for example, infrastructure, air traffic management and emergency services;
- Provision of appropriately trained and competent personnel.

Aviation safety is achieved when the operation of aircraft poses no significant risk to aircrew, groundcrew, passengers, other airspace users or to the general public over which such aircraft are flown.

Aviation safety action messages

[US Army]

Electrically transmitted messages that convey maintenance, technical or general interest information where a low to medium risk safety condition has been determined per AR 385-16. ASAMs are of a lower priority than SOF messages.

Balloon

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A lighter-than-air aircraft that is not engine driven, and that sustains flight through the use of either gas buoyancy or an airborne heater.

Basic flight maneuvers (BFM)

[FAA Order 76104]

The maneuvers in which ACT pilots must be skilled in order to effectively employ weapons systems in air combat maneuvers or defensive combat maneuvers.

Battle damage assessment

[NATO]

The determination of the affect of all air attacks on targets (e.g., bombs, rockets, strafing, etc.).

Battlefield surveillance

[NATO]

Systematic observation of the battle area for the purpose of providing timely information and combat intelligence.

Bent [FAA Order 76104]

Equipment indicated inoperative or unserviceable.

Beyond line of sight

[RTCA SC 203 Original definition]

Refers to a distance beyond the electronic line of sight.

Big photo [FAA Order 76104]

The general call for aircraft performing ECM.

Bond

[DefStan 00-970/1-Part 9]

Metal parts that are connected together electrically so as to ensure adequate low impedance contact.

Brake horsepower

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The power delivered at the propeller shaft (main drive or main output) of an aircraft engine.

Branch route (BR)

[FAA Order 76104]

A track of an ALTRV that is defined from the breakaway point from a common route to the next fix or the final destination.

Built in test (BIT)

[DefStan 00-970/1-Part 9]

The facility integrated into equipment to measure and check out its serviceability.

Burner

[FAA Order 76104]

(USAF) Fly at maximum power.

Byte

[NATO]

Eight bits.

Calibrated airspeed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The indicated airspeed of an aircraft, corrected for position and instrument error. Calibrated airspeed is equal to true airspeed in standard atmosphere at sea level.

Canadian altitude reservation unit (CARU)

[FAA Order 76104]

A unit established by the Ministry of Transport of Canada responsible for the processing of altitude reservation requests in Canadian airspace.

Canadian NORAD Region (CANR)

[FAA Order 76104]

(See NORAD Region).

Canard

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The forward wing of a canard configuration and may be a fixed, movable, or variable geometry surface, with or without control surfaces.

Canard configuration

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A configuration in which the span of the forward wing is substantially less than that of the main wing.

Captive, moored or tethered balloon

[Swedish Military Flight Safety Inspectorate]

A balloon, which is attached to the surface of the earth by an object on the ground or by a cable.

Cardinal altitudes or flight levels

[FAA Order 76104]

"Odd" or "even" thousand-foot altitude or flight levels; e.g., 5,000, 6,000, FL 250, FL 260, FL 270.

Cassette

[NATO]

In photography, a reloadable container for either unexposed or exposed sensitized materials which may be removed from the camera or darkroom equipment under lighted conditions.

Catastrophic (failure condition)

[RTCA SC 203 Original definition]

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Loss of the UA and / or loss of life.

Catastrophic failure

Any failure that leads to the loss of the UAV(s).

Catastrophic failure

[WTD 61, Germany-LTG 1550-001]

Any failure endangering other participants in air traffic, or persons on the ground.

Categories of UAVs

[EURO UVS]

Unmanned aerial vehicle types defined in accordance with the aerial vehicle's range, flight altitude & endurance: micro, mini, short range, close range, medium range, medium range endurance, low altitude deep penetration, low altitude long endurance, medium altitude long endurance, special purpose UAVs (UCAV, lethal, decoy), high altitude long endurance, stratospheric.

Categories of UAVs

[General Atomics Aeronautical Systems, USA]

It is proposed that UAVs be split into 3 categories:

Category 1: Remotely Piloted Aircraft

Cleared for IFR & VFR flight in controlled & uncontrolled airspace. Requires a FAA certified pilot with FAA instrument rating; incl. transponders, TCAS.

Category 2: Remotely Operated Aircraft

Cleared for flight outside controlled airspace above & below the airway system & in restricted airspace. Operator (not a certified pilot) familiar with aviation terminology & FAA/ATC terms.

Category 3: UAVs

Restricted to flight clear of clouds, outside controlled airspace, within electronic LOS of operator generally in restricted airspace.

Categories of UAVs

[IABG, Germany]

It is proposed that UAVs be split into 4 categories:

Category 1: > 25 kg take-off weight

Category 2: > 25 & < 500 kg take-off weight

Category 3: > 500 & < 2.000 kg take-off weight

Category 4: > 2.000 kg take-off weight

Categories of UAVs

[WTD 61, Germany-LTG 1550-001]

UAV categories are to be defined in accordance with the designated mission concept and the classes of airspace to be used. There are three categories of UAVs:

Category 1: UAV operation is permitted solely within specially designated military practice areas or prohibited areas with with designated flight restriction areas.

Category 2: UAV take-off and landing is permitted within specially designated military practise areas or prohibited areas with designated flight restriction areas. Flight routes between take-off and landing are limited to designated flight restriction areas, which may be outside prohibited areas.

Category 3: UAV operation in airspace Classes A - G in accordance with ICAO Instrument Flight Rules (IFR) or Visual Flight Rules (VFR) is permitted outside military practise areas, military test sites, and flight restriction areas.

Category (of Aircraft)

Aircraft designated as either airplane, helicopter, or unmanned aerial vehicle synonymous with type.

Category

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

- (1) As used with respect to the certification, ratings, privileges, and limitations of airmen, means a broad classification of aircraft. Examples include: airplane; rotorcraft; glider; and lighter-than-air; and
- (2) As used with respect to the certification of aircraft, means a grouping of aircraft based upon intended use or operating limitations. Examples include: transport, normal, utility, acrobatic, limited, restricted, and provisional.

Category A

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to transport category rotorcraft, means multiengine rotorcraft designed with engine and system isolation features specified in Part 29 and utilizing scheduled takeoff and landing operations under a critical engine failure concept which assures adequate designated surface area and adequate performance capability for continued safe flight in the event of engine failure.

Category B

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to transport category rotorcraft, means single-engine or multiengine rotorcraft which do not fully meet all Category A standards. Category B rotorcraft have no guaranteed stay-up ability in the event of engine failure and unscheduled landing is assumed.

Category II operations

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to the operation of aircraft, means a straight-in ILS approach to the runway of an airport under a Category II ILS instrument approach procedure issued by the Administrator or other appropriate authority.

Category III operations

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to the operation of aircraft, means an ILS approach to, and landing on, the runway of an airport using a Category III ILS instrument approach procedure issued by the Administrator or other appropriate authority.

Category IIIa operations

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An ILS approach and landing with no decision height (DH), or a DH below 100 feet (30 meters), and controlling runway visual range not less than 700 feet (200 meters).

Category IIIb operations

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An ILS approach and landing with no DH, or with a DH below 50 feet (15 meters), and controlling runway visual range less than 700 feet (200 meters), but not less than 150 feet (50 meters).

Category IIIc operations

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An ILS approach and landing with no DH and no runway visual range limitation.

Cat track

[FAA Order 76104]

Aircraft Movement Information Service provided by an air route traffic control center on all instrument flight rules flight plan aircraft classified as NORAD special interest flights, and those flights specified in paragraph 5-4-3 via voice reporting over interphone circuits in lieu of the ROCC/SOCC teletypewriter network.

Cautions

[NATO]

Warnings, cautions and advisories inform the operator about any unusual or critical conditions.

Ceiling

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The height above the earth's surface of the lowest layer of clouds or obscuring phenomena that is reported as "broken", "overcast", or "obscuration", and not classified as "thin" or "partial".

Cell formation

[FAA Order 76104]

A non-standard formation of two or more aircraft with the same intended route of flight, maintaining station keeping operations by visual/electronic means.

Central altitude reservation function (CARF)

[FAA Order 76104]

A function of the Air Traffic Control System Command Center (ATCSCC), established to conduct the volume of co-ordination, planning, and approval of special user requirements under the ALTRV concept.

Certificate

[JAA TF WG II]

Any approval, licence or other document issued as the result of certification.

Certificate of Authorization or Waiver

[Access 5 HALE ROA Concept of Operations, Version 2, March 2005 (definitions corrected to substitute UAS for UAV, ROA, etc.)]

An FAA grant of approval for a specific operation.

Certification [JAA TF WG II]

Any form of recognition that a product, part or appliance, organisation, or person complies with the applicable requirements including the provisions of a regulation and its implementing rules, as well as the issuance of the relevant certificate attesting such compliance.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Certification Procedures for aircraft and related products and parts

[JAR21-ESG1]

JAR-21 prescribes procedural requirements for the issue of Type Certification (TC) and changes to the TC, the issue of standard Certificates of Airworthiness (C of A) and the issue of export airworthiness approvals. It also describes procedural requirements for the approval of certain parts and appliances and rules governing the holders of Certificates or Approvals. JAR-21 defines procedural requirements for approval of organization (Design and Production Organisation Approvals, i. e. DOA and POA) for organisations under the jurisdiction of JAA countries. Non-JAA products and parts are addressed in JAR-21 Subpart N which is a self contained "JAR-21" for such products and parts.

Chemical monitoring

[NATO]

The continued or periodic process of determining whether or not a chemical agent is present.

Chief, aerial reconnaissance coordination, all hurricanes (CARCAH)

[FAA Order 76104]

The liaison between the 53 WRS (call sign "TEAL"/WX RECON) aircraft and either the National Hurricane Center or the National Centers for Environmental Prediction.

Chicago Convention

Convention on International Civil Aviation and its annexes, signed in Chicago, USA on 7 December 1944.

Civil aircraft

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Aircraft other than public aircraft.

Civil Aviation Safety Authority (CASA)

Australian Civil Aviation Authority

Civil UAV operation categories

[UAVS, UK]

(1) Surveillance, Observation & Inspection

A UAV system optimised for detecting and observing objects or events. Includes photography.

(2) Dispensing

A UAV system optimised to dispense items of equipment, material or fluids.

(3) Surrogate Satellite

A UAV system optimised to provide fixed point high level, wide area coverage for communications relay, media services & remote sensing.

(4) Freight Carrying

A UAV system optimised to act in a freight, mail or parcel carrying capacity.

(5) Display & Entertainment

A UAV system optimised for advertising, outdoor entertainment events, etc.

(6) Passenger Carrying

A UAV system optimised to carry passengers, mail or parcels.

Civil UAV operation

[EURO UVS]

The use of a UAV system by an authorised or licensed UAV operator to fulfill tasks not with the objective of commercial gain (and other than military tasks).

Class

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

- (1) As used with respect to the certification, ratings, privileges, and limitations of airmen, means a classification of aircraft within a category having similar operating characteristics. Examples include: single engine; multiengine; land; water; gyroplane; helicopter; airship; and free balloon; and
- (2) As used with respect to the certification of aircraft, means a broad grouping of aircraft having similar characteristics of propulsion, flight, or landing. Examples include: airplane; rotorcraft; glider; balloon; landplane; and seaplane.

Class A Airspace

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

Generally, that airspace from 18,000 feet MSL up to and including FL 600, including the airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska. Unless

otherwise authorized, all persons must operate their aircraft under IFR.

Class B Airspace

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of airport operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers (some Class B airspaces areas resemble upside-down wedding cakes), and is designed to contain all published instrument procedures once an aircraft enters the airspace. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is «clear of clouds.»

Class C Airspace

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area with a 5 nautical mile (NM) radius, a circle with a 10NM radius that extends no lower than 1,200 feet up to 4,000 feet above the airport elevation and an outer area that is not charted. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while within the airspace. VFR aircraft are only separated from IFR aircraft within the airspace.

Class D Airspace

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.

Class E Airspace

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

Generally, if the airspace is not Class A, Class B, Class C, or Class D, and it is controlled airspace, it is Class E airspace. Class E airspace extends upward from either the surface or a designated altitude to the overlying or adjacent controlled airspace. When designated as a surface area, the airspace will be configured to contain all instrument procedures. Also in this class are Federal airways, airspace beginning at either 700 or 1,200 feet AGL used to transition to/from the terminal or en route environment, en route domestic, and offshore airspace areas designated below 18,000 feet MSL. Unless designated at a lower altitude, Class E airspace begins at 14,500 MSL over the United States, including that airspace overlying the waters within 12 nautical miles of the coast of the 48 contiguous States and Alaska, up to, but not including 18,000 feet MSL, and the airspace above FL 600.

Class G Airspace

[RTCA SC 203 Original definition]

Uncontrolled airspace

Class of aircraft

[AC 23.1309-1C definition]

A normalised classification of Airplanes is provided in AC 23.1309-1C : Class I, Class II, Class III, and Class IV.

Classification

[NATO]

Classification is the ability to determine unique characteristics about a contact, which allow the differentiation of military and commercial contacts and determination of contact class and type.

Classification of UAVs

[JAA TF WG II]

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

The purpose of classifying UAVs is to determine the appropriate safety objectives and airworthiness criteria for different UAVs.

Clearway

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

- (1) For turbine engine powered airplanes certificated after August 29, 1959, an area beyond the runway, not less than 500 feet wide, centrally located about the extended centerline of the runway, and under the control of the airport authorities. The clearway is expressed in terms of a clearway plane, extending from the end of the runway with an upward slope not exceeding 1.25 percent, above which no object nor any terrain protrudes. However, threshold lights may protrude above the plane if their height above the end of the runway is 26 inches or less and if they are located to each side of the runway.
- (2) For turbine engine powered airplanes certificated after September 30, 1958, but before August 30, 1959, an area beyond the takeoff runway extending no less than 300 feet on either side of the extended centerline of the runway, at an elevation no higher than the elevation of the end of the runway, clear of all fixed obstacles, and under the control of the airport authorities.

Climb-out fix

[FAA Order 76104]

The point in space where en route operation is resumed after climb-out from an MTR. This fix shall be described by reference to a ground-based navigational aid.

Climb-out speed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to rotorcraft, means a referenced airspeed which results in a flight path clear of the height-velocity envelope during initial climb-out.

Climb-out track

[FAA Order 76104]

An MTR Associated Track beginning at the route Exit Point and permitting a climbing departure from the Exit Point to the Climb-out Fix.

Code of Federal Regulations

14 CFR 91 contains Federal Air Regulations Part 91.

Collision Avoidance

[RTCA SC 203 Original definition]

Averting physical contact between an aircraft and any other object or terrain.

Combat mission folder (CMF)

[NATO]

The CMF provides the operators, for pre mission briefing and during mission execution, with reference material for the planned mission.

Combat surveillance

[NATO]

A continuous, all-weather, day-and-night, systematic watch over the battle area to provide timely information for tactical combat operations.

Combined joint operation

[NATO]

An operation carried out by forces of two or more nations, in which elements of at least two services participate.

Command and Control

[RTCA SC 203 Original definition]

The exercise of authority and direction of a UAS by a pilot.

Command and control

[NATO]

The exercise of authority and direction by a properly designated commander over assigned forces in the accomplishment of a mission.

Command control interface (CCI)

[NATO]

The CCI is an interface between the UCS Core and the external C4I systems. It specifies the data requirements that shall be adopted for communication between the UCS Core and all C4I end users through a common, standard interface.

Command & control interface specific module (CCISM)

[NATO]

Conversion software and/or hardware between the CCI and incompatible C4I systems. The CCISM may form part of a particular UCS implementation to establish a connection between the UCS and specific "customers" of the UAV system (i.e. one or more C4I systems).

The CCISM can range in complexity from a simple format or protocol translator to a user-specific application to adapt the type of information to C4I requirements.

Command and control information system

[NATO]

An integrated system comprised of doctrine, procedures, organizational structure, personnel, equipment, facilities and communications which provides authorities at all levels with timely and adequate data to plan, direct and control their activities.

Command Link

[RTCA SC 203 Original definition]

The method used to transfer the pilot's intent to the unmanned aircraft. The uplink portion of the control link between pilot and aircraft.

Command/staff aviation officer

A special staff aviator designated by the commander to provide advice or manage aviation assets, aviation standardisation, and aviation safety.

Commercial off the shelf (COTS) products

[DefStan 00-970/1-Part 9]

Products designed for the commercial market to commercial specifications that may be used in military domain (unmodified or modified).

Commercial operator

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A person who, for compensation or hire, engages in the carriage by aircraft in air commerce of persons or property, other than as an air carrier or foreign air carrier or under the authority of Part 375 of this title. Where it is doubtful that an operation is for "compensation or hire", the test applied is whether the carriage by air is merely incidental to the person's other business or is, in itself, a major enterprise for profit.

Commercial UAV operation

[EUROUVS]

The use of a UAV system by an authorised or licensed UAV operator to fulfill tasks with the objective of commercial gain.

Common route (CR)

[FAA Order 76104]

The receivers planned common route in an ALTRV from point of departure to destination excluding branch route or other join-up tracks.

Commonality

[NATO]

An item of an interchangeable nature which is in common use by two or more nations or services of a nation.

Communication intelligence

[NATO]

Intelligence derived from electromagnetic communications and communications systems by other than intended recipients or users. Also called COMINT.

Communication Link

[RTCA SC 203 Original definition]

The voice or data relay of instructions or information between the UAS pilot and the air traffic controller and other NAS users.

Communication link

Term for what is often called "data link"; communication link should now be used according to the Recommendation 2.5 of the October, 1999 Joint Eurocontrol & NATMC UAV ATM Workshop.

Communication links

[DefStan 00-970/1-Part 9]

Command, control and information links generated within or received by any element of the UAV System. They are the means of connecting one location to another for the purpose of transmitting and receiving data. UAV System communication links cover all communication, both within the system that may comprise of the:

- Control Station(s);
 - Remote antenna(e);
 - Landing/Recovery Equipment, and;
 - Microwave, and;
 - UAV(s);
 - Launcher(s),
 - Operational personnel.
- and communication to/from equipment and agencies external to the UAV System that require access to data, or control of, the UAV system and/or its associated sub-systems and payload(s). Communication links can be made by one or more of a variety of means such as, but not limited to:
- Audio;
 - Video;
 - infra red;
 - Visual;
 - RF;
 - U.V.;
 - fibre optic.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Communications plan

[NATO]

The communication plan is the overarching plan which covers all communication aspects. The communication plan includes the data link plan.

Communications satellite

[NATO]

An orbiting vehicle that relays signals between communications stations.

Communications security

[NATO]

The protection resulting from the application of cryptographic, transmission, emission and physical security measures to deny unauthorized persons any information of value which might be derived from the study of all communications means.

Compatibility

[NATO]

The suitability of products, processes or services for use together under specific conditions to fulfill relevant requirements without causing unacceptable interactions.

Component

[NATO]

In logistics, a part or combination of parts having a specific function, which can be installed or replaced only as an entity.

Computer software

[DefStan 00-970/1-Part 9]

A combination of associated computer instructions and computer data definitions required, to enable the computer hardware to perform computational or control functions.

Computer software documentation

[DefStan 00-970/1-Part 9]

Technical data, including computer listings and printouts, in human readable form which documents the design or details of computer software, explains the capabilities of the software, or provides operating instructions for using the software to obtain desired results from a computer. This includes relevant maintenance/support documentation.

Concept of Operations

[RTCA SC 203 Original definition]

A plan describing how to achieve a goal. Not to be confused with an operational concept, which is the desired goal.

Concept of operations

[NATO]

A clear and concise statement of the line of action chosen by a commander in order to accomplish his mission.

Concept stage

[DefStan 00-970/1-Part 9]

The first stage of six in the Smart Acquisition lifecycle, during which the IPT is formed. During this stage the Director Equipment Capability, assisted by the Capability Working Group, produces a User Requirements Document and a Business Case is assembled for the Initial Gate approval.

Conducted emission

[DefStan 00-970/1-Part 9]

Electromagnetic energy that is propagated along a conductor.

Conducted interference

[DefStan 00-970/1-Part 9]

Impairment of the functioning of a device, equipment or system caused by conducted emissions.

Conducted susceptibility

[DefStan 00-970/1-Part 9]

Assessment of the immunity of the equipment under test to potentially interfering signals propagated by conduction.

Configuration

[DefStan 00-970/1-Part 9]

Defined as the functional and physical characteristics of materiel as described in its technical documentation and later achieved in the product.

Configuration (as applicable to the aeroplane)

[ICAO Annex 8]

A particular combination of the positions of the moveable elements, such as wing flaps, landing gear, etc., which affect the aerodynamic characteristics of the aeroplane.

Configuration management (CM)

[DefStan 00-970/1-Part 9]

The process of establishing a product's functional and physical characteristics, for maintaining consistency with its changing requirements through the life cycle. CM includes the following interrelated processes:

- Configuration Management and Planning;
- Configuration Identification and Documentation;
- Configuration Change Management;
- Configuration Status Accounting;
- Configuration Audit.

Configuration management plan

[DefStan 00-970/1-Part 9]

Document that formally describes the scope of CM, the CM organisation, the CM procedures for the project/product and the responsibilities for CM.

Continental United States NORAD Region (CONR)

[FAA Order 76104]

(See NORAD Region).

Continuing oversight

[JAA TF WG II]

The task to be conducted to verify that the conditions under which a certificate has been granted continue to be fulfilled at any time during its period of validity, as well as the taking of any safeguard measure.

Continuous strip imagery

[NATO]

Imagery of a strip of terrain in which the image remains unbroken throughout its length, along the line of flight.

Control Link

[RTCA SC 203 Original definition]

The combination of the command link (uplink) and the status link (downlink).

Control station

[DefStan 00-970/1-Part 9]

Part(s) of the UAV System that includes all the equipments that exercise control over the UAV, its payload and associated elements, in all phases of operation. The Control Station includes all elements, from launch preparation to retrieval, that require system intervention and/or acknowledgement of system readiness.

Control Station

[Joint JAA/Eurocontrol UAV Task Force Final Report]

A facility or device(s) from which a UAV is controlled for all phases of flight. There may be more than one control station as part of a UAV system.

Control Station

[RTCA SC 203 Original definition]

Part(s) of the UAS that includes all the components that exercise control over the UAS, in all phases of operation.

Controlled airspace

A generic term that covers the different classification of airspace (Class A, Class B, Class C, Class D, and Class E airspace) and defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification. [See the Aeronautical Information Manual (AIM)].

Controlled airspace

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An airspace of defined dimensions within which air traffic control service is provided to IFR flights and to VFR flights in accordance with the airspace classification.

Note: Controlled airspace is a generic term that covers Class A, Class B, Class C, Class D, and Class E airspace.

Controlled airspace

[NATO]

An airspace of defined dimensions within which air traffic control service is provided to controlled flights (e.g., flights within controlled airspace require approval by/coordination with the controlling authority, and certain maneuvers may be prohibited or restricted, or require supervision).

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Controlled firing area (CFA)

[FAA Order 76104]

Special use airspace wherein activities are conducted under conditions so controlled as to eliminate hazards to non-participating aircraft and to ensure the safety of persons and property on the ground.

Controlled firing area

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A controlled firing area is established to contain activities, which if not conducted in a controlled environment, would be hazardous to nonparticipating aircraft.

Cooperative Traffic

[Access 5 HALE ROA Concept of Operations, Version 2, March 2005 (definitions corrected to substitute UAS for UAV, ROA, etc.)]

Traffic that broadcast position or other information that assists in detecting and assessing conflict potential.

Core UCS (CUCS)

[NATO]

The CUCS provides the UAV operator with the functionality to conduct all phases of a UAV mission. It must support the requirements of the DLI, CCI, and HCI. The CUCS shall provide a high resolution, computer generated, graphical user capability that enables the UAV operator to control different types of UAVs and payloads with minimal additional training.

Correlation area

[FAA Order 76104]

The airspace over a specific geographical area in which NORAD, PACAF, or PIAD Region Operations Control Centers have the responsibility for air defense.

Correlation fix

[FAA Order 76104]

A fix used for flight plan correlation.

Correlation line

[FAA Order 76104]

A reference line established by the NORAD, PACAF, or PIAD Region/ Sector Commander from which penetration or time-over for a flight is computed for the purpose of flight plan correlation.

Countermeasures

[NATO]

That form of military science that, by the employment of devices and/or techniques, has as its objective the impairment of the operational effectiveness of enemy activity.

Conterminous U.S.

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

The 48 adjoining States and the District of Columbia.

Crash

[WTD 61, Germany-LTG 1550-001]

Termination of an uncontrolled flight condition by destruction of the UAV.

Crash

[DGA-CEV_TI-CEV 202001]

A crash is any uncontrolled loss of the aerial vehicle. A forced landing resulting from the activation of a flight termination system is not considered as a crash.

Crew

[WTD 61, Germany-LTG 1550-001]

The authorised UAV operator, together with the minimum authorised personnel required for duty at an operating station.

Crewmember

[RTCA SC 203 Original definition]

A person assigned to perform duties during the operation of the UAS. This term can be further qualified as «ground crewmember» or «flight crewmember.»

Crewmember

The term includes all aviators (rated crewmembers), nonrated crewmembers, and others who perform aircrew duties as listed in AR 95-1, para 2-6, and AR 95-23 (UAV), para 2-5.

For UAVs only, a person assigned to perform duties during the operation of an air vehicle during flight time.

Crewmember

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A person assigned to perform duty in an aircraft during flight time.

Crewmember flying status

Status assigned to soldiers whose duties are essential to operating the aircraft in flight or for completing the specific mission of the aircraft that can be accomplished only during aerial flight. Crewmember flight status is authorised only for positions coded in TAADS with a code "F" in the position identifier.

Critical altitude

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The maximum altitude at which, in standard atmosphere, it is possible to maintain, at a specified rotational speed, a specified power or a specified manifold pressure. Unless otherwise stated, the critical altitude is the maximum altitude at which it is possible to maintain, at the maximum continuous rotational speed, one of the following:

- (1) The maximum continuous power, in the case of engines for which this power rating is the same at sea level and at the rated altitude.
- (2) The maximum continuous rated manifold pressure, in the case of engines, the maximum continuous power of which is governed by a constant manifold pressure.

Critical engine

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The engine whose failure would most adversely affect the performance or handling qualities of an aircraft.

Critical failure

[WTD 61, Germany-LTG 1550-001]

Any failure preventing safe continuation of flight which leads to emergency landing or ditching.

Critical power-unit(s)

[ICAO Annex 8]

The power-unit(s) failure of which gives the most adverse effect on the aircraft characteristics relative to the case under consideration.

Cross-country Flight

A flight extending beyond the local flying area or within the local flying area which is planned to terminate at a place other than the place of origin.

Cut-down

[DefStan 00-970/1-Part 9]

Immediate termination of air vehicle flight.

DA civilian pilot (DAC aviator)

A civil service employee who holds appropriate qualifications and who must comply with this regulation & other DA aviation-related regulations.

Damage assessment (NATO)

The determination of the effect of attacks on targets.

Danger area

[Swedish Military Flight Safety Inspectorate]

A segregated airspace of defined dimensions within which activities dangerous to the flight of aircraft may exist at specified times.

Danger areas

Particular status areas: Penetration is restricted. Activities dangerous for aircraft may take place in such areas during a specified period.

Data communication

[NATO]

The transfer of information between functional units by means of data transmission according to a protocol.

Data Link

[Access 5 Policy IPT]

A term referring to all links between the aircraft the control station. It includes that command, status, communications, and payload links.

Data link (1)

Term commonly used to designate the link between a UAV and its control station. Term listed in the NATO agreed Terms & Definitions document. According to Recommendation 2.5 of the October, 1999 Joint Eurocontrol & NATMC UAV ATM Workshop

Data link (2)

A ground-to-air communications system which transmits information via digital coded pulses.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Data link (3)

[DefStan 00-970/1-Part 9]

A wireless communication channel between one or more Control Stations and one or more air vehicles, or between multiple air vehicles. It may be used to exchange any mix of command and control or payload data. A channel may be single or bi-directional, and more than one may exist at a time between a particular control station and air vehicle pair.

Data link (4)

[NATO]

The means of connecting one location to another for the purpose of transmitting and receiving data.

Data link interface (DLI)

[NATO]

The DLI is the interface between the Vehicle Specific Module (VSM) and the UCS core element. It provides for standard messages and formats to enable communication between a variety of air vehicles and NATO standardised ground control stations. Data between the UCS and the air vehicle shall conform to the DLI requirements detailed in Appendix B -1.

Data link plan

[NATO]

The Data Link Plan may start with the details of the link available and include the band and frequencies to be used. The Data Link Plan has to be associated with waypoints within the route and the details of required actions made available for cueing the operator.

Data reporting analysis and corrective action system (DRACAS)

[DefStan 00-970/1-Part 9]

A documented closed-loop system for reporting, collecting, recording, analysing, categorizing, investigating and taking timely, effective corrective action on all discrepancies and failures relating to design, manufacturing and test processes that occur during any project activity whether conducted at the Contractor's premises or elsewhere. Operational and usage data together with operating conditions are also recorded. DRACAS should cover all materiel being procured under contract and provide for the reporting of suspected failures and discrepancies as well as observed failures, failure indications and discrepancies.

Decision height

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to the operation of aircraft, means the height at which a decision must be made, during an ILS or PAR instrument approach, to either continue the approach or to execute a missed approach.

Defense emergency

[FAA Order 76104]

A condition declared by the Commander of a United States unified or specified command (other than CINCNORAD), or by higher authority, confirming an overt attack of any type upon the United States or a major attack on U.S. forces overseas or on allied forces in any theater of operation.

Defense visual flight rules (DVFR)

[FAA Order 76104]

Rules applicable to flights within an ADIZ conducted under the visual flight rules in 14 CFR part 91. (See Air Defense Identification Zone.) (Refer to 14 CFR Part 99.)

Defensive combat maneuvers (DCM)

[FAA Order 76104]

One or a combination of basic ACT flight maneuvers calculated to provide a defensive position of advantage over another aircraft with offensive intent.

Demonstration stage

[DefStan 00-970/1-Part 9]

The stage in the Smart Acquisition lifecycle which aims to "produce sufficient evidence and material to down select to a single contractor on a low risk contract".

Deployable system

[DefStan 00-970/1-Part 9]

A deployable system is an operational group of deployable subsystems and deployable functional elements. These are the air vehicles, ground-based control and exploitation facilities, launch and recovery facilities, communications facilities and links, computers, software, vehicles and ancillary equipment that fulfil the operational requirements in theatre.

Design landing mass

[ICAO Annex 8]

The maximum mass of the aircraft at which, for structural design purposes, it is assumed that it will be planned to land.

Design record

[DefStan 00-970/1-Part 9]

All information necessary to define the design, manufacture, packaging, testing, installation, and servicing of a product.

Design review

[DefStan 00-970/1-Part 9]

A formal, documented engineering management process that is used to subject a design to a systematic critical study. Its purpose is to establish whether the design satisfies the specified requirement.

Design take-off mass

[ICAO Annex 8]

The maximum mass at which the aircraft, for structural design purposes, is assumed to be planned to be at the start of the take-off run.

Design taxiing mass

[ICAO Annex 8]

The maximum mass of the aircraft at which structural provision is made for load liable to occur during use of the aircraft on the ground prior to the start of take-off.

Designated mission envelope

[WTD 61, Germany-LTG 1550-001]

The designated UAV mission envelope comprises take-off location, planned flight route, mission or target area, and landing location, together with the appropriate restricted operations area.

Direct maintenance man-hours

[NATO]

Man-hours spent on the repair or preservation of the system. Direct maintenance man-hours do not include administrative or supervisory time for maintenance personnel.

Direct Visual Control

[Federal Aviation Administration recommended definitions]

The means by which the UAS is controlled and the pilot exercises see and avoid responsibilities.

Director Flying (D/Flying)

Authority which regulates in the UK test flying activities of experimental, pre-production, inhabited or uninhabited aircraft. D/Flying reports to the MOD Defence Procurement Agency.

Directorate of Airspace Policy

Authority responsible in the UK for the management of the Airspace. It will be the principal focus for determining the rules under which UAV flying will be permitted in the open airspace.

Dirigible or airship

[DefStan 00-970/1-Part 9]

An aircraft that can be lighter than air and is equipped with a means of steering and horizontal propulsion. Airships are normally ballasted to be close to neutral buoyancy, but without ballast are lighter than air. The word Dirigible means 'able to be directed' (i.e. steered). Some airships have a rigid primary structure; some depend on pressure within an envelope to maintain shape. Dirigibles are differentiated from a balloon because a balloon has no means of horizontal propulsion or steering.

Dispensing payloads

[NATO]

Dispensing payloads are considered to be those that are released from the UAV as part of the UAV mission objectives. This can include the release of weapons or deployment of remote sensors, etc.

Disposal

[DefStan 00-970/1-Part 9]

The stage in the Smart Procurement lifecycle which aims to "dispose of equipment or capabilities to fulfil operational requirements". It involves the processes that safely remove the system from its operational environment, disassemble it and dispose of its constituent parts.

Diversion airport

[FAA Order 76104]

An airport outside major metropolitan areas or likely target complexes.

Dormant system

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

[NATO]

A dormant system is a system, which is stored in a full up condition. A dormant system may be transported in packing containers. However, the system is not operated during the dormant period.

Drone

[NATO]

An unmanned vehicle which conducts its mission without guidance from an external source.

Due regard

[FAA Order 76104]

A phase of flight wherein a State operated aircraft assumes responsibility to separate its aircraft from all other aircraft. DOD operators must comply with DOD's regulations concerning "due regard."

Durability

[DefStan 00-970/1-Part 9]

The ability of an item to perform a required function under given conditions of use and maintenance, until a limiting state is reached.

ECM resistance

[DefStan 00-970/1-Part 9]

Electronic Countermeasures Resistance

Egress point

[FAA Order 76104]

The geographical point at which the refuelling track terminates.

Electromagnetic compatibility (EMC)

[DefStan 00-970/1-Part 9]

The ability of electronic equipments, sub-systems and systems to share the electromagnetic spectrum and perform their desired functions without unacceptable degradation from or to the electromagnetic environment.

Electromagnetic interference (EMI)

[DefStan 00-970/1-Part 9]

Impairment of the functioning of a device, equipment or system caused by an electromagnetic disturbance.

Electromagnetic spectrum

[NATO]

The range of frequencies of electromagnetic radiation from zero to infinity.

Electronic counter counter measures (ECCM)

[FAA Order 76104]

Actions taken to insure effective use of the electromagnetic spectrum despite the employment of ECM. It includes the use of ECCM receivers/videos which may effectively reduce the radar degradation induced by certain types of ECM.

Electronic counter measures (ECM)

[FAA Order 76104]

Electronic radiation or chaff dispensing activities with the object of impairing (electronic jamming) the use of electronic devices, equipment, systems or with the intent to mislead (electronic deception) the user in the interpretation or use of information by his electronic system.

Electronic intelligence (ELINT)

[NATO]

Intelligence derived from electromagnetic non-communications transmissions by other than intended recipients or users.

Electronic warfare (EW)

[NATO]

Military action to exploit the electromagnetic spectrum encompassing: the search for, interception and identification of electromagnetic emissions, the employment of electromagnetic energy, including directed energy, to reduce or prevent hostile use of the electromagnetic spectrum, and actions to ensure its effective use by friendly forces.

Emergency

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

A distress or an urgency condition.

Emergency landing / ditching

[WTD 61, Germany-LTG 1550-001]

Unforeseen landing caused by circumstances preventing continuation of flight.

Emergency procedures

[WTD 61, Germany-LTG 1550-001]

The procedures to be implemented in connection with automatic or manual failure recovery.

Emergency recovery plan

[NATO]

In case of failures such as data link loss, UAVs need to automatically carry out recovery actions referred to as Rules of Safety (ROS). The ROS are selected at the mission planning stage. The ROS differ according to the priority given to emergency action relative to that given to mission execution. Using the mission planning application the UCS operator selects the appropriate safety scenario (e.g., to define a pre-programmed recovery route).

Emergency recovery procedures

[Joint JAA/Eurocontrol UAV Task Force Final Report]

Emergency recovery procedures are those that are implemented through UAV pilot command or through autonomous design means in order to mitigate the effects of certain failures with the intent of minimizing the risk to third parties. This may include an automatic pre-programmed course of action to reach safe landing or crash area.

EMP

[DefStan 00-970/1-Part 9]

Electromagnetic pulse

ENAC - Ente Nazionale per l'Aviazione Civile

Italian aviation authority established on July 31, 1997 (Legislative Decree no 250 of Minister of Transport and Navigation) with the merging of DGAC (Direzione Generale dell'Aviazione Civile), the Aviation Department of Ministry of Transport, RAI (Registro Aeronautico Italiano), the Italian Airworthiness Authority, and ENGA (Ente Nazionale Gente dell'Aria), the National Airmen List (<http://www.rai-enac.it>).

End exercise point (EEP)

[FAA Order 76104]

The point at which an aircraft is no longer classified as a faker. Ground target, bomb release line (BRL), or final neutralisation in the strike route portion of the mission as appropriate.

Entry point

[FAA Order 76104]

A point which denotes the beginning of a particular route of flight; i.e., MTR.

Environment control system

[NATO]

All equipment necessary to maintain a desired temperature, humidity, etc. within a shelter.

Equivalent Level of Safety

[Access 5 HALE ROA Concept of Operations, Version 2, March 2005 (definitions corrected to substitute UAS for UAV, ROA, etc.)]

An evaluation, often subjective, of a system and/or operation to determine the acceptable risk to people and property.

Equivalent airspeed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The calibrated airspeed of an aircraft corrected for adiabatic compressible flow for the particular altitude. Equivalent airspeed is equal to calibrated airspeed in standard atmosphere at sea level.

European Central Altitude Reservation Facility (EUCARF)

[FAA Order 76104]

A USAF facility established for the purpose of processing altitude reservations within its area of responsibility.

Event

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

An occurrence whose origin is distinct from the aircraft, such as atmospheric conditions, runway conditions, cabin and baggage fires. The term is not intended to cover sabotage. [ref: ARP 4761, AMJ 25.1309]

Exercise

[NATO]

A military maneuver or simulated wartime operation involving planning, preparation, and execution. It is carried out for the purpose of training and evaluation. It may be a combined, joint, or single Service exercise, depending on participating organizations.

Exercise flush

[FAA Order 76104]

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

The phraseology used for testing flush operations. NORAD has a requirement to practice these procedures. Actual flush procedures are classified.

Exercise route

[FAA Order 76104]

The route of flight to be flown by strike force aircraft from departure to point of recovery.

Extended over-water operation

[FAA, Doc.No. 1150, 27 FR 4588, May 15, 1962]

- (1) With respect to aircraft other than helicopters, an operation over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline; and
- (2) With respect to helicopters, an operation over water at a horizontal distance of more than 50 nautical miles from the nearest shoreline and more than 50 nautical miles from an off-shore heliport structure.

External load

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A load that is carried, or extends, outside of the aircraft fuselage.

External-load attaching

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The structural components used to attach an external load to an aircraft, including external-load containers, the backup structure at the attachment points, and any quick-release device used to jettison the external load.

External pilot

The UAV crewmember who, in the absence of full automatic takeoff and landing systems, visually controls the UAV flight path, generally during takeoff and/or landing.

Extremely Improbable (failure condition)

[RTCA SC 203 Original definition]

Definition TBD from Safety SMEs

Exit point

[FAA Order 76104]

A point which denotes the end of a particular route of flight; i.e., MTR, air refuelling track, etc.

European Air Traffic Management Programme

Programme managed by Eurocontrol Agency on behalf of its 38 Member States.

FAA Authorization for interceptor operations

[FAA Order 76104]

An authority used for the movement of interceptors under NORAD operational jurisdiction while on an active air defense mission when it is determined by competent military authority that operations within the NAS would significantly derogate the mission.

Factor of safety

[ICAO Annex 8]

A design factor used to provide for the possibility of loads greater than those assumed, and for uncertainties in design and fabrication.

Fail-safe

[DefStan 00-970/1-Part 9]

Provision built into an equipment so that the equipment does not cause hazardous consequences even if it, or part of it fails to perform its design function.

Fail soft

[NATO]

Fail soft is a system capability which allows contained system operations in a degraded mode rather than catastrophic failure in the event of any single malfunction.

Failure

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

A loss of function, or malfunction, of a system or part thereof resulting in the inability of an item to perform its intended function.

Failure Condition

[RTCA SC 203 Original definition]

A condition having either a direct or consequential effect, which is caused or contributed to by one or more failures or errors considering flight phase and relevant adverse operational or environmental conditions or external events.

Failure condition

[DGA-CEV_TI-CEV 202001]

Condition which has an effect on the airworthiness of the aircraft or on its functional abilities.

A failure condition is caused by one or more failures, taking account of the operational and environmental conditions in which they occur.

Failure conditions

"A condition having an effect on either the aeroplane or its occupants, or both, either direct or consequential, which is caused or contributed to by one or more failures or errors considering flight phase and relevant adverse operational or environmental conditions or external events." A classification of Failures Conditions (FC) is provided in AC 23.1309-1C : No Safety Effect, Minor, Major, Hazardous & Catastrophic.

Failure mode, effects and criticality analysis (FMECA)

[DefStan 00-970/1-Part 9]

An analysis to identify potential design weaknesses through systematic, documented consideration of all the likely ways in which a component or equipment can fail; causes for each failure mode; and the effects of each failure.

Faker

[FAA Order 76104]

A strike force aircraft simulating a hostile during an air defense exercise while in the strike route portion of the mission; i.e., IP/HHCL to ground target BRL/EFP.

Faker monitor

[FAA Order 76104]

Military personnel responsible for monitoring the progress and providing safety to faker aircraft in accordance with safe intercept criteria, beginning at the IP/HHCL and terminating at the BRL/EFP or at the point of final neutralization.

Federal Aviation Authority (FAA)

[FAA Order 76104]

FAA is the Civil Aviation Authority of the United States.

Feedback

[DefStan 00-970/1-Part 9]

(in the context of man machine interaction) Information from equipment indicating the consequences of the UAV System crew's actions.

Field of view

[NATO]

In photography, the angle between two rays passing through the perspective centre (rear nodal point) of a camera lens to the two opposite sides of the format. Not to be confused with angle of view.

Field strength

[DefStan 00-970/1-Part 9]

In radio wave propagation, the magnitude of the component of any specified polarisation of the electric or magnetic field. These may be expressed in volts per metre or amps per metre respectively.

Final approach and take-off area (FATO)

[ICAO Annex 8]

A defined area over which the final phase of the approach manoeuvre to hover or landing is completed and from which the take-off manoeuvre is commenced. Where the FATO is to be used by performance Class 1 helicopters, the defined area includes the rejected take-off area available.

Final takeoff speed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The speed of the airplane that exists at the end of the takeoff path in the en route configuration with one engine inoperative.

Fireproof

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

- (1) With respect to materials and parts used to confine fire in a designated fire zone, means the capacity to withstand at least as well as steel in dimensions appropriate for the purpose for which they are used, the heat produced when there is a severe fire of extended duration in that zone; and
- (2) With respect to other materials and parts, means the capacity to withstand the heat associated with fire at least as well as steel in dimensions appropriate for the purpose for which they are used.

Fire resistant

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

- (1) With respect to sheet or structural members means the capacity to

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

- withstand the heat associated with fire at least as well as aluminum alloy in dimensions appropriate for the purpose for which they are used; and
- (2) With respect to fluid-carrying lines, fluid system parts, wiring, air ducts, fittings, and powerplant controls, means the capacity to perform the intended functions under the heat and other conditions likely to occur when there is a fire at the place concerned.

Flame resistant

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Not susceptible to combustion to the point of propagating a flame, beyond safe limits, after the ignition source is removed.

Flammable

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to a fluid or gas, means susceptible to igniting readily or to exploding.

Flap extended speed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The highest speed permissible with wing flaps in a prescribed extended position.

Flash resistant

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Not susceptible to burning violently when ignited.

Fleet area control and surveillance facility (FACSFAC)

[FAA Order 76104]

A U.S. Navy fixed ground facility which manages offshore and inland operating areas including warning areas, restricted areas, and other assigned airspace.

Flight controller

[Australian CASA Advisory Circular 101-1(0)]

The person who will input commands to the UAV or to the UAV system once the UAV is transferred from line-of-sight control to autonomous control.

Flight crew station

A station in an aircraft that a flight crewmember occupies to perform his/her flight duty, for example, pilot stations specified in operator's manuals. For UAVs: A station associated with the in-flight operation of a UAV at which flight controls may be used to control air vehicle flight; for example, air vehicle operator, external pilot, or mission payload operator stations specified in the operator's manual.

Flight crew member

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

Flight crew member

Any instructor pilot, flight examiner, pilot, copilot, flight engineer/mechanic, flight navigator, weapon systems operator, bombardier navigator, radar intercept operator, sensory system operator, boom operator, crew chief, load-master, remotely operated/piloted aircraft operator, unmanned aerial vehicle operator, defensive/offensive system operator, and other flight manual handbook identified crewmember when assigned to their respective crew positions to conduct a military flight or any flight under the contract.

For UAVs: An air vehicle operator, external pilot, or mission payload operator assigned to duty during the in-flight operation of an air vehicle.

Flight level

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A level of constant atmospheric pressure related to a reference datum of 29.92 inches of mercury. Each is stated in three digits that represent hundreds of feet. For example, flight level 250 represents a barometric altimeter indication of 25,000 feet; flight level 255, an indication of 25,500 feet.

Flight Management Control System

[RTCA SC 203 Original definition]

An operable system that is contained onboard a UA that performs the flight control actions from input received from the pilot via the command and control communication link or that operates the UA from data previously inserted. This system does not require any additional pilot intervention.

Flight plan

[FAA Order 76104]

Specified information relating to the intended flight of an aircraft that is

filed with a AFSS/FSS or an ATC facility. (Refer to the AIM.)

Flight plan

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Specified information, relating to the intended flight of an aircraft, that is filed orally or in writing with air traffic control.

Flight Recovery System

[RTCA SC 203 Original definition]

A device or pre-planned course of action that is used when continued safe flight is impractical.

Flight restriction area

[WTD 61, Germany-LTG 1550-001]

Airspace in which air traffic is subject to special restrictions.

Flight route plan

[NATO]

A flight route plan will comprise a set of waypoints. These waypoints may have differing types and these drive the action to be taken when achieved. Flight patterns may be incorporated into the route either as a series of sequenced waypoints or as 'seed' waypoints with range and bearing information, which, will depend on the sophistication of the UCS and UAV systems.

Flight surgeon

Medical officer who has graduated from an approved military course in aviation medicine. References to flight surgeons include aero-medical physician's assistant.

Flight termination

[Joint JAA/Eurocontrol UAV Task Force Final Report]

Flight termination is a system, procedure or function that aims to immediately end the flight.

Flight termination system

A controllable parachute or automatic pre-programmed course of action used with UAV systems to terminate flight in case of a critical failure.

Flight termination system

[DefStan 00-970/1-Part 9]

System that effects the immediate cessation of flight. Flight termination may occur in response to the air vehicle being in an unsafe state, a potentially unsafe state or by command. Normal recovery or emergency recovery of the air vehicle may involve use of a flight termination system.

Flight termination system

[WTD 61, Germany-LTG 1550-001]

Independent fail-safe system designed to implement immediate manual or automatic termination of flight in connection with critical or catastrophic failure with the objective of preventing an uncontrollable flight condition.

Flight termination system(FTS)

[DGA-CEV_TI-CEV 202001]

A flight termination system or procedure is any means and/or procedure triggered manually or automatically in order to initiate a set of actions normally preprogrammed designed to terminate the flight and land or crash the aerial vehicle (forced landing) on a site prepared or not.

e.g.: parachute, triggered spinning, emergency landing in the open country, etc.

Flight time

The time from the moment the aircraft [manned and unmanned] first moves under its own power for the purpose of flight until engine shutdown.

Flight time

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

- (1) Pilot time that commences when an aircraft moves under its own power for the purpose of flight and ends when the aircraft comes to rest after landing; or
- (2) For a glider without self-launch capability, pilot time that commences when the glider is towed for the purpose of flight and ends when the glider comes to rest after landing.

Flight visibility

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The average forward horizontal distance, from the cockpit of an aircraft in flight, at which prominent unlighted objects may be seen and identified by day and prominent lighted objects may be seen and identified by night.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

tified by night.

Flush

[FAA Order 76104]

A term that launches military aircraft in a minimum time.

Forced landing

[DGA-CEV_TI-CEV 202001]

A "forced landing" is any impact on the ground of the aerial vehicle due to triggering of a flight termination procedure or system. The safety assessment distinguishes between:

- forced landing above a prepared and uninhabited area, and
- forced landing "in the open country".

Foreign air carrier

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Any person other than a citizen of the United States, who undertakes directly, by lease or other arrangement, to engage in air transportation.

Foreign air commerce

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The carriage by aircraft of persons or property for compensation or hire, or the carriage of mail by aircraft, or the operation or navigation of aircraft in the conduct or furtherance of a business or vocation, in commerce between a place in the United States and any place outside thereof; whether such commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation.

Foreign air transportation

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The carriage by aircraft of persons or property as a common carrier for compensation or hire, or the carriage of mail by aircraft, in commerce between a place in the United States and any place outside of the United States, whether that commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation.

Formation flight

[FAA Order 76104]

More than one aircraft which, by prior arrangement between the pilots, operate as a single aircraft with regard to navigation and position reporting. Separation between aircraft within the formation is the responsibility of the flight leader and the pilots of the other aircraft in the flight. This includes transition periods when aircraft within the formation are maneuvering to attain separation from each other to effect individual control and during join up and breakaway.

- (a) A standard formation is one in which a proximity of no more than 1 mile laterally or longitudinally and within 100 feet vertically from the flight leader is maintained by each aircraft.
- (b) Nonstandard formations are those operating under any of the following conditions:
 1. When the flight leader has requested and ATC has approved other than standard formation dimensions.
 2. When operating within an authorized ALTRV or under the provisions of a letter of agreement.
 3. When the operations are conducted in airspace specifically designated for a special activity. (Refer to 14 CFR part 91.)

Formatted message text

[NATO]

A message text composed of several sets ordered in a specified sequence, each set characterized by an identifier and containing information of a specified type, coded and arranged in an ordered sequence of character fields in accordance with the NATO message text formatting rules. It is designed to permit both manual and automated handling and processing.

Forward line of own troops (FLOT)

[NATO]

A line which indicates the most forward positions of friendly forces in any kind of military operation at a specific time.

Forward wing

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A forward lifting surface of a canard configuration or tandem-wing configuration airplane. The surface may be a fixed, movable, or variable geometry surface, with or without control surfaces.

Frame

In photography, any single exposure contained within a continuous sequence of photographs.

Free form message text

[NATO]

A message text without prescribed format arrangements. It is intended for fast drafting as well as manual handling and processing.

Frequency bands

[NATO]

Specified segments of the electromagnetic spectrum which are grouped and identified together by their common properties.

Functional architecture

[NATO]

The UCS Functional Architecture establishes the following functional elements and interfaces:

- Core UCS (CUCS)
- Data Link Interface (DLI)
- Command and Control Interface (CCI)
- Human Computer Interface (HCI)
- Vehicle Specific Module (VSM)
- Command and Control Interface Specific Module (CCISM)
- Human Computer Interface Specific Module (HCISM)

Functional characteristics

[DefStan 00-970/1-Part 9]

The designed scope (i.e. sequence and essential qualities) of the operations to be performed by an item. Functional characteristics are expressed in terms of quantitative performance parameters such as range, speed, lethality, reliability, maintainability, safety; and operating and logistics parameters and their respective tolerances.

Functional hazard assessment

[AC 23.1309-1C definition]

"A systematic comprehensive examination of aeroplane and system functions to identify potential Minor, Major, Hazardous, and Catastrophic Failure Conditions (FC) that may arise as a result of a malfunction or a failure to function."

General air traffic

Flights conducted in accordance with the rules and provisions of ICAO.

- GAT includes:
- VFR;
 - IFR;
 - In controlled or uncontrolled airspace;
 - By civil and military aircraft
 - In accordance with requirements of the civil airspace classification.

Geopositional accuracy

[NATO]

Geopositional Accuracy is the accuracy in terms of latitude and longitude, which the UAV system can report the position of tracks reported by AV payloads to a C4I system.

Glider

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A heavier-than-air aircraft, that is supported in flight by the dynamic reaction of the air against its lifting surfaces and whose free flight does not depend principally on an engine.

Government furnished equipment (GFE)

[DefStan 00-970/1-Part 9]

Any equipment owned by the government and supplied to the contractor; this includes loan items.

Ground control system

Term listed in the NATO agreed Terms and Definitions document.

Ground data terminal

[NATO]

The data link element consists of the air data terminal in the air vehicle and the ground data terminal (GDT) on the ground. Connectivity between the GDT and ADT is prerequisite for Level 2+ interoperability.

Ground support equipment

[DefStan 00-970/1-Part 9]

All non-airborne items including test equipment needed to maintain a UAV System, or its weapon system and its installed equipment.

Ground target

Destruct objective of a faked aircraft.

Ground visibility

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Prevailing horizontal visibility near the earth's surface as reported by the United States National Weather Service or an accredited observer.

Go-around power or thrust setting

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The maximum allowable in-flight power or thrust setting identified in the performance data.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Gyrodyne

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A rotorcraft whose rotors are normally engine-driven for takeoff, hovering, and landing, and for forward flight through part of its speed range, and whose means of propulsion, consisting usually of conventional propellers, is independent of the rotor system.

Gyroplane

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A rotorcraft whose rotors are not engine-driven, except for initial starting, but are made to rotate by action of the air when the rotorcraft is moving; and whose means of propulsion, consisting usually of conventional propellers, is independent of the rotor system.

Hand-off point

[FAA Order 76104]

The point with which an aircraft's position is correlated when transferring target identity during a radar hand-off. When using non-radar procedures, the HOP is the time/fix/altitude where control responsibility is transferred unless otherwise specified.

Handover

[NATO]

The act of passing control of a UAV in flight from one Ground Control Station to another Ground Control Station.

Hawaii Air Defense Sector (HADS)

[FAA Order 76104]

A geographical subdivision of the PIADR.

Hazard

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

A situation which has the potential to lead to harm.

Hazard

[DefStan 00-970/1-Part 9]

A physical situation, often following from some initiating event that can lead to an accident.

Health monitoring

[DefStan 00-970/1-Part 9]

A sub-system for the acquisition, monitoring, processing and (in some applications) for the display of health and usage data of the UAV System and transport to a dedicated Support Facility.

Helicopter

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A rotorcraft that, for its horizontal motion, depends principally on its engine-driven rotors.

Helicopter

[ICAO Annex 8]

A heavier-than-air aircraft supported in flight chiefly by the reactions of the air on one or more powerdriven rotors on substantially vertical axes.

Heliport

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters.

High intensity radio transmission area scheme

[DefStan 00-970/1-Part 9]

A RAF scheme that logs areas within the UK where the electromagnetic field strengths are such that they could cause hazardous electromagnetic interference to an aircraft or UAV System.

High seas

[FAA Order 76104]

That area of the international waters commencing 12 nautical miles from the land mass.

Human computer interface (HCI)

[NATO]

The HCI defines the requirements for the functions and interactions that the UCS should allow the operator to perform. The HCI interface will support any HCI requirements that are imposed on the CUCS by the Command and Control Interface (CCI) and Data Link Interface (DLI). The HCI will also support any specific or unique CCI Specific Module (CCISM) or Vehicle Specific Module (VSM) display requirements.

Human computer interface specific module (HCISM)

[NATO]

The Human Computer Interface Specific Module (HCISM) provides the functionality for the UCS operator(s) to interact with the CUCS via the HCI. The HCISM translates the HCI data parameters from the CUCS to a form that can be understood by the operators(s), it also allows the operator to interact with the CUCS by translating operator actions. This translation could be in the form of a visual display, auditory warning, or physical interaction. The HCISM can also be considered the physical realisation of the HCI (e.g., the set of controls and displays available to the operator(s)).

Hyperspectral imagery (HSI)

[NATO]

The image of an object obtained simultaneously using hundreds or thousands of discrete spectral bands.

Idle thrust

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The jet thrust obtained with the engine power control level set at the stop for the least thrust position at which it can be placed.

IFR conditions

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Weather conditions below the minimum for flight under visual flight rules.

IFR military training routes (IR)

[FAA Order 76104]

Routes used by the Department of Defense and associated Reserve and Air Guard units for the purpose of conducting low-altitude navigation and tactical training in both IFR and VFR weather conditions at airspeeds in excess of 250 KIAS below 10,000 feet MSL.

IFR over-the-top

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to the operation of aircraft, means the operation of an aircraft over-the-top on an IFR flight plan when cleared by air traffic control to maintain "VFR conditions" or "VFR conditions on top".

Image

[NATO]

A two-dimensional rectangular array of pixels indexed by row and column.

Image associated data

[NATO]

Data which is needed to properly interpret and render pixels; data which is used to annotate imagery such as text, graphics, etc.; data which describes the imagery such as textual reports; and data which support the exploitation of imagery.

Imagery

[NATO]

Collectively, the representations of objects reproduced electronically or by optical means on film, electronic display devices, or other media.

Imagery exploitation

[NATO]

The cycle of processing and printing imagery to the positive or negative state, assembly into imagery packs, identification, interpretation, mensuration, information extraction, the preparation of reports and the dissemination of information.

Imagery intelligence (IMINT)

[NATO]

Intelligence information derived from the exploitation of collection by visual photography, infrared sensors, lasers, electro-optics, and radar sensors such as synthetic aperture radar wherein images of objects are reproduced optically or electronically on film, electronic devices, or other media.

Impact

[WTD 61, Germany-LTG 1550-001]

Controlled UAV impact at target location with destruction of the UAV.

Indicated airspeed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The speed of an aircraft as shown on its pitot static airspeed indicator calibrated to reflect standard atmosphere adiabatic compressible flow at sea level uncorrected for airspeed system errors.

In-service date [DefStan 00-970/1-Part 9]

The stage in the Smart Procurement lifecycle that aims to "support and maintain equipment capabilities to fulfil operational requirements". In-Service Date is declared when the military capability provided by the

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

system is assessed as being available for operational use. The IPT, now under Defence Logistics Organisation management, provides effective support to the front line. It maintains the levels of performance agreed with the Second Customer and carries out approved upgrades or improvements, refits or acquisition increments.

Initial point/H-hour control line (IP/HHCL)

[FAA Order 76104]

That point at which the faked route portion of the exercise begins.

Installation

For Army Aviation Standardisation Program purposes, the term includes continental United States (CONUS) Active Component posts, camps, or stations; Army National Guard (ARNG) States; Army Reserve Commands (ARCOMs); overseas corps, divisions, independent regiments, groups, and brigades. For other than standardisation purposes, includes Reserve Component facilities.

Instructor pilot (IP)

A UAV crew member who conducts training and evaluation of AVOs and UAV unit trainers in designated UAVs and promotes safety among aircrew members. Training and evaluation include air vehicle operation, qualification, unit employment, visual flight, & crew performance.

Instrument

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A device using an internal mechanism to show visually or aurally the attitude, altitude, or operation of an aircraft or aircraft part. It includes electronic devices for automatically controlling an aircraft in flight.

Instrument Flight Rules

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

Rules governing the procedures for conducting instrument flight. Also a term used by pilots and controllers to indicate type of flight plan.

Integrated logistical support (ILS)

[NATO]

The management and technical process through which supportability and logistic support considerations are integrated into the design and taken into account throughout the life cycle of systems/equipment and by which all elements of logistic support are planned, acquired, tested and provided in a timely and cost-effective manner.

International Civil Aviation Organization (ICAO)

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

A specialized agency of the United Nations whose objective is to develop the principles and techniques of international air navigation and to foster planning and development of international civil air transport.

Integrated project team leader (IPTL)

[DefStan 00-970/1-Part 9]

The person, usually of one-star rank, to whom the Chief of Defence Procurement delegates specific responsibility for the development, production, in-service support and the management of Military Aircraft Release for the complete UAV System. The IPTL will normally delegate defined parts of these tasks to IPT Members for specialist equipment; but he/she remains ultimately responsible for the performance of the UAV System as a whole and for the timely and proper conduct of the UAV System programme. In this Part of the Defence Standard, references to the MOD IPTL should be taken as the meaning the MOD IPTL or a suitably authorised representative, usually a member of the MOD Integrated Project Team.

Integration [NATO]

Refers to combining segments - not systems - and ensuring that the segments work correctly within the environment; do not adversely impact one another; and conform to standards. Integration does not imply interoperability. It only provides a level of assurance that the system will work as designed.

Intelligence [NATO]

The product resulting from the processing of information concerning foreign nations, hostile or potentially hostile forces or elements, or areas of actual or potential operations. The term is also applied to the activity which results in the product and to the organizations engaged in such activity.

Interaction [NATO]

A one or two-way exchange of data among two or more systems/sub-systems.

Intercept

[FAA Order 76104]

The encounter with or tracking of an airborne object, normally as a result of a flight path pre-planned to effect such encounter in the shortest practicable time.

Interceptor (FAA Order 76104)

An airplane engaged for the sole purpose of performing an intercept.

Interceptor training flight

[FAA Order 76104]

The flight of one or more aircraft for the development and maintenance of proficiency for both air and ground components related to the intercept mission.

Interface

[DefStan 00-970/1-Part 9]

A specifically defined physical or functional juncture between two or more configurable items.

Interface

[NATO]

- (1) A concept involving the definition of the interconnection between two equipment items or systems. The definition includes the type, quantity, and function of the interconnecting circuits and the type, form, and content of signals to be interchanged via those circuits. Mechanical details of plugs, sockets, and pin numbers, etc., may be included within the context of the definition.
- (2) A shared boundary, (e.g., the boundary between two subsystems or two devices).
- (3) A boundary or point common to two or more similar or dissimilar command and control systems, subsystems, or other entities against which or at which necessary information flow takes place.
- (4) A boundary or point common to two or more systems or other entities across which useful information flow takes place. (It is implied that useful information flow requires the definition of the interconnection of the systems which enables them to interoperate.)
- (5) The process of interrelating two or more dissimilar circuits or systems.
- (6) The point of interconnection between user terminal equipment and commercial communication-service facilities.

Interface control document

[DefStan 00-970/1-Part 9]

Document used to manage, identify and define functional and physical characteristics between two or more systems/sub-systems or products to ensure compatibility.

Interface control

[DefStan 00-970/1-Part 9]

The procedures and documentation, necessary for the identification and management of functional and physical characteristics between two or more systems/sub-systems/products to ensure compatibility.

Internal operator/pilot

An UAV crew member who operates the aerial vehicle from within a control station that exercises complete control over the air vehicle.

Interoperability

[DefStan 00-970/1-Part 9]

The ability of systems, units or forces to provide services to and accept services from other systems, units or forces and to use the services so exchanged to enable the systems to operate effectively together.

Interoperability

[RTCA SC 203 Original definition]

The ability to exchange data or services between systems.

Interoperability

[NATO]

The ability of Alliance forces and, when appropriate, forces of Partner and other nations to train, exercise and operate effectively together in the execution of assigned missions and tasks.

Interstate air commerce

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The carriage by aircraft of persons or property for compensation or hire, or the carriage of mail by aircraft, or the operation or navigation of aircraft in the conduct or furtherance of a business or vocation, in commerce between a place in any State of the United States, or the District of Columbia, and a place in any other State of the United States, or the District of Columbia; or between places in the same State of the United States through the airspace over any place outside thereof; or

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

between places in the same territory or possession of the United States, or the District of Columbia.

Interstate air transportation

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The carriage by aircraft of persons or property as a common carrier for compensation or hire, or the carriage of mail by aircraft in commerce:

- (1) Between a place in a State or the District of Columbia and another place in another State or the District of Columbia;
 - (2) Between places in the same State through the airspace over any place outside that State; or
 - (3) Between places in the same possession of the United States;
- Whether that commerce moves wholly by aircraft or partly by aircraft and partly by other forms of transportation.

In-the-loop

[RTCA SC 203 Original definition]

A UA pilot who controls the aircraft flight path, is said to be «in-the-loop.»

Intrastate air transportation

[FAA, Doc.No. 1150, 27 FR 4588, May 15, 1962]

The carriage of persons or property as a common carrier for compensation or hire, by turbojet-powered aircraft capable of carrying thirty or more persons, wholly within the same State of the United States.

ISA

[DefStan 00-970/1-Part 9]

International Standard Atmosphere published by the International Civil Aviation Organisation (ICAO).

Jamming

[FAA Order 76104]

Electronic or mechanical interference which may disrupt the display of aircraft on radar or the transmission/reception of radio communications/navigation.

Joint

[NATO]

Adjective used to describe activities, operations and organizations in which elements of at least two services participate.

Joint Standard Technical Orders

[JAR21-ESG1]

Such authorisations can be issued for equipment such as radio transmitters, life-vests, altimeters, airborne collision avoidance systems (TCAS I and II). JTSO is an approval of the design of equipment and a Production Approval (POA) for its manufacturers. A JTSO describes the minimum performance standard that an equipment must meet in order to be identified with the applicable JTSO marking. For some equipment for which the specification contains qualitative design requirements of significance to airworthiness, a DOA is required for its designer. Today only Auxiliary Power Units (APUs) are included in that category. JTSO specification can be found in JAR-TSO. This JAR-TSO can be described as a catalogue of specifications. The difference between JTSO and JPA is that a JTSO authorisation is independent from the aircraft the equipment will be installed on whereas a JPA is linked to a specific product type. JTSO requirements describe failure condition classification, functional qualification, environmental qualification, software qualification and deviations. JTSO compliance is voluntary and more restrictive than the mandatory TS/STC process. The JTSO process is more restrictive since compliance with the JTSO is intended to allow for operation in any type of aircraft. This means that only the integration aspects of an installation approval need to be addressed when a product is labelled with a JTSO number. Most systems that have a JTSO are intended to be an added capability and are installed using the Supplemental Type Certificate (STC) process. The focus of the evaluation for a STC project for a JTSO authorized article is the aircraft installation and the associated data. This data will be used for many other installations and must be evaluated for flexibility and completeness.

Index 1 - JSTOs which are technically similar to FAA TSOs

JTSO-C1c Cargo Compartment Fire Detection Instruments.

JTSO-C2d Airspeed Instrumentals

JTSO-C3d Turn and Slip Instruments

JTSO-C4c Bank and Pitch Instruments

JTSO-C5e Direction Instrument, Non-magnetic (Gyroscopically Stabilized)

JTSO-C6d Direction Instrument, Magnetic (Gyroscopically Stabilized)

JTSO-C7d Direction Instrument, Magnetic Non-stabilized Type (Magnetic Compass)

JTSO-C8d Vertical Velocity Instrument (Rate-of-Climb)

JTSO-C9c Automatic Pilots

JTSO-C10b Aircraft Altimeter, Pressure Actuated, Sensitive Type
JTSO-C14b Aircraft Fabric, Intermediate Grade; External Covering Material

JTSO-C15d Aircraft Fabric, Grade A; External Covering Material

JTSO-C16 Airspeed Tubes (Electrically Heated)

JTSO-C20 Combustion Heaters

JTSO-C21b Aircraft Turnbuckle Assemblies and/or Turnbuckle Safelying Devices

JTSO-C22g Safety Belts

JTSO-C23c Personnel Parachute Assemblies

JTSO-C25a Aircraft Seats and Berths (Type 1 Transport 6h Forward Load)

JTSO-C27 Twin Seaplane Floals

JTSO-C28 Aircraft Skis

JTSO-C30c Aircraft Position Lights y

JTSO-C31d HF Transmitting Equipment .

JTSO-C32d HF Receiving Equipment

JTSO-C34e ILS Glide Slope Receiving Equipment

Operating within the Radio Frequency Range of 328.6-335.4 Megahertz (MHz)

JTSO-C36e Airborne ILS Localizer Receiving Equipment

Operating within the Radio Frequency Range 108-112 Megahertz

JTSO-C42 Propeller Feathering Hose Assemblies

JTSO-C43b Temperature Instruments

JTSO-C44a Fuel Flowmeters

JTSO-C45 Manifold Pressure Instruments

JTSO-C46a Maximum Allowable Airspeed Indicator Systems

JTSO-C47 Pressure Instruments -Fuel, Oil and Hydraulic (Reciprocating Engine Powered Aircraft)

JTSO-C48 Carbon Monoxide Detector Instruments

JTSO-C49a Electric Tachometer: Magnetic Drag (Indicator and Generator)

JTSO-C50c Audio Selector Panels and Amplifiers

JTSO-C52a Flight Directors

JTSO-C53a Fuel and Engine Oil System Hose Assemblies

JTSO-C54 Stall Warning Instruments .

JTSO-C55 Fuel and Oil Quantity Instruments (Reciprocating Engine Aircraft)

JTSO-C56a Engine-driven Direct Current Generators/Starter-generators

JTSO-C57a Headsets and Speakers

JTSO-C58a Aircraft Microphones (Except Carbon)

JTSO-C59 Airborne Selective Calling Equipment

JTSO-C60b Airborne Area Navigation Equipment Using Loran C Inputs

JTSO-C62d Aircraft Tyres

JTSO-C64a Oxygen Mask Assembly, Continuous Flow, Passenger

JTSO-C65a Airborne Doppler Radar Ground Speed and/or Drift Angle Measuring Equipment(for Air Carrier Aircraft)

JTSO-C68a Airborne Automatic Dead Reckoning Computer Equipment Utilizing Aircraft Heading and Doppler Ground Speed and Drift Angle Data (for Air Carrier Aircraft)

JTSO-C69b Emergency Evacuation Slides, Ramps and Slide/Raft Combinations

JTSO-C71 Airborne Static ('DC to DC') Electrical Power Converter (for Air Carrier Aircraft)

JTSO-C72c Individual Flotation Devices

JTSO-C73 Static Electrical Power Inverter

JTSO-C74c Airborne A TC Transponder Equipment

JTSO-C76 Fuel Drain Valves

JTSO-C78 Crewmember Demand Oxygen Masks

JTSO-C79 Fire Detectors (Radiation Sensing Type)

JTSO-C85 Survivor Locator Lights

JTSO-C88a Automatic Pressure Altitude Reporting Code Generating Equipment

JTSO-C89 Oxygen Regulators, Demand

JTSO-C90b Cargo Pallets, Nets and Containers

JTSO-C92b Ground Proximity Warning, Glide Slope Deviation Alerting Equipment

JTSO-C94a Omega Receiving Equipment Operating within the Radio Frequency Range of 10.2-13.6 Kiloherzt

JTSO-C95 Mach Meters

JTSO-C96a Anticollision Light Systems

JTSO-C97 Lithium Sulfur Dioxide Batteries

JTSO-C99 Protective Breathing Equipment

JTSO-C101 Overspeed Warning Instruments

JTSO-C102 Airborne Radar Approach and Beacon Systems for Helicopters

JTSO-C103 Continuous Flow Oxygen Mask Assembly (for Non-transport Category Aircraft)

JTSO-C105 Optional Display Equipment for Weather and Ground Mapping Radar Indicators

JTSO-C106 Air Data Computer

JTSO-C109 Airborne Navigation Data Storage System

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

JTSO-C110a Airborne Passive Thunderstorm Detection Systems
JTSO-C113 Airborne Multipurpose Electronic Displays
JTSO-C114 Torso Restraint Systems
JTSO-C116 Crew Member PBE
JTSO-C118 TCAS I
JTSO-C119a TCAS II
JTSO-C120 OMEGA/VLF
JTSO-C121 Underwater Locating Devices
JTSO-C124 Flight Recorder
JTSO-C127a Rotorcraft, Transport Aeroplane and Normal and Utility Aeroplane Seating Systems
JTSO-C129a Airborne Supplemental Navigation Equipment Using Global Positioning System (GPS)
Index 2 - JTSOs which are applicable only to JAR
JTSO-2C11e Powerplant Fire Detection Instruments (Thermal and Flame Contact Types)
JTSO-2C19b Fire Extinguishers, Portable Water Type
JTSO-2C35d Radar Marker Receiving Equipment
JTSO-2C37d VHF Radio Communication Transmitting Equipment Operating Within the Radio Frequency Range 118-136.975 Megahertz
JTSO-2C38d VHF Radio Communication Receiving Equipment Operating Within the Radio Frequency Range 118-136.975 Megahertz
JTS9-2C40c VOR Receiving Equipment Operating Within the Radio Frequency Range 108-117.95 Megahertz
JTSO-2C41d Airborne Automatic Direction Finding (ADF) Equipment
JTSO-2C63c Airborne Weather and Ground Mapping Pulsed Radars
JTSO-2C66b Distance Measuring Equipment(DME) Operating Within the Radio Frequency Range of 960-1215 Megahertz
JTSO-2C75 Hydraulic Hoses Assembly
JTSO-2C87 Low Range Radio Altimeters
JTSO-2C91a Emergency Locator Transmitter (ELT) Equipment
JTSO-2C104 Microwave Landing System (MLS) Airborne Receiving Equipment
JTSO-2C115 Airborne Area Navigation Equipment Using Multi-sensor Inputs

ESG parts

Joint Standard Technical Order (JTSO) is an approval for the design of equipment and a Production Approval (POA) for its manufacturers. A JTSO describes the minimum performance standard that an equipment must meet in order to be identified with the applicable JTSO marking.
JTSO-C9c Automatic Pilots
JTSO-C109 Airborne Navigation Data Storage System
JTSO-2C115 Airborne Area Navigation Equipment Using Multi-sensor Inputs
JTSO-C129a Airborne Supplemental Navigation Equipment Using Global Positioning System (GPS)

Where no specific JTSOs for equipment could be found the following recommendations regarding communications, navigation, surveillance and air traffic management (CNS/ATM) system issues issued by the Radio Technical Commission for Aeronautics (RTCA) can be taken into account:

- DO-276: User Requirements for Terrain & Obstacle Data
- DO-269: Concepts for Services Integrating Flight Operations and ATM using addressed Data Link
- DO-263: Application of Airborne Aconflict Management: Detection, Prevention & Resolution
- DO-254: Design Assurance Guidance for Airborne Electronic Hardware
- DO-249: Development and Implementation Planning Guide for ADS-B applications
- DO-248B: Final Annual Report for Clarification of DO-178B
- DO-178B: Software Considerations in Airborne Systems and Equipment Certification
- DO-241: Operational Concepts and Information Elements Required to improve ATM
- DO-236A: Minimum Aviation System Performance Standards: Required Navigation Performance for Area Navigation
- DO-219: Minimum Operational Performance Standards for ATC Two-Way Data Link Communications
- DO-208: Minimum Operational Performance Standards for Airborne Supplemental Navigation Equipment Using GPS
- DO-200A: Standards for Processing Aeronautical Data:
- DO-193: User Requirements for Future Communications, Navigation and Surveillance Systems including Space Technology Applications
- DO-187: Minimum Operational Performance Standards for Airborne Area Navigation Equipment Using Multi-Sensor Inputs

- DO-180A: Minimum Operational Performance Standards for Airborne Area Navigation Equipment Using a Single Collocated VOR/DME Sensor Input
- DO-167: Airborne Electronics and Electrical Equipment Reliability
- DO-160D: Environmental Conditions & Test Procedures for Airborne Equipment

Kite

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]
A framework, covered with paper, cloth, metal, or other material, intended to be flown at the end of a rope or cable, and having as its only support the force of the wind moving past its surfaces.

Landing

[WTD 61, Germany-LTG 1550-001]
Defined UAV touchdown and landing location.

Landing area

[NATO]
A specially prepared or selected surface of land, water, or deck designated or used for take-off and landing of aircraft.

Landing gear operating speed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]
The maximum speed at which the landing gear can be safely extended or retracted.

Landing surface

[ICAO Annex 8]
That part of the surface of an aerodrome which the aerodrome authority has declared available for the normal ground or water run of aircraft landing in a particular direction.

Large aircraft

Aircraft of more than 12,500 pounds, maximum certified takeoff weight.

Large scale ECM mission

[FAA Order 76104]
ECM performed by seven or more aircraft working as a unit.

Laser designator

[NATO]
A device that emits a beam of laser energy which is used to mark a specific place or object.

Laser range-finder

[NATO]
A device which uses laser energy for determining the distance from the device to a place or object.

Latency

[DO-289 – Minimum Aviation System Performance Standards for Aircraft Surveillance Applications (ASA)]
The time incurred between two particular interfaces. The total latency is the delay between the true time of applicability of a measurement and the time that the measurement is reported at a particular interface (the latter minus the former).

Launch

[DefStan 00-970/1-Part 9]
The process by which a prepared air vehicle leaves the ground, with or without assistance, and attains controlled flight.

Launch controller

"The person who will input commands to the UAV or to the UAV system during the landing and take-off phases of operation when the UAV is being controlled manually in line-of-sight."
Term listed in appendix in the Australian CASA Advisory Circular 101-1(0).

Layered software architecture

[DefStan 00-970/1-Part 9]
A software architecture where direct communication is allowed between software objects within a layer, but communication between layers is via a standardised interface.

Legacy interface unit (LIU)

[NATO]
The LIU is defined as any "non standard" hardware and software.

Letter of Agreement

[Access 5 HALE ROA Concept of Operations, Version 2, March 2005 (definitions corrected to substitute UAS for UAV, ROA, etc.)]

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

A document that is negotiated by ATC facilities and other persons / facilities / organizations for a variety of purposes. For a HALE UAS operation, the letter of agreement would normally be established to define airspace areas and associated operating procedures.

Level of interoperability (LOI)

[NATO]

Multiple levels of interoperability are feasible among different UAV systems. Maximum operational flexibility can be achieved if the UAV systems support the following levels of UAV system interoperability:

- Level 1: Indirect receipt of secondary imagery and/or data.
- Level 2: Direct receipt of payload data by a UCS; where "direct" covers reception of the UAV payload data by the UCS when it has direct line-of-sight with the UAV or a relay device which has direct line-of-sight with the UAV.
- Level 3: Level 2 interoperability plus control of the UAV payload by a UCS.
- Level 4: Level 3 interoperability plus UAV flight control by a UCS.
- Level 5: Level 4 interoperability plus the ability of the UCS to launch and recover the UAV.

Level of maintenance

[DefStan 00-970/1-Part 9]

The level of maintenance is determined by the extent of the engineering content. It is measured in terms of the standard of repair, the time necessary to repair to the standard required and the complexity of the repair as measured by the engineering resources required.

LIDAR

[NATO]

An acronym of Light Detection And Ranging, describing systems that use a light beam in place of conventional microwave beams for atmospheric monitoring, tracking and detection functions.

Life cycle

[DefStan 00-970/1-Part 9]

Generic term covering all phases throughout the life of an item or a product from concept to disposal.

Lighter-than-air aircraft

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Aircraft that can rise and remain suspended by using contained gas weighing less than the air that is displaced by the gas.

Limit loads

[ICAO Annex 8]

The maximum loads assumed to occur in the anticipated operating conditions.

Line-of-sight

[Access 5 HALE ROA Concept of Operations, Version 2, March 2005 (definitions corrected to substitute UAS for UAV, ROA, etc.)]

The condition where two systems, usually the control station and the UA, are within electronic point-to-point link.

Line replaceable unit (LRU)

[DefStan 00-970/1-Part 9]

A readily accessible UAV System unit normally consisting of sub-assemblies or modules, designed for ease of replacement and capable of being handled and changed, preferably by one man within the time laid down and as identified by the equipment specification.

Load factor

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The ratio of a specified load to the total weight of the aircraft. The specified load is expressed in terms of any of the following: aerodynamic forces, inertia forces, or ground or water reactions.

Load factor

[ICAO Annex 8]

The ratio of a specified load to the weight of the aircraft, the former being expressed in terms of aerodynamic forces, inertia forces, or ground reactions.

Logistic support analysis (LSA)

[DefStan 00-970/1-Part 9]

An analytical technique used by ILS management to provide a continuous dialogue between developer and logistician. It provides a system to identify, define, analyse and process logistic support requirements for materiel acquisition programmes.

Logistic support analysis record (LSAR)

[DefStan 00-970/1-Part 9]

A file or database for logistic support data in a standardised format, on acquisition programmes for specific new or modified systems and equipment. Serves the acquisition process by using logistic data derived during all phases of the process to support logistic support analysis procedures.

Loiter

[RTCA SC 203 Original definition]

To remain within a given volume of airspace.

Long-range communication system (LRCS)

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A system that uses satellite relay, data link, high frequency, or another approved communication system which extends beyond line of sight.

Long range defense team (LRDT)

[FAA Order 76104]

A composite air defense force normally consisting of an AWACS, tanker, and fighter/interceptor aircraft.

Long-range navigation system (LRNS)

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An electronic navigation unit that is approved for use under instrument flight rules as a primary means of navigation, and has at least one source of navigational input, such as inertial navigation system, global positioning system, Omega/very low frequency, or Loran C.

Loss of link

[RTCA SC 203 Original definition]

Loss of command and / or control links between pilot and UA

Low altitude air to air training (LOWAT)

[FAA Order 76104]

Maneuvers within MTR's for the purpose of simulating an aerial attack and defensive response.

Low altitude tactical navigation (LATN) Area

[FAA Order 76104]

A large geographic area where random low altitude operations are conducted at airspeeds below 250 KIAS.

Mach number

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The ratio of true airspeed to the speed of sound.

Main rotor

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The rotor that supplies the principal lift to a rotorcraft.

Maintainability

[DefStan 00-970/1-Part 9]

The probability that a given maintenance action, for an item under given conditions of use, can be carried out within a stated time interval, when the maintenance is performed under stated conditions and using stated procedures and resources.

Maintenance

[DefStan 00-970/1-Part 9]

The term 'maintenance' is all embracing and includes:

- (a) All action taken to retain materiel in or restore it to a specified condition. It includes: inspection, testing, servicing, classification as to serviceability, repair, rebuilding and reclamation.
- (b) All supply and repair action taken to keep a force in condition to carry out its objectives.
- (c) The routine recurring work required to keep a facility (plant, building, structure, ground facility, utility system, or real estate) in such a condition that it may be continuously utilised, at its original or designed capacity and efficiency, for its intended purpose.

Maintenance

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Inspection, overhaul, repair, preservation, and the replacement of parts, but excludes preventive maintenance.

Maintenance

The inspection, overhaul, repair, preservation, and/or the replacement of parts, but excludes preventive maintenance.

Maintenance operational check (MOC)

Systems check made on the ground through engine run-up and taxiing. Checks made using auxiliary power or testing equipment to simulate, insofar as possible, actual conditions under which the system is to operate. These checks are made to ensure that aircraft systems or components disturbed during an inspection or maintenance have been

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

repaired or adjusted satisfactorily.

Major alteration

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An alteration not listed in the aircraft, aircraft engine, or propeller specifications -

- (1) That might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness; or
- (2) That is not done according to accepted practices or cannot be done by elementary operations.

Major failure

[WTD 61, Germany-LTG 1550-001]

Any failure leading to serious alteration in flight characteristics, which may lead to the initiation of emergency procedures. All major failures lead to mission abortion. The UAV is capable of safe flight and normal landing.

Major repair

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A repair:

- (1) That, if improperly done, might appreciably affect weight, balance, structural strength, performance, powerplant operation, flight characteristics, or other qualities affecting airworthiness; or
- (2) That is not done according to accepted practices or cannot be done by elementary operations.

Man-machine interface

[DefStan 00-970/1-Part 9]

The controls and displays that a UAV System crew member uses to control, monitor or otherwise interact with the system.

Manned aircraft

[Access 5 HALE ROA Concept of Operations, Version 2, March 2005 (definitions corrected to substitute UAS for UAV, ROA, etc.)]

Aircraft piloted by a human onboard.

Maneuver area

[FAA Order 76104]

A designated area within an MTR where aircraft may deviate within the corridor to perform operational requirements.

Manifold pressure

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Absolute pressure as measured at the appropriate point in the induction system and usually expressed in inches of mercury.

Manufacture stage (DefStan 00-970/1-Part 9)

The fourth stage of six in the Smart Procurement lifecycle that aims to "deliver a solution that provides acceptable performance against operational needs". During this stage the IPT delivers the solution to the military requirement, completing system development and production. The Capability Manager conducts System Acceptance.

Master UAV controller (D/Flying, UK)

Designates the member in charge of the UAVC team who is, effectively, the commander of the aircraft.

NOTE The actual individual can change either because of the way the UAVS operates or because he/she is relieved during protracted operations. There will, however, always be one individual who is the MUAVC during any stage of flight and is therefore ultimately responsible for the UAV.

Maximum speed for stability characteristics

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A speed that may not be less than a speed midway between maximum operating limit speed (VMO/MMO) and demonstrated flight diving speed (VDF/MDF), except that, for altitudes where the Mach number is the limiting factor, MFC need not exceed the Mach number at which effective speed warning occurs.

Medical certificate

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Acceptable evidence of physical fitness on a form prescribed by the Administrator.

Metadata

[NATO]

Metadata is defined literally as 'data about data'. However, the term is normally understood to mean structured data about resources that can be used to help support resource description and discovery, the management of information resources (e.g., to record information about their location and acquisition), long-term preservation management of

digital resources, and for help to preserve the context and authenticity of resources. Other metadata might be technical in nature, documenting how resources relate to particular software and hardware environments or for recording digitisation parameters. In short, any kind of standardised descriptive information about resources, including non-digital ones.

Military operations area

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A military operations area (MOA) is airspace established outside Class A airspace to separate or segregate certain non-hazardous military activities from IFR Traffic and to identify for VFR traffic where these activities are conducted.

Military aircraft (MA) release

[DefStan 00-970/1-Part 9]

The statement on behalf of the Chief of Defence Procurement that an acceptable Safety Case has been prepared for the UAV System and its equipment, and forms the basis for the Release To Service of the UAV System.

Military authority assumes responsibility for separation of aircraft (MARSA)

[FAA Order 76104]

A condition whereby the military services involved assume responsibility for separation between participating military aircraft in the ATC system. It is used only for required IFR operations which are specified in letters of agreement or other appropriate FAA or military documents.

Military aviation document

[Swedish Military Flight Safety Inspectorate]

A certificate or authorization signed by the Inspector of Military Flight Safety when the applicant has passed the entry control. The document may apply to an individual person, operator or provider, aviation related service, aeronautical product, ground, construction, premises or other facilities and equipment or other things that may have an influence on the level of flight safety (RML-G-1.6)

Military flight safety

[Swedish Military Flight Safety Inspectorate]

Military flight safety aims at freedom from those conditions within the Military aviation system that can cause death, injury, occupational illness, or damage to or loss of equipment or property, or damage to the environment. The expression Military flight safety is directly linked to the handling of risks so that non-desirable occurrences are limited to a acceptable level.

Military Operations Area

[DRAFT Terminology for Unmanned for Unmanned Aerial Vehicles and Remotely Operated Aircraft, American Institute of Aeronautics and Astronautics, 2003]

Airspace established outside Class A airspace to separate or segregate certain non-hazardous military activities from IFR Traffic and to identify for VFR traffic where these activities are conducted.

Military operations area (MOA)

[FAA Order 76104]

Special use airspace of defined vertical and lateral dimensions established outside Class A airspace to separate/segregate certain non-hazardous military activities from IFR traffic in controlled airspace and to identify for VFR traffic where these activities are conducted.

Military radar unit (MRU)

[FAA Order 76104]

Any fixed or mobile ground-based unit under the operational jurisdiction of the military services excluding commissioned ATC facilities. This includes the AWACS aircraft when it meets the requirements of this order. MRU's will provide services in accordance with the letter of agreement with the appropriate ATC facilities; however, MRU's shall not provide ATC services.

Military training route (MTR)

[FAA Order 76104]

Routes developed for use by the military for the purpose of conducting low-altitude, high-speed training.

Minimum communications (MINCOMM)

[FAA Order 76104]

A procedure whereby air traffic control information is exchanged between aircrews and air traffic facilities in accordance with a pre-arranged memorandum of understanding (MOU).

Minimum descent altitude

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

The lowest altitude, expressed in feet above mean sea level, to which descent is authorized on final approach or during circle-to-land maneuvering in execution of a standard instrument approach procedure, where no electronic glide slope is provided.

Minimum en route IFR altitude (MEA)

[FAA Order 76104]

The lowest published altitude between radio fixes which assures acceptable navigational signal coverage and meets obstacle clearance requirements between those fixes. The MEA prescribed for an airway or segment thereof, area navigation low or high route, or other direct route applies to the entire width of the airway, segment, or route between the radio fixes defining the airway, segment, or route.

Minimum navigational performance standards (MNPS)

[FAA Order 76104]

A specified set of minimum navigational performance standards which aircraft must meet in order to operate in MNPS-designated airspace. This is to ensure safe operation of aircraft through reduced separation standards resulting from the improvement in accuracy of enhanced navigational equipment.

Minor alteration

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An alteration other than a major alteration.

Minor failure

[WTD 61, Germany-LTG 1550-001]

Any failure leading to slight alterations in flight characteristics.

Minor repair

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A repair other than a major repair.

Missile attack warning

[FAA Order 76104]

The phraseology used for actual flush operations.

Mission

[DefStan 00-970/1-Part 9]

Tasks to be performed during a sortie.

Mission change time

[NATO]

Mission Change Time includes all of the functions in Turn Around Time and the time required to change the AV payload.

Mission commander

The UAV's mission commander is the designated individual tasked with the overall responsibility for the operation and safety of the UAV mission.

Mission critical system

[DefStan 00-970/1-Part 9]

A subsystem or functional element required to successfully complete a mission.

Mission related system/function

[DefStan 00-970/1-Part 9]

A system/function, the failure of which, will result in a degraded level of mission performance, but not so much so as to necessitate aborting the mission.

Mission failure

[DefStan 00-970/1-Part 9]

Any equipment failure that would prevent starting and completing a further mission from the time the incident occurred.

Mitigation

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

The means by which risk can be lowered to an acceptable level as determined by the safety objective.

Mock-up

[DefStan 00-970/1-Part 9]

A mock up is a three-dimensional full scale replica of the physical characteristics of a system or sub-system. A mock up can be developed only after system drawings are produced, although these drawings may only be preliminary ones.

Mode

[FAA Order 76104]

The letter or number assigned to a specific pulse spacing of radio

signals transmitted or received by ground interrogator or airborne transponder components of the Air Traffic Control Radar Beacon System (ATCRBS). Mode A (military Mode 3) and Mode C (altitude reporting) are used in air traffic control. (Refer to the AIM.)

Mode of flight

[RTCA SC 203 Original definition]

Various flight configurations of the system (e.g., landing mode, cruise, manual, autonomous, etc.)

Modularity

[NATO]

Use of sub-systems or components from one system to function properly as part of another system. The interface at the sub-system level is sufficiently defined.

Moored, captive of tethered balloon

[Swedish Military Flight Safety Inspectorate]

A balloon, which is attached to the surface of the earth by an object on the ground or by a cable.

Motion imagery

[NATO]

A sequence of images, with metadata, which are managed as a discrete object in standard motion imagery format and displayed as a time sequence of images.

Moving map display

[NATO]

A display in which a symbol, representing the vehicle, remains stationary while the map or chart image moves beneath the symbol so that the display simulates the horizontal movement of the vehicle in which it is installed.

Moving reservation

[FAA Order 76104]

ALTRV's which encompass en route activities and advance coincident with the mission progress.

Moving target indicator (MTI)

[NATO]

A radar presentation which shows only targets which are in motion. Signals from stationary targets are subtracted out of the return signal by the output of a suitable memory circuit.

Multispectral imagery (MSI)

[NATO]

The image of an object obtained simultaneously in a number of discrete spectral bands.

Mutual interference

[DefStan 00-970/1-Part 9]

Impairment of the functioning of device, equipment or system caused by an electromagnetic disturbance that originates from within that device, equipment or system.

Narrow band link

[NATO]

A narrow band link is a link which has a bandwidth associated with radio transmissions.

National Airspace System

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

The common network of U.S. airspace; air navigation facilities, equipment and services, airports or landing areas; aeronautical charts, information and services; rules, regulations and procedures, technical information, and manpower and material. Included are system components shared jointly with the military.

National airspace system (NAS)

All of the airspace above the surface of the earth over the United States and its possessions.

National Television Standards Committee (NTSC)

The first colour TV broadcast system was implemented in the United States in 1953. This was based on the NTSC standard. NTSC is used by many countries on the North American continent and in Asia including Japan. This U.S. video standard uses EIA RS-170 and SMPTE 170 M – 1994 formats. The standard applies to imagery with metadata in either closed caption overlays or encoded via closed caption. NTSC runs on 525 lines/frame.

NATO Air Traffic Management Committee (NATMC)

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

The successor of the NATO Committee for European Airspace Coordination (CEAC) which has been involved in the development of Air Traffic Management (ATM) procedures for the operation of Unmanned Aerial Vehicles for several years.

NATO OSI Profile Strategy (NOSIP)

Interoperability strategy now merged into the NC3TA.

NATO Standardization Agreement (NATO STANAG)

The record of an agreement among several or all the member nations to adopt like or similar military equipment, ammunition, supplies, and stores; and operational, logistic, and administrative procedures. National acceptance of a NATO Allied publication issued by the Military Agency of Standardization may be recorded as a Standardization Agreement.

Nautical Mile

[DO-289 – Minimum Aviation System Performance Standards for Aircraft Surveillance Applications (ASA)]

A unit of length used in the fields of air and marine navigation. In this document, a nautical mile is always the international nautical mile of 1852 m exactly.

Navigable airspace

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Airspace at and above the minimum flight altitudes prescribed by or under this chapter, including airspace needed for safe takeoff and landing.

Navigation accuracy

[NATO]

Navigation Accuracy is the accuracy with which the AV can be located on the surface of the earth in terms of latitude and longitude and the altitude of the AV above the surface of the earth measured in feet.

NC3 Common Standards Profile (NCSP)

NCSP specifies the minimum set of communication and information technology standards to be mandated for the acquisition of all NATO C3 systems.

NC3 Technical Architecture (NC3TA)

The NC3TA forms the technical, standards-related view of an overarching NC3 Architectural Framework.

Near real time

[NATO]

Pertaining to the timeliness of data or information which has been delayed by the time required for electronic communication and automatic data processing. This implies that there are no significant delays. Network (1) An interconnection of three or more communicating entities and (usually) one or more nodes. (2) A combination of passive or active electronic components that serves a given purpose.

Night

The time between the end of evening nautical twilight and the beginning of morning nautical twilight converted to local time.

Night

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The time between the end of evening civil twilight and the beginning of morning civil twilight, as published in the American Air Almanac, converted to local time.

Non-cooperative Traffic

[Access 5 HALE ROA Concept of Operations, Version 2, March 2005 (definitions corrected to substitute UAS for UAV, ROA, etc.)]

Traffic that does not broadcast position or other information that assists in detecting and assessing conflict potential.

Non-crewmember (relating to contractor)

Personnel designated by the contractor to perform a function while the aircraft is in flight; e.g., technicians, observers, inspectors, system engineers, and photographers.

Non-crewmember flying status

The status assigned to soldiers who have duties directly related to the in-flight mission of the aircraft and these duties either supplement or cannot be performed by the assigned crewmembers.

Non-rated crewmember (UAV only)

The status assigned to soldiers who have duties directly related to the preparation and maintenance of UAVs and/or their mission payload systems, but not the in-flight mission; duties that either supplement or are not/cannot be performed by the UAV system's assigned rated crewmembers.

Non-precision approach procedure

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A standard instrument approach procedure in which no electronic glide slope is provided.

Non-real time processing

[NATO]

Non-flight critical processing accomplished within the host system software including interface to C4I system(s). Pertaining to the timeliness of data or information that has been delayed by the time required for electronic communication and automatic/manual data processing. There can be significant delays.

Non-Segregated Airspace

[RTCA SC 203 Original definition]

Airspace available for use by all aircraft.

NORAD command and control identifiers (CCI's)

[FAA Order 76104]

CCI's are the method by which the NORAD air defense system reports command and control structure within the regions. CCI's include command location and tactical control source. The tactical control source is the facility/facilities providing tactical control.

NORAD region

[FAA Order 76104]

A geographical subdivision of the area for which NORAD is responsible.

NORAD sector

[FAA Order 76104]

A geographical subdivision of a NORAD region.

Notice to airmen (NOTAM)

[FAA Order 76104]

A notice containing information (not known sufficiently in advance to publicise by other means) concerning the establishment, condition, or change in any component (facility, service, procedure, or hazard) of the National Airspace System, the timely knowledge of which is essential to personnel concerned with flight operations.

- (a) NOTAM(D). A NOTAM given (in addition to local dissemination) distant dissemination via data communications equipment beyond the area of responsibility of the Flight Service Station. These NOTAM's are stored and repeated hourly until canceled.
- (b) NOTAM (L). A NOTAM given local dissemination by voice, data communication equipment, and a wide variety of means such as: telautograph, teleprinter, facsimile reproduction, hot line, telecopier, telegraph, and telephone to satisfy local user requirements.
- (c) FDC NOTAM. A NOTAM, regulatory in nature, transmitted by the National Flight Data Center (NFDC) and given all-circuit dissemination.

Nuclear EMP

[DefStan 00-970/1-Part 9]

A secondary output of nuclear weapons resulting from the interaction of the prompt gamma rays with the atmosphere.

Nuclear weapon accident (Broken Arrow)

[FAA Order 76104]

An unexpected event involving nuclear weapons or nuclear components which results in any of the following:

- (a) Accidental or unauthorized launching, firing, or use by U.S. force or U.S. supported Allied forces, or a nuclear capable weapon(s) system which could create the risk of outbreak of war.
- (b) Nuclear detonation.
- (c) Non-nuclear detonation/burning of a nuclear weapon.
- (d) Radioactive contamination.
- (e) Seizure, theft, or loss of a nuclear weapon or nuclear component including jettisoning.
- (f) Public hazard, actual or implied.

Oceanic route

[FAA Order 76104]

Routes generally depicted on position reporting charts to facilitate flight planning and position reporting while conducting flight in ICAO oceanic control areas.

Offset point

[FAA Order 76104]

A point in space relative to a target's path toward which an interceptor is vectored or from which the final attack heading or turn is made.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Offshore/control airspace area

[FAA Order 76104]

That portion of airspace between the U.S. 12-mile limit and the oceanic CTA/FIR boundary within which air traffic control is exercised. These areas are established to provide air traffic control services. Offshore/Control Airspace Areas may be classified as either Class A airspace or Class E airspace.

On condition maintenance

[NATO]

Maintenance performed as a result of an indication of a component failure or a change in status of a system component (such as wear indications) which requires repair or replacement.

On task time

[NATO]

On task time is the amount of time that the AV can spend in the objective area during a single flight. The AV is in the objective area if the AV payload can accomplish the mission within the geographic parameters, which the AV controller is assigned as an objective.

On-the-loop

[RTCA SC 203 Original definition]

A UA pilot, who provides flight path guidance to an onboard computer which controls the aircraft flight path, is said to be «on-the-loop.»

Open skies

[FAA Order 76104]

A treaty based on complete territorial openness, addressing the use of unarmed observation aircraft with sensors, and annual quotas of observation flights which each State Party is willing to accept, and entitled to conduct. Open Skies aircraft shall take priority over any regular air traffic.

Open systems architecture

[DefStan 00-970/1-Part 9]

A system architecture composed of components that have well-defined interfaces conforming to standard interface specifications.

Open systems interconnect model

This model is defined in ISO/IEC 7498-1.

Operate

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to aircraft, means use, cause to use or authorize to use aircraft, for the purpose (except as provided in §91.13 of this chapter) of air navigation including the piloting of aircraft, with or without the right of legal control (as owner, lessee, or otherwise).

Operational air traffic (OAT)

Flights which do not comply with the provisions stated for GAT and for which rules and procedures have been specified by the appropriate authorities. The foundation of OAT is the Convention of International Civil Aviation of Chicago 1944, which stipulates in Article 3:

- applicable to civil aircraft, the Convention will not apply to state-owned aircraft;
- aircraft used in military services are deemed to be state aircraft;
- OAT operations apply the principle of due regard for GAR operations.

Operational Capability

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

Defines the needs of operators and ATS providers, usually according to cost/benefit, schedule, technological feasibility, and safety. Its scope is such that the requirements to attain the operational capability can be analyzed. Used interchangeably with operational objective.

Operational Concept

[Access 5 HALE ROA Concept of Operations, Version 2, March 2005 (definitions corrected to substitute UAS for UAV, ROA, etc.)]

A high level description of ATM services necessary to integrate ROA into the NAS by a given time horizon.

Operational control

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to a flight, means the exercise of authority over initiating, conducting or terminating a flight.

Operational flying

Flying performed by qualified personnel primarily for mission support or training, while serving in assignments in which basic flying skills normally are kept current while performing assigned duties. All flying by qualified members of the RC not on extended active duty is opera-

tional flying.

Operator

[RTCA SC 203 Original definition]

The organization or individual who uses, causes to use or authorizes to use aircraft, for the purpose (except as provided 14 CFR 91.13) of air navigation including the piloting of aircraft, with or without the right of legal control (as owner, lessee, or otherwise).

Operator aids

[NATO]

Operator aids are display presentations providing information such as payload data and air vehicle status, which allow the operator to easily exploit data and control the air vehicle.

Operational architecture

[NATO]

A description of the operational elements, assigned tasks, and information flows required to support the warfighter. It defines the type of information, the frequency of exchange, and what tasks are supported by these information exchanges. The operational architecture is often graphical and describes missions, functions, tasks, and information requirements.

Operator or provider

[Swedish Military Flight Safety Inspectorate]

A military unit, enterprise or unit that is holder of a military aviation document and participant of the military aviation system i.e. even outside the Swedish Armed Forces. (RML-G-1.7)

Optionally Piloted Aircraft

[Access 5 Policy IPT]

Aircraft that may be operated with or without an onboard pilot

OPTEMPO

Hours flown per crew per month in MTO&E UAVs assigned in FORSCOM, USAREUR, USARPAC, USFK, USARSO, ARNG, and USAR.

Order of battle

[NATO]

The identification, strength, command structure, and disposition of the personnel, units, and equipment of any military force.

Overall safety

[Swedish Military Flight Safety Inspectorate]

The ability of the Swedish Armed Forces to manage risks related to any activity including development, acquisition, deployment and operation, support, dismantling and possible recycling of activities, personnel, materiel systems, ground, constructions, premises, equipment and supplies, in such a way that safety requirements applicable to any activity are satisfied in a life cycle perspective.

Note 1 : The term *Overall safety* shall be used within the Swedish Armed Forces as a generic term when safety bears upon any activity.

Note 2 : The term Overall safety is directly related to dealing with risks such that undesirable events are confined to a tolerable level.

Note 3 : The *Overall safety* related to activities within the Swedish Armed Forces is divided by activity areas into:

- Military field (or ground) safety
- Military naval safety, and
- Military flight safety. (RML-G-1.10)

Overseas air commerce

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The carriage by aircraft of persons or property for compensation or hire, or the carriage of mail by aircraft, or the operation or navigation of aircraft in the conduct or furtherance of a business or vocation, in commerce between a place in any State of the United States, or the District of Columbia, and any place in a territory or possession of the United States; or between a place in a territory or possession of the United States, and a place in any other territory or possession of the United States.

Overseas air transportation

[FAA, Doc.No. 1150, 27 FR 4588, May 15, 1962]

The carriage by aircraft of persons or property as a common carrier for compensation or hire, or the carriage of mail by aircraft, in commerce:

- (1) Between a place in a State or the District of Columbia and a place in a possession of the United States; or
- (2) Between a place in a possession of the United States and a place in another possession of the United States; whether that commerce moves wholly by aircraft or partly by aircraft and partly by

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

other forms of transportation.

Over-the-top

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Above the layer of clouds or other obscuring phenomena forming the ceiling.

PACAF region

[FAA Order 76104]

A geographical subdivision of the area for which PACAF is responsible.

Pacific Air Forces (PACAF)

[FAA Order 76104]

Both a USAF Major Command and the Air Component of the Unified U.S. Pacific Command (USPACOM).

Pacific Island Air Defense Region (PIADR)

[FAA Order 76104]

A geographical subdivision of the USPACOM area for which the Air Component Commander is responsible for air defense.

Pacific military altitude reservation facility (PACMARF)

[FAA Order 76104]

A USAF facility established for the purpose of co-ordinating altitude reservations within its area of responsibility.

Parachute

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A device used or intended to be used to retard the fall of a body or object through the air.

Part number

[DefStan 00-970/1-Part 9]

A set of numbers, letters, symbols or some combination thereof, assigned by a manufacturer to identify uniquely the design of a specific part or item of materiel in his/her own inventory.

Partial route (PR)

[FAA Order 76104]

A track of an ALTRV that begins at the international boundary for aircraft inbound from an international airport to the CONUS or a track that is connected to a DD-175/DD-1801 (domestic flight plan).

Participating aircraft

[FAA Order 76104]

Only those aircraft engaged in, and a part of, the activity being conducted.

Parts & appliances

[JAA TF WG II]

Any instrument, equipment, mechanism, part, apparatus, appurtenance or accessory, including communications equipment, that is used or intended to be used in operating or controlling an aircraft in flight and is installed in or attached to a product.

Passive

[NATO]

In surveillance, an adjective applied to actions or equipment which emit no energy capable of being detected.

Passive receiver station

[NATO]

The Passive Receiver Station is a UCS enabling a level two interoperability.

Payload

[DefStan 00-970/1-Part 9]

The device or equipment carried by the UAV, which performs the mission assigned. The payload comprises all elements of the air vehicle that are not necessary for flight but are carried for the purpose of fulfilling specific mission objectives. This may include such sub-systems as:

- ISTAR assets;
- Communication Relay equipment;
- Transponders; (including IFF);
- Offensive weapons;
- EW systems;
- C⁴I assets, and;
- Defensive Aid Suites.

Payload

[NATO]

The payload of a UAV is the sensor(s), weapons, chaff, pamphlets, onboard systems, etc. carried onboard which are used to accomplish a specified mission.

Payload plan

[NATO]

A payload plan may start with details of the sensor to be used, or which sensors are to be loaded if multiple payloads are within the UAV capability. At specific points along a route there may be pre-planned sensor operations and the details of these have to be incorporated into the payload plan and associated with waypoints in the route. The resulting payload plan has to be available as hard copy for UAV payload loading and for display with or along side the route plan, action cueing has to be incorporated either for the operator or the UAV depending on system sophistication.

Penetrating traffic

[FAA Order 76104]

Traffic whose protected airspace, as defined in pertinent regulations, infringes upon another authority's area of jurisdiction or responsibility when measured from the center line of the route of flight or the edge of a stationary ALTRV boundary.

Performance Class 1 helicopter

[ICAO Annex 8]

A helicopter with performance such that, in case of engine failure, it is able to land on the rejected take-off area or safely continue the flight to an appropriate landing area.

Performance Class 2 helicopter

[ICAO Annex 8]

A helicopter with performance such that, in case of engine failure, it is able to safely continue the flight, except when the failure occurs prior to a defined point after take-off or after a defined point before landing, in which cases a forced landing may be required.

Performance Class 3 helicopter

[ICAO Annex 8]

A helicopter with performance such that, in case of engine failure at any point in the flight profile, a forced landing must be defined.

Performance requirements

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

Set of requirements that define a function's performance, and expressed by a set of characteristics/attributes associated to all or part of a system. Those include transaction and expiration times, continuity, availability, and integrity characteristics

Person

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An individual, firm, partnership, corporation, company, association, joint-stock association, or governmental entity. It includes a trustee, receiver, assignee, or similar representative of any of them.

Phase of Flight

[RTCA SC 203 Original definition]

A distinct stage of flight which includes takeoff, climb, enroute, mission operations, descent, approach, landing

Phases of Operation

[RTCA SC 203 Original definition]

A distinct stage of operation which includes: preflight ground operations, all flight phases, and post flight ground operations.

Photo reconnaissance (PHR)

[FAA Order 76104]

Military activity that requires locating individual photo targets and navigating to the targets at a preplanned angle and altitude. The activity normally requires a lateral route width of 16 NM and an altitude range of 1,500 feet to 10,000 feet AGL.

Photographic intelligence

[NATO]

The collected products of photographic interpretation, classified and evaluated for intelligence use.

Pilot

[RTCA SC 203 Original definition]

The individual that maneuvers, controls, or monitors the UA.

Pilotage

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Navigation by visual reference to landmarks.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Pilot in command

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The person who:

- (1) Has final authority and responsibility for the operation and safety of the flight;
- (2) Has been designated as pilot in command before or during the flight; and
- (3) Holds the appropriate category, class, and type rating, if appropriate, for the conduct of the flight.

Pitch setting

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The propeller blade setting as determined by the blade angle measured in a manner, and at a radius, specified by the instruction manual for the propeller.

Positive control

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Control of all air traffic, within designated airspace, by air traffic control.

Positive target control (PTC)

[FAA Order 76104]

The operation of faker aircraft transponders on discrete Mode 3/A codes to satisfy Air Defense faker monitor and ATC requirements.

Post-flight inspection

The set of manufacturer recommended systems and components functional tests to be performed following any launch or engine run-up to determine performance of systems and determine conditions, if any, necessitating repair and/or maintenance.

Powered-lift

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A heavier-than-air aircraft capable of vertical takeoff, vertical landing, and low speed flight that depends principally on engine-driven lift devices or engine thrust for lift during these flight regimes and on non-rotating airfoil(s) for lift during horizontal flight.

Power unit

[ICAO Annex 8]

A system of one or more engines and ancillary parts which are together necessary to provide thrust, independantly of the continued operation of any power unit(s), but not including short period thrust-producing devices.

Pre-flight inspection

The set of manufacturer recommended systems and components functional tests to be performed prior to any launch or engine start/run-up.

Precision approach procedure

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A standard instrument approach procedure in which an electronic glide slope is provided, such as ILS and PAR.

Prefiled flight plan

[FAA Order 76104]

A flight plan on file in an FAA facility to provide for point-to-point operations of a recurring nature or quick reaction deployment missions. This type flight plan will normally include permanent type data, such as route, with a special mission designation when required.

Pressure-altitude

[ICAO Annex 8]

An atmospheric pressure expressed in terms of altitude which corresponds to that pressure in the standard atmosphere.

Preventive maintenance

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

Primary data

[NATO]

Data directly received from the sensor.

Primary entry track

[FAA Order 76104]

A track along which en route descent is made to the entry point of an MTR.

Primary imagery

[NATO]

Unexploited, original imagery data that has been derived directly from a

sensor. Elementary processing may have been applied at the sensor, and the data stream may include auxiliary data.

Primary penetration fix

[FAA Order 76104]

The fix from which the Primary Entry Track of an MTR begins. This fix shall be described by reference to a ground-based navigational aid.

Probability

[UAVS, UK]

The likelihood of an event occurring.

Processed imagery

[NATO]

Imagery that has been formatted into image pixel format, enhanced to remove detected anomalies and converted to a format appropriate for subsequent disposition.

Prohibited area

Designated airspace within which flight is prohibited.

Prohibited area

[Swedish Military Flight Safety Inspectorate]

A segregated airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is prohibited.

Prohibited area

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A prohibited area is airspace designated under part 73 within which no person may operate an aircraft without the permission of the using agency.

Propeller

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A device for propelling an aircraft that has blades on an engine-driven shaft and that, when rotated, produces by its action on the air, a thrust approximately perpendicular to its plane of rotation. It includes control components normally supplied by its manufacturer, but does not include main and auxiliary rotors or rotating airfoils of engines.

Propulsion system

A system comprised of those components necessary to ensure the safe propulsion of the aircraft and/or UAV(s).

Protocol

[NATO]

- (1) [In general], A set of semantic and syntactic rules that determine the behavior of functional units in achieving communication. For example, a data link protocol is the specification of methods whereby data communication over a data link is performed in terms of the particular transmission mode, control procedures, and recovery procedures.
- (2) In layered communication system architecture, a formal set of procedures that are adopted to facilitate functional interoperation within the layered hierarchy.

Note: Protocols may govern portions of a network, types of service, or administrative procedures.

Public aircraft

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An aircraft used only for the United States Government, or owned and operated (except for commercial purposes), or exclusively leased for at least 90 continuous days, by a government (except the United States Government), including a State, the District of Columbia, or a territory or possession of the United States, or political subdivision of that government; but does not include a government-owned aircraft transporting property for commercial purposes, or transporting passengers other than transporting (for other than commercial purposes) crewmembers or other persons aboard the aircraft whose presence is required to perform, or is associated with the performance of, a governmental function such as firefighting, search and rescue, law enforcement, aeronautical research, or biological or geological resource management; or transporting (for other than commercial purposes) persons aboard the aircraft if the aircraft is operated by the Armed Forces or an intelligence agency of the United States. An aircraft described in the preceding sentence shall, notwithstanding any limitation relating to use of the aircraft for commercial purposes, be considered to be a public aircraft for the purposes of this Chapter without regard to whether the aircraft is operated by a unit of government on behalf of another unit of government, pursuant to a cost reimbursement agreement between such units of government, if the unit of government on whose behalf the operation is conducted certifies to the Administrator of the Federal Aviation Administration that the operation was necessary to respond

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

to a significant and imminent threat to life or property (including natural resources) and that no service by a private operator was reasonably available to meet the threat.

Public Use Aircraft

[Access 5 HALE ROA Concept of Operations, Version 2, March 2005 (definitions corrected to substitute UAS for UAV, ROA, etc.)]
Aircraft used only for the United States Government, or owned and operated (except for commercial purposes), or exclusively leased for at least 90 continuous days, by a government (except the United States Government), including a State, the District of Columbia, or a territory or possession of the United States, or political subdivision of that government.

Qualification

[DefStan 00-970/1-Part 9]

The process of carrying out tests/studies on components and equipment to ensure compliance with the requirements of the system specification for the particular component or equipment. Such specifications may include performance, airworthiness and safety aspects. This process is carried out prior to issue of the Certificate of Design (Reference: Def Stan 05-123) and is the responsibility of the Design Authority/prime contractor.

Qualification

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]
Process through which a State/approval authority/applicant ensures that a specific implementation satisfies applicable requirements with a level of confidence.

Qualified entity

[JAA TF WG II]

A body which may conduct certification tasks under the control and responsibility of the Agency.

Radar advisory

[FAA Order 76104]

The provision of advice and information based on radar observations.

Radar contact

[FAA Order 76104]

- (a) Used to inform an aircraft that it is identified on the radar display and radar flight following will be provided until radar identification is terminated. Radar service may also be provided within the limits of necessity and capability. When a pilot is informed of "radar contact" by ATC, the pilot automatically discontinues reporting over compulsory reporting points.
- (b) The term an air traffic controller uses to inform the transferring controller that the target being transferred is identified on the radar display. (See Radar Service.) (Refer to the AIM.)

Radar flight-following

[FAA Order 76104]

The observation of the progress of radar identified aircraft, whose primary navigation is being provided by the pilot, wherein the controller retains and correlates the aircraft identity within the appropriate target or target symbol displayed on the radar scope. (See Radar Contact, Radar Service.) (Refer to the AIM.)

Radar hand-off

[FAA Order 76104]

That action whereby radar identification of an aircraft is made known from one controller to another.

Radar identification

[FAA Order 76104]

The process of ascertaining that an observed radar target is the radar return from a particular aircraft. (See Radar Contact, Radar Service.)

Radar service

[FAA Order 76104]

A term which encompasses one or more of the following services based on the use of radar which can be provided by a controller to a radar identified aircraft.

- (a) Radar Separation. Radar spacing of aircraft in accordance with established minima.
- (b) Radar Navigational Guidance. Vectoring aircraft to provide course guidance.
- (c) Radar Monitoring. The radar flight-following of aircraft, whose primary navigation is being performed by the pilot, to observe and note deviations from its authorized flight path, airway, or route. When being applied specifically to radar monitoring of instrument approaches; i.e., with precision approach radar (PAR) or radar

monitoring of simultaneous ILS approaches, it includes advice and instructions whenever an aircraft nears or exceeds the prescribed PAR safety limit or simultaneous ILS no transgression zone.

Radar traffic advisories

[FAA Order 76104]

Advisories issued to alert pilots to known or observed radar traffic which may affect the intended route of flight of their aircraft. (See Traffic Advisories.)

Radhaz

[DefStan 00-970/1-Part 9]

Radiation Hazard

Radiated emission

[DefStan 00-970/1-Part 9]

Signals and/or noise propagated by radiated fields.

Radiated interference

[DefStan 00-970/1-Part 9]

Impairment of the functioning of a device, equipment or system caused by radiated emissions.

Radiated susceptibility

[DefStan 00-970/1-Part 9]

Assessment of the immunity of the equipment under test to potentially interfering signals propagated by radiation.

Radius of action

[NATO]

The maximum distance a ship, aircraft, or vehicle can travel away from its base along a given course with normal combat load and return without refueling, allowing for all safety and operating factors. For a UAV system the radius of action is defined as the maximum range at which the AV can achieve the on-task times stated.

RAI

RAI was the Italian Civil Aviation Authority. It is now integrated with the ENAC, as Struttura Registro Aeronautico Italiano.

Range air controller

[D/Flying, UK]

When operating a UAVS that involves flight within a Danger Area or range, the RAC is to be an appropriately qualified Air Traffic Control Officer. The RAC is responsible for providing appropriate separation between all aircraft (whether manned or unmanned and/or whether known or unknown). Where the UAV is acting as a target, the RAC is to provide vectoring instructions to the UAVS, attack fighters and chase aircraft to achieve the specifications laid down in the trials instructions.

Rated 30-second OEI power

[FAA, Doc.No. 1150, 27 FR 4588, May 15, 1962]

With respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, for continued one-flight operation after the failure of one engine in multiengine rotorcraft, limited to three periods of use no longer than 30 seconds each in any one flight, and followed by mandatory inspection and prescribed maintenance action.

Rated 2-minute OEI power

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under part 33 of this chapter, for continued one-flight operation after the failure of one engine in multiengine rotorcraft, limited to three periods of use no longer than 2 minutes each in any one flight, and followed by mandatory inspection and prescribed maintenance action.

Rated continuous OEI power

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under Part 33 of this chapter, and limited in use to the time required to complete the flight after the failure of one engine of a multiengine rotorcraft.

Rated crewmember (Aircraft)

Aviators described in this regulation and AR 600-105.

Rated crewmember (Unmanned aerial vehicle)

UAV crewmembers described in this regulation and in AR 611-201

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

who have completed a TRADOC-approved UAV qualification training program, and whose assigned duties directly influence the in-flight mission of the UAV and/or its mission payload equipment.

Rated maximum continuous augmented thrust

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to turbojet engine type certification, means the approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under Part 33 of this chapter, and approved for unrestricted periods of use.

Rated maximum continuous power

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to reciprocating, turbopropeller, and turboshaft engines, means the approved brake horsepower that is developed statically or in flight, in standard atmosphere at a specified altitude, within the engine operating limitations established under Part 33, and approved for unrestricted periods of use.

Rated maximum continuous thrust

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to turbojet engine type certification, means the approved jet thrust that is developed statically or in flight, in standard atmosphere at a specified altitude, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under Part 33 of this chapter, and approved for unrestricted periods of use.

Rated takeoff augmented thrust

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, with fluid injection or with the burning of fuel in a separate combustion chamber, within the engine operating limitations established under Part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff power

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to reciprocating, turbopropeller, and turboshaft engine type certification, means the approved brake horsepower that is developed statically under standard sea level conditions, within the engine operating limitations established under Part 33, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated takeoff thrust

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to turbojet engine type certification, means the approved jet thrust that is developed statically under standard sea level conditions, without fluid injection and without the burning of fuel in a separate combustion chamber, within the engine operating limitations established under Part 33 of this chapter, and limited in use to periods of not over 5 minutes for takeoff operation.

Rated 30-minute OEI power

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under Part 33 of this chapter, and limited in use to a period of not more than 30 minutes after the failure of one engine of a multiengine rotorcraft.

Rated 2 1/2-minute OEI power

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to rotorcraft turbine engines, means the approved brake horsepower developed under static conditions at specified altitudes and temperatures within the operating limitations established for the engine under Part 33 of this chapter, and limited in use to a period of not more than 2 1/2 minutes after the failure of one engine of a multiengine rotorcraft.

Rating

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A statement that, as a part of a certificate, sets forth special conditions, privileges, or limitations.

Real-time (1)

In the context of ATM communication related to UAVs, the meaning of term "Real-time" should be defined as "the amount of time required to deliver or exchange information or data so that it can influence or affect the situation or event in the way intended" (cf Recommendation

2.3 of the October, 1999 Joint Eurocontrol & NATMC UAV ATM Workshop.

Real-time (2)

[DefStan 00-970/1-Part 9]

A process or activity occurs in real-time if it responds within a short, tightly-specified time variant from an external source, typically a small fraction of a second. For instance, it may be tightly synchronised with a reference clock (such as time of day) or a simultaneous process of another system.

Real time processing

[NATO]

AV command and control info including antenna positioning and AV video receipt and processing. Pertaining to the timeliness of data or information that has been delayed only by the time required for electronic communication. This implies that there are no noticeable delays.

Reconnaissance

[NATO]

A mission undertaken to obtain, by visual observation or other detection methods, information about the activities and resources of an enemy or potential enemy; or to secure data concerning the meteorological, hydrographic characteristics of a particular area.

Recovery (1)

[DefStan 00-970/1-Part 9]

The phase of a UAV System mission that involves the return of an air vehicle to the ground or to base and includes the approach to the landing platform and landing.

Recovery (2)

[FAA Order 76104]

Penetration and approach of aircraft.

Recovery (3)

[NATO]

The term "recovery" or "recovery phase" in air operations is the phase of a mission which involves the return of an aircraft to base and includes the approach to the landing platform, & landing. If the Air Vehicle is to be stowed after flight, securing on deck and handling of the air vehicle is also included.

Reduced Vertical Separation Minimum

[RTCA SC 203 Original definition]

The decrease in vertical separation distance between aircraft from 2,000 feet to 1,000 when flying between FL 290 and FL 410.

Redundancy

[DefStan 00-970/1-Part 9]

The provision of duplicate or additional facilities to increase availability at given levels of reliability and logistic delay.

Re-entry track

[FAA Order 76104]

An associated track commencing from a defined point on an MTR from which low-level re-entry can be achieved for the purpose of executing additional runs through segments of an MTR.

Reference landing speed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The speed of the airplane, in a specified landing configuration, at the point where it descends through the 50 foot height in the determination of the landing distance.

Refuelling level

[FAA Order 76104]

A block of consecutive altitudes/flight levels from ARIP to exit point within which entry into the refuelling track, maneuvering to rendezvous, and transfer of fuel will be accomplished.

Regional operations control center (ROCC)

[FAA Order 76104]

A NORAD facility tasked to manage air defense operations in a designated area within the NORAD area of operations. (Alaskan ROCC also functions as a NORAD sector operations control center-SOCC.)

Registration, aircraft

[DefStan 00-970/1-Part 9]

The identification numbers and/or letters specific to a particular airframe. Aircraft registration may be civil or military, and the regulatory authority for the aircraft follows the type of aircraft registration. Civil registration implies an aircraft identification in the form of a national letter or letters followed by letters or numbers (for the UK, G and four other letters). UK military registration implies aircraft identification in the form of two

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

letters followed by three numbers. AD/ADRP vets registration applications and maintains the UK Military Aircraft Register.

Release to service (RTS)

[DefStan 00-970/1-Part 9]

The MOD Release to Service is the release document that authorises service flying on behalf of the Service Chief of Staff. The RTS is derived from the *MA Release* (qv) and refers to the Safety Case documentation for the aircraft/UAV System or equipment, including the limitations and aircraft/UAV System description, and defines the as-flown standard of the aircraft/UAV System. It also contains the "Service Deviations" (SDs) (qv) for the aircraft/UAV System. The limitations of the RTS are the definitive limits for the aircraft/UAV System in service-regulated flying.

Reliability

[RTCA SC 203 Original definition]

The probability that the system will operate as designed without encountering significant faults or failures.

Reliability

[DefStan 00-970/1-Part 9]

The ability of an item to perform a required function under stated conditions for a specified period of time.

Remote pilot procedures (RPP)

[JAR21-ESG1]

- RPPs are derived from Standard Operating Procedures (SOP) which are seen to have a direct relation to UAV guidance & control,
- ATC communication belonging to SOP is not listed explicitly
- TRX represents Transmit and Receive, this covers the transmission of Data from the CS to the UAV and the Data receipt in the UAV or the other way round.

Remotely operated aircraft

[FAA Order 76104]

A pilotless aircraft, including drones, which is remotely controlled by an external source either airborne or on the surface.

Remotely operated aircraft

[General Atomics Aeronautical Systems, USA]

Aircraft cleared for flight outside controlled airspace above & below the airway system & in restricted airspace. Operator (not a certified pilot) familiar with aviation terminology & FAA/ATC terms.

Remotely piloted aircraft

[General Atomics Aeronautical Systems, USA]

Aircraft cleared for IFR & VFR flight in controlled & uncontrolled airspace. Requires a FAA certified pilot with FAA instrument rating; incl. transponders, TCAS.

Remotely piloted vehicle (RPV)

[NATO]

An unmanned vehicle capable of being controlled from a distant location through a communication link. It is normally designed to be recoverable.

Rendering (a Certificate of Airworthiness) valid

[ICAO Annex 8]

The action taken by a Contracting State, as an alternative to issuing its own Certificate of Airworthiness, in accepting a Certificate of Airworthiness issued by any other Contracting State as the equivalent of its own Certificate of Airworthiness.

Rendezvous

[FAA Order 76104]

A planned arrival of two or more aircraft over a predetermined point terminating in a visual contact prior to effecting a refuelling hook-up or conducting other activities requiring proximate operations.

Remote piloted vehicle (RPV)

[Joint JAA/Eurocontrol UAV Task Force Final Report]

A UAV that is continuously under control of a pilot.

Remotely operated aircraft (ROA)

[Joint JAA/Eurocontrol UAV Task Force Final Report]

The US acronym for a UAV.

Repair

[DefStan 00-970/1-Part 9]

Repair is the technical operation to restore operational functions to an equipment or repairable damaged parts by adjustment, manufacture or the replacement of defective components .

Reporting point

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A geographical location in relation to which the position of an aircraft is reported.

Required Communication Performance

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

RCP is a statement of the communication performance necessary for operation within in a defined airspace.

Required Navigation Performance

[ICAO Doc 9650]

A statement of navigation system performance accuracy, integrity, continuity and availability necessary for operations within a defined airspace.

Requirement

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

An identifiable statement of a specification that can be validated and against which an implementation can be verified.

Residual risk

[Swedish Military Flight Safety Inspectorate]

The remaining risk which exists after all mitigation techniques have been implemented or exhausted, per the system safety order of precedence to reduce risks to a acceptable level.

Resolution

[NATO]

A measurement of the smallest detail which can be distinguished by a sensor system under specific conditions.

Restricted area

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A restricted area is airspace designated under Part 73 within which the flight of aircraft, while not wholly prohibited, is subject to restriction.

Restricted area

[Swedish Military Flight Safety Inspectorate]

A segregated airspace of defined dimensions, above the land areas or territorial waters of a State, within which the flight of aircraft is restricted in accordance with certain specified conditions.

Restricted operations area

[WTD 61, Germany-LTG 1550-001]

Airspace in which air traffic is subject to special restrictions.

Retrieval

[DefStan 00-970/1-Part 9]

The phase of a UAV System mission that occurs after recovery where the UAV is collected if necessary and returned to maintenance, operation or storage.

Risk

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

The combination of the probability, or frequency of occurrence of a defined hazard and the severity/magnitude of the consequences of the occurrence

Risk

[Swedish Military Flight Safety Inspectorate]

An expression of the possibility/impact of a mishap in terms of a potential mishap severity and probability.

Risk

[UAVS, UK]

Risk is not absolute. It is based upon an assessment of the probability of an event occurring and the perceived severity of that event to those assessing.

Risk

[DGA-CEV_TI-CEV 202001]

The risk associated with a failure condition is defined as being the probability of the hazardous event with its severity.

RNAV way point (W/P)

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A predetermined geographical position used for route or instrument approach definition or progress reporting purposes that is defined relative to a VORTAC station position.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Rocket

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An aircraft propelled by ejected expanding gases generated in the engine from self-contained propellants and not dependent on the intake of outside substances. It includes any part which becomes separated during the operation.

Rotorcraft

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A heavier-than-air aircraft that depends principally for its support in flight on the lift generated by one or more rotors.

Rotorcraft-load combination

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The combination of a rotorcraft and an external-load, including the external-load attaching means. Rotorcraft-load combinations are designated as Class A, Class B, Class C, and Class D, as follows:

- (1) Class A rotorcraft-load combination means one in which the external load cannot move freely, cannot be jettisoned, and does not extend below the landing gear.
- (2) Class B rotorcraft-load combination means one in which the external load is jettisonable and is lifted free of land or water during the rotorcraft operation.
- (3) Class C rotorcraft-load combination means one in which the external load is jettisonable and remains in contact with land or water during the rotorcraft operation.
- (4) Class D rotorcraft-load combination means one in which the external-load is other than a Class A, B, or C and has been specifically approved by the Administrator for that operation.

Route segment

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A part of a route. Each end of that part is identified by:

- (1) A continental or insular geographical location; or
- (2) A point at which a definite radio fix can be established.

Routine Operations

[RTCA SC 203 Original definition]

Common operations that are executed on a regular basis.

Safe guard

[DefStan 00-970/1-Part 9]

Facility or function that ensures protection against danger or the occurrence of a hazardous situation.

Safety

[DO-264 – Guidelines for Approval of the Provision and Use of Air Traffic Services Supported by Data Communications]

Freedom from unacceptable risk of harm.

Safety

[DefStan 00-970/1-Part 9]

The expectation that a system does not, under defined conditions, lead to a state in which human life is endangered. The scope of safety may be expanded by adding to this definition in the safety management plan and safety targets.

Safety case

[DefStan 00-970/1-Part 9]

The central justification for military aircraft airworthiness and record of safety analysis activities. It is a suite of documents providing a written demonstration that safety risks have been reduced as low as reasonably practicable, forming a living dossier that underpins every safety-related decision made during the design and operation of military aircraft. It includes a Safety Case Report providing a summary of the safety justification.

The *MA Release* and the *RTS* (qv) are derived from the Safety Case.

Safety critical system

[DefStan 00-970/1-Part 9]

A system (or one collection of systems) of the UAV System in which a disturbance or combination of disturbances could result in a direct hazard to the UAV System, crew, people or property.

Safety integrity

[DefStan 00-970/1-Part 9]

The likelihood of a safety critical system achieving its required safety features under all stated conditions within a stated measure of use.

Safety management plan

[DefStan 00-970/1-Part 9]

A plan describing the strategy, resources, organisation, management

and technical tasks to be employed to ensure satisfactory levels of safety.

Safety management system (SMS)

[DefStan 00-970/1-Part 9]

A management system providing a focus for activities that are particularly concerned with safety performance and legal compliance. Within the Safety Management System the development and maintenance of a *Safety Case* (qv) provides a focus and a clear organisational goal.

Safety of flight (SOF) messages

Electrically transmitted messages pertaining to any defect or hazardous condition, actual or potential, that can cause personal injury, death, or damage to aircraft, components or repair parts where a medium to high risk safety condition has been determined per AR 385-16.

Safety related system/function

[DefStan 00-970/1-Part 9]

A system/function the failure of (or disturbance in) which will result in a degraded level of safety, but not pose an immediate, direct hazard to the UAV System, crew, people or property.

Safety targets

[DefStan 00-970/1-Part 9]

Baseline criteria for the safety and airworthiness of aircraft/UAV System, equipment and other systems. These are normally set in numerical terms (eg the number of accidents due to equipment failure per flight hour).

Scalability

[NATO]

The characteristic that enables system size and capability to be tailored dependent on the user needs.

Scramble

[FAA Order 76104]

Departure of an aircraft training for or for the purpose of participating in an air defense mission.

Scramble order

[FAA Order 76104]

A command and authorization for flight requiring time, of not more than 5 minutes, to become airborne.

Sea level engine

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A reciprocating aircraft engine having a rated takeoff power that is producible only at sea level.

Search and rescue (SAR)

[FAA Order 76104]

A service which seeks missing aircraft and assists those found to be in need of assistance. It is a co-operative effort using the facilities and services of available federal, state, and local agencies. The U.S. Coast Guard is responsible for co-ordination of search and rescue for the Maritime Region, and the U.S. Air Force is responsible for search and rescue for the Inland Region. Information pertinent to search and rescue should be passed through an air traffic facility or be transmitted directly to the Rescue Co-ordination Center by telephone.

Search and rescue (SAR)

[NATO]

The use of aircraft, surface craft, submarines, specialized rescue teams and equipment to search for and rescue personnel in distress on land or at sea.

SECAM

[(Sequential Colour And Memory - US) (Systeme En Couleur Avec Memoire – French)]

The SECAM standard was introduced in the early 1960's and implemented in France. SECAM uses the same bandwidth as PAL but transmits the colour information sequentially. SECAM runs on 625 lines/frame.

Second in command

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A pilot who is designated to be second in command of an aircraft during flight time.

Secondary data

[NATO]

The output of processing primary data.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Secondary imagery

[NATO]

Secondary imagery is digital imagery and/or digital imagery products derived from primary imagery or from the further processing of secondary imagery.

Secondary imagery dissemination

[NATO]

The process of dispersing or distributing digital secondary imagery.

Secondary imagery dissemination system

[NATO]

The equipment and procedures used in secondary imagery dissemination.

Sector operations control center (SOCC)

[FAA Order 76104]

A military radar unit which has the capability to regulate air defense operations in a designated area. This is a subordinate unit of a ROCC.

See & Avoid

[RTCA SC 203 Original definition]

The ability of a pilot to see traffic which may be a conflict, evaluate flight paths, determine traffic right-of-way, and maneuver to avoid the traffic.

Segregated Airspace

[RTCA SC 203 Original definition]

Airspace not available for use by all aircraft.

Segregated airspace

[Swedish Military Flight Safety Inspectorate]

A restricted, prohibited or danger area.

Select code

[FAA Order 76104]

That code displayed when the ground interrogator and the airborne transponder are operating on the same mode and code simultaneously.

Sense and Avoid

[RTCA SC 203 Original definition]

The ability to detect conflicting object(s) and take the appropriate action to avoid collision.

Sensor

[DO-289 – Minimum Aviation System Performance Standards for Aircraft Surveillance Applications (ASA)]

A measurement device

Sensor

[NATO]

Equipment which detects, and may indicate, and/or record objects and activities by means of energy or particles emitted, reflected, or modified by objects.

Sensors

[DefStan 00-970/1-Part 9]

Equipment that detects, and may indicate, and/or record objects and activities by means of energy or particles emitted, reflected or modified by objects.

Separation

[DO-289 – Minimum Aviation System Performance Standards for Aircraft Surveillance Applications (ASA)]

The minimum distance between aircraft/vehicles allowed by regulations

Separation minima

[FAA Order 76104]

The minimum longitudinal, lateral, or vertical distances by which aircraft are spaced through the application of air traffic control procedures.

Severity

[UAVS, UK]

An assessment of the impact of an event. Any quoted statements on severity very much depend on consensus being obtained from a number of points of view.

Shall

Mandatory compliance.

Signal intelligence

[NATO]

The generic term used to describe communications intelligence and electronic intelligence when there is no requirement to differentiate between these two types of intelligence, or to represent fusion of the two.

Situational awareness

[DefStan 00-970/1-Part 9]

The UAV-pilot(s)/commander's understanding of the operational environment in the context of the mission (including the UAV System's condition and activities within that environment). Situational awareness information comprises data on:

- (a) the condition, health, position and activities of the UAV System,
- (b) own and enemy forces,
- (c) neutral aspects: - environment,
 - population, (in particular the ground population over which the UAV(s) fly and the activities of other airspace users);
 - infrastructure, and;
 - other forces/elements in the area of operations.

Slow route (SR)

Low-level route(s) at or below 1,500 AGL and at 250 KIAS or less. SR's are published in the Flight Information Publication (FLIP) AP/1B.

Small aircraft

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Aircraft of 12,500 pounds or less, maximum certificated takeoff weight.

Software

[NATO]

A set of computer programs, procedures and associated documentation concerned with the operation of a data processing system, (e.g., compilers, library routines, manuals, and circuit diagrams).

Special handling

[FAA Order 76104]

Clear the aircraft according to pilot request as soon as practicable. Do not ask the pilot to deviate from the planned action except to preclude an emergency situation.

Special penetration air defense exercise (SPADE)

[FAA Order 76104]

A no-notice exercise in which an aircraft on a NOPAR flight plan or ALTRV tests the detection, identification, and reporting functions of the air defense forces (ADCF's and interceptor/flight units).

Special use airspace (SUA)

Airspace designated by the FAA with specific vertical and lateral limits, established for the purpose of containing hazardous activities or activity that could be hazardous to non-participating aircraft. Limitation on non-participating aircraft may range from absolute exclusion to complete freedom of use within certain areas, depending upon activity being conducted.

Special use airspace

[FAA Order 76104]

Airspace of defined dimensions identified by an area on the surface of the earth wherein activities must be confined because of their nature, and/or wherein limitations may be imposed upon aircraft operations that are not a part of those activities. Types of special use airspace:

- (a) Alert Area.
- (b) Controlled Firing Area.
- (c) Military Operations Area.
- (d) Prohibited Area.
- (e) Restricted Area.
- (f) Warning Area.

Special VFR conditions

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Meteorological conditions that are less than those required for basic VFR flight in controlled airspace and in which some aircraft are permitted flight under visual flight rules.

Special VFR operations

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

Aircraft operating in accordance with clearances within controlled airspace in meteorological conditions less than the basic VFR weather minima. Such operations must be requested by the pilot and approved by ATC.

STANAG

[NATO]

The NATO term derived from standardization agreement. See NATO Standardization Agreement.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Standard atmosphere

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The atmosphere defined in U.S. Standard Atmosphere, 1962 (Geopotential altitude tables).

Standardization

[NATO]

The development and implementation of concepts, doctrines, procedures and designs to achieve and maintain the required levels of compatibility, interchangeability or commonality in the operational, procedural, material, technical and administrative fields to attain interoperability.

Standardization instructor pilot (SP)

A qualified instructor pilot designated by the commander, in writing, to supervise unit standardisation program. Primarily trains and evaluates other SPs and IPs.

State of design

[ICAO Annex 8]

The State having jurisdiction over the organization responsible for the type design.

State of manufacturer

[ICAO Annex 8]

The State having jurisdiction over the organization responsible for the final assembly of the aircraft.

State of registry

[ICAO Annex 8]

The State on whose register the aircraft is entered.

Station keeping

[NATO]

The ability of the AV to maintain a position or station in terms of range, bearing and altitude from the controlling station for an extended period of time.

Stationary reservations

[FAA Order 76104]

Altitude reservations which encompass activities in a fixed area. Stationary reservations may include activities such as special tests of weapons systems or equipment, certain U.S. Navy carrier, fleet, and anti-submarine operations, rocket, missile and RPV operations, and certain aerial refuelling, or similar operations.

Stereo-route

[FAA Order 76104]

Pre-coordinated route of flight which may be stored in the ARTCC/CERAP computer.

Stop stream/burst/buzzer

[FAA Order 76104]

Used by ATC to request a pilot to suspend electronic countermeasures activity.

Stopway

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An area beyond the takeoff runway, no less wide than the runway and centered upon the extended centerline of the runway, able to support the airplane during an aborted takeoff, without causing structural damage to the airplane, and designated by the airport authorities for use in decelerating the airplane during an aborted takeoff.

Storage

[NATO]

- (a) The retention of data in any form, usually for the purpose of orderly retrieval and documentation.
- (b) A device consisting of electronic, electrostatic or electrical hardware or other elements into which data may be entered, and from which data may be obtained.

Stream formation

[FAA Order 76104]

Two or more aircraft or cells of aircraft operating on the same route with more than one (1) minute but not more than 15 minutes longitudinal spacing between aircraft (or cells), laterally contained within the route width to be protected, and utilising normally 3,000 consecutive feet of altitude.

Strike force aircraft

[FAA Order 76104]

All offensive attack and support forces participating in an exercise.

Strike route

[FAA Order 76104]

That portion of the exercise routes from IP/HHCL to ground target, bomb release line, end of exercise point, as appropriate.

Subsystem

[DGA-CEV_TI-CEV 202001]

A "subsystem" is any set of equipment performing a related set of functions.

Example: electrical, hydraulic, data link, navigation, control, fuel, defrosting, flight command system, etc.

Supervising controller

[CASA, Australia]

"The designated person within the controlling UAV control station tasked with overall responsibility for operation and safety of the UAV in flight." Term listed in appendix in the Australian CASA Advisory Circular 101-1(0).

Support facilities

[DefStan 00-970/1-Part 9]

All those elements of the UAV System that together are required for the operation of the UAV and its on-board systems. They can include the:

- UAV's control equipment;
- Data link systems;
- Launch and retrieval systems;
- Ground Sea or Air Platforms, and;
- Other support equipment.

Support facilities could be part of an aircraft or ship where these are used as a launch, retrieval or control platform. UAV System Support Facilities may vary widely in their level of complexity. The simplest facilities may use commercial radio control equipment and be capable of operation by one man, with the UAV normally only operating within visual range. Complex facilities may be static or mobile with the capability to control multiple UAVs flying beyond visual range and having the ability to receive, process and disseminate complex data signals from on-board sensors.

Surveillance

[NATO]

The systematic observation of aerospace, surface or subsurface areas, places, persons, or things, by visual, aural, electronic, photographic, or other means.

Synoptic surveillance

[FAA Order 76104]

Weather reconnaissance mission flown to provide mid- and/or upper-tropospheric sounding data on the periphery of tropical systems in data-sparse areas. Synoptic flights better define the upper atmosphere and aid in the prediction of tropical cyclone motion and intensity.

Synthetic aperture radar (SAR)

[NATO]

SAR systems take advantage of the long-range propagation characteristics of radar signals and the complex information processing capability of modern digital electronics to provide high-resolution imagery. Synthetic aperture radar complements photographic and other optical imaging capabilities because of the minimum constraints on time-of-day and atmospheric conditions and because of the unique responses of terrain and cultural targets to radar frequencies.

System

[DefStan 00-970/1-Part 9]

A composite of subsystems, assemblies (or sets), skills, and techniques capable of performing and/or supporting an operational or non-operational role. A complete system includes related facilities, items, materiel, services and personnel required for its operation to the degree that it can be considered a self-sufficient item in its intended operational or non-operational and/or support environment.

System requirement

[DefStan 00-970/1-Part 9]

An intermediate step between the user requirement and system design. An abstract, internally consistent definition of what the system will do, and how well it will do it, in order to meet the user need.

Systems architecture

[NATO]

Defines the physical connection, location and identification of the key nodes, circuits, networks, warfighting platforms, etc., associated with information exchange and specifies systems performance parameters. The systems architecture is constructed to satisfy operational architecture requirements per the standards defined in the technical architecture.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

System requirements document (SRD)

[DefStan 00-970/1-Part 9]

A complete set of individual systems requirements supported by a general description. Can either be a document or a database.

System specification (a spec)

[NATO]

The document which accurately describes the essential equipment requirements for items, materials or services, including the procedures by which it will be determined that the requirements have been met.

Tactical environment

[FAA Order 76104]

- (a) Actual - an active theater or area of combat operations.
- (b) Simulated - an operational area established for training and in which combat operations are simulated.

Tactical phase

[FAA Order 76104]

That portion of a mission which includes the positioning of aircraft and the execution of an actual or practice flight against hostile aircraft or targets.

Tactical UAV (TUAV)

[NATO]

An unmanned aerial vehicle designed, equipped and operated to support tactical units (normally division and below, and combatant ships) with local area and battlefield intelligence that will support their operations.

Take-off power

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

- (1) With respect to reciprocating engines, means the brake horsepower that is developed under standard sea level conditions, and under the maximum conditions of crankshaft rotational speed and engine manifold pressure approved for the normal takeoff, and limited in continuous use to the period of time shown in the approved engine specification; and
- (2) With respect to turbine engines, means the brake horsepower that is developed under static conditions at a specified altitude and atmospheric temperature, and under the maximum conditions of rotor shaft rotational speed and gas temperature approved for the normal takeoff, and limited in continuous use to the period of time shown in the approved engine specification.

Take-off safety speed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A referenced airspeed obtained after lift-off at which the required one-engine-inoperative climb performance can be achieved.

Take-off thrust

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to turbine engines, means the jet thrust that is developed under static conditions at a specific altitude and atmospheric temperature under the maximum conditions of rotorshaft rotational speed and gas temperature approved for the normal takeoff, and limited in continuous use to the period of time shown in the approved engine specification.

Take-off surface

[ICAO Annex 8]

That part of the surface of an aerodrome which the aerodrome authority has declared available for the normal ground or water run of aircraft taking off in a particular direction.

Tandem wing configuration

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A configuration having two wings of similar span, mounted in tandem.

Tanker orbit point

[FAA Order 76104]

A geographical location along the planned refuelling track where the tanker may hold prior to effecting rendezvous with the receiver aircraft.

Target

[NATO]

- (a) A geographical area, complex, or installation planned for capture or destruction by military forces.
- (b) In intelligence usage, a country, area, installation, agency, or person against which intelligence operations are directed.

Target acquisition

[NATO]

The detection, identification, and location of a target in sufficient detail to permit the effective employment of weapons. Increasingly applied to reconnaissance as the object(s) of search and location activity, whether to provide intelligence data or to cue weapon systems directly.

Target levels of safety

[UAVS, UK]

One should not confuse actual probability with target levels of safety.

Target signature

[NATO]

The characteristics pattern of a target displayed by detection and identification equipment.

Targeting

[NATO]

Targeting is the ability to report the position (may include speed and direction) of a target detected with an AV payload. Target position is reported in terms of latitude and longitude (may include altitude) or in terms relative to a point. Target position information is sufficiently accurate to support weapon system fire control requirements.

TCAS I

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A TCAS that utilizes interrogations of, and replies from, airborne radar beacon transponders and provides traffic advisories to the pilot.

TCAS II

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A TCAS that utilizes interrogations of, and replies from, airborne radar beacon transponders and provides traffic advisories and resolution advisories in the vertical plane.

TCAS III

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A TCAS that utilizes interrogation of, and replies from, airborne radar beacon transponders and provides traffic advisories and resolution advisories in the vertical and horizontal planes to the pilot.

Technical architecture

[NATO]

A minimal set of rules governing the arrangement, interaction, and interdependence of the parts or elements whose purpose is to ensure that a conformant system satisfies a specific set of requirements. It identifies system services, interfaces, standards, and their relationships. It provides the framework, upon which engineering specifications can be derived, guiding the implementation of systems. Simply put, it is the "building codes and zoning laws" defining interface and interoperability standards, information technology, security, etc.

Telemetry data

[DefStan 00-970/1-Part 9]

Real-time, recorded or statistical parameters transmitted by the air vehicle to report, for instance, the status, condition, position, behaviour, and performance of the air vehicle, its subsystems and its payload(s).

Television imagery

[NATO]

Imagery acquired by a television camera (EO/IR) and recorded or transmitted electronically. Can also include SAR, MTI, ESM, and other synthetic imagery delivered via computer in TV format.

TEMPEST

[DefStan 00-970/1-Part 9]

The unintentional radiation of classified data emanations. An equivalent definition that fits the acronym is "the TEMPorary Emanation of Secure Transmissions". It is an electromagnetic phenomena which produces emanations which correspond directly with information being processed.

Terrain following (TF)

[FAA Order 76104]

The flight of a military aircraft maintaining a constant AGL altitude above the terrain or the highest obstruction. The altitude of the aircraft will constantly change with the varying terrain and/or obstruction.

Testability

[DefStan 00-970/1-Part 9]

Is a characteristic of design that allows the operational status of an entity, and the location of faulty replaceable components within that entity, to be confidently determined in a timely and cost-effective man-

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

ner. Operational status can mean operable, partly operable or inoperable.

Tethered, captive or moored balloon

[Swedish Military Flight Safety Inspectorate]

A balloon, which is attached to the surface of the earth by an object on the ground or by a cable.

Theater air control system (TACS)

[FAA Order 76104]

TACS is an Air Force system composed of various ground and air-borne command and control elements that plan and direct combat operations through centralized command, decentralized execution. TACS air defense radar elements include the Control Reporting Center (CRC), the Control and Reporting Element (CRE), and AWACS.

Time in service

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to maintenance time records, means the time from the moment an aircraft leaves the surface of the earth until it touches it at the next point of landing.

Tracking

[NATO]

Tracking is the accurate location and updating of target positions (in terms of geographic co-ordinates) by radar, optical or other means.

Trade-off

[DefStan 00-970/1-Part 9]]

The determination of the optimum balance between system characteristics.

Traffic

[DO-289 – Minimum Aviation System Performance Standards for Aircraft Surveillance Applications (ASA)]

All aircraft/vehicles that are within the operational vicinity of own-ship

Traffic advisories

[FAA Order 76104]

Advisories to alert pilots to other known or observed air traffic which may be in such proximity to the position or intended route of flight of their aircraft to warrant their attention. Such advisories may be based on:

- (a) Visual observation.
- (b) Observation of radar identified and nonidentified aircraft targets on an ATC radar display; or
- (c) Verbal reports from pilots or other facilities.

Traffic pattern

The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from an airport or airfield.

Training mission

Missions flown for flight qualification, refresher, or proficiency/curriculum training; ATP requirements, and authorised training exercises.

Training needs analysis (TNA)

[DefStan 00-970/1-Part 9]

The identification of training requirements and the most cost-effective means of meeting those requirements.

True airspeed

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The airspeed of an aircraft relative to undisturbed air. True airspeed is equal to equivalent airspeed multiplied by $(p_0/p)^{1/2}$.

Traffic pattern

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

The traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from, an airport.

Turn-around-time (TAT)

[NATO]

Turn-Around-Time is the time required to ready an AV for flight following recovery. TAT includes refueling, loading or reloading the mission plan and positioning of the AV for launch.

Type

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

- (1) As used with respect to the certification, ratings, privileges, and limitations of airmen, means a specific make and basic model of aircraft, including modifications thereto that do not change its handling or flight characteristics. Examples include: DC-7, 1049, and F-

27; and

- (2) As used with respect to the certification of aircraft, means those aircraft which are similar in design. Examples include: DC-7 and DC-7C; 1049G and 1049H; and F-27 and F-27F.
- (3) As used with respect to the certification of aircraft engines means those engines which are similar in design. For example, JT8D and JT8D-7 are engines of the same type, and JT9D-3A and JT9D-7 are engines of the same type.

Type Certificate

[JAR21-ESG1]

JAR-21 Subparts B and NB define the conditions to obtain a Type Certificate (TC). A TC requires that the product complies with its applicable requirements and that, for JAA applicants only, a Design Organisation Approval (DOA) has been obtained. The requirements can be summed up as the applicable JAR (JAR-23, JAR-25, etc.) and any necessary special conditions. Special conditions are used when the design contains novel features or envisage unusual operations compared to those on which the JAR is based. DOA's are not required for simple designs (e. g. sailplanes, 4-seater Touring Aeroplanes). When new equipment is installed on an existing aircraft, resulting in a major change, a Supplemental Type Certificate (STC) is required.

UAV (Unmanned aerial vehicle)

[EURO UVS]

Uninhabited, re-useable or non-re-useable, motorised aerial vehicles, which are remotely controlled, semi-autonomous, autonomous, or have a combination of these capabilities, that have a loitering capability and can carry various types of payloads, making them capable of performing specific tasks within the earth's atmosphere, or beyond, for a duration, which is related to their mission.

UAV

[General Atomics Aeronautical Systems, USA]

Aircraft restricted to flight clear of clouds, outside controlled airspace, within electronic LOS of operator generally in restricted airspace.

UAV (Unmanned air vehicle, Unmanned aerial vehicle)

[Joint JAA/Eurocontrol UAV Task Force Final Report]

An aircraft which is designed to operate with no human pilot onboard.

UAV (Uninhabited aerial vehicle/unmanned aerial vehicle)

[NATO]

A powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or non-lethal payload.

UAV (Unmanned air vehicle, Unmanned aerial vehicle) (UK MOD Joint Service Publication 553 definition)

An aircraft which does not carry personnel and:

- Is capable of sustained flight by aerodynamic means.
- Is remotely piloted or automatically flies a pre-programmed flight profile.
- Is reusable.
- Is not classified as a guided weapon or similar one shot device designed for the delivery of munitions.

UAV (Unmanned air vehicle, Unmanned aerial vehicle)

[Swedish Military Flight Safety Inspectorate]

An unmanned aircraft (UAV) possible to recover, being part of a UAV system consisting of the unmanned air component (UAV) and those parts of one or more UAV Support Component(s) that are required during flight.

UAV (Unmanned aerial vehicle)

[UVS International]

An aircraft with no onboard human pilot capable of sustained flight by aerodynamic means, and that is re-useable or non-re-useable, remotely controlled, semi-autonomous, autonomous, or has a combination of these capabilities, that has a loitering capability and can carry various types of payloads, making them capable of performing specific tasks within the earth's atmosphere, or beyond, for a duration, which is related to their mission.

UAV air operator

[Swedish Military Flight Safety Inspectorate]

An air operator, who fulfils the requirements according to RML-V 2 for UAV systems classes 2-4 or other operator with an Operational permit for UAV system class 1.

UAV aircraft commander

[Swedish Military Flight Safety Inspectorate]

A person, who is qualified and designated for the task of commanding a single flight or a series of flights with a UAV system. The Commander

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

may either be the UAV pilot or being co-located with the UAV pilot or command the UAV mission from another UAV Command & Control Element or a UAV Launch and Recovery Element from where a UAV mission can be commanded controlled and surveilled. (See RML-V 2.25.2.3).

UAV categories

[EURO UVS]

The following UAV categories have been recognised:

- (1) Micro
- (2) Mini
- (3) Close Range
- (4) Short Range
- (5) Medium Range
- (6) Low Altitude Deep Penetration
- (7) Medium Range Endurance
- (8) Low Altitude long Endurance
- (9) Medium Altitude Long Endurance
- (10) Special Purpose:
 - a) Unmanned Combat Aerial Vehicle
 - b) Lethal UAV
 - c) Decoy UAV
- (11) High Altitude Long Endurance
- (12) Stratospheric
- (13) Exo-Stratospheric
- (14) Space

UAV command & control element

[Swedish Military Flight Safety Inspectorate]

A self-contained aeronautical product which is manned by a qualified UAV aircraft commander (UAV pilot) during the actual flight, with integrated systems for the command, control and surveillance of UAV and communication equipment to remain in contact with involved external command, control and surveillance units. The UAV command & control element may be integrated in a UAV launch and recovery element.

UAV commander

[DefStan 00-970/1-Part 9]

A qualified person who is in overall charge of, and responsible for, a particular UAV flight or flights.

UAV commander

[Joint JAA/Eurocontrol UAV Task Force Final Report]

A suitably qualified person responsible for the safe operation of a UAV system during a particular flight and who has the authority to direct a flight under her/his command.

UAV communication link

[Joint JAA/Eurocontrol UAV Task Force Final Report]

The means to transfer command and control information between elements of a UAV system, or between the system and any external location (e.g. Transfer of command and response data between control stations and vehicles and between the UAV system and air traffic control).

UAV controller (UAVC)

[D/Flying, UK]

A member of the team responsible for the direct input of flight commands to the UAVs. The term Controller is used in preference to Operator, since Operator already designates the organisation which operates aircraft or UAVs.

Note Master unmanned aerial vehicle controller (MAUVC) (D/Flying, UK)

The member in charge of the UAVC team, who is, effectively, the commander of the UAV.

UAV control station

[CASA, Australia]

"A flight deck on the ground without external flight environment clues, i.e., no direct visual contact with the UAV, used for control of a UAV." [see Appendix to Australian CASA Advisory Circular 101-1(0)].

UAV control system (UCS)

[NATO]

The UCS is the functional set charged with control of the AV and interfacing with C4I and the UAV and payload operator. UCS includes all the UAV control systems and encompasses specific features.

UAV data transmission component

[Swedish Military Flight Safety Inspectorate]

A data network elements, etc., which provide self contained relay stations, which are neither part of the UAV nor the UAV command & control element nor the UAV launch and recovery element.

UAV launch and recovery element

[Joint JAA/Eurocontrol UAV Task Force Final Report]

A facility or device(s) from which a UAV is controlled during launch and/or recovery. There may be more than one launch and recovery element as part of a UAV system.

UAV launch and recovery element

[Swedish Military Flight Safety Inspectorate]

A self-contained aeronautical product, which is manned by a designated UAV Aircraft Commander (UAV pilot) during the launch and/or the recovery phase, with integrated systems for command, control and surveillance of the UAV and includes communication equipment to remain in contact with involved external command, control and surveillance units. The UAV launch and recovery element may be integrated in a UAV command & control element.

UAV operator

[Joint JAA/Eurocontrol UAV Task Force Final Report]

The legal entity operating a UAV system.

UAV-pilot (UAV-p)

[DefStan 00-970/1-Part 9]

A qualified person who is actively exercising remote control of a non-autonomous UAV flight or flights.

UAV pilot

[Joint JAA/Eurocontrol UAV Task Force Final Report]

The person in direct control of the UAV.

UAV pilot

[Swedish Military Flight Safety Inspectorate]

A person, who is part of a crew headed by a designated Aircraft Commander, tasked with the direct command, control and surveillance of an UAV and being in contact with involved external command, control and surveillance units.

UAV support component

[Swedish Military Flight Safety Inspectorate]

UAV command & control element(s) and any UAV Launch and Recovery Element, as well as any UAV Data Transmission Component(s) and, for captive balloons, a UAV Anchoring Element with its cable.

UAV system (UAVS)

[CAA-D/Flying, UK]

The UAV and its flight control and operating system. This will include any ground station and data links and any dedicated process for communication with an Air Traffic Service Unit (ATSU).

UAV system

[EURO UVS]

The UAV or UAVs and the required flight control and operating system, which includes the control station(s), communication links, data terminal(s), launch & recovery systems, ground support equipment and the communication system making it possible to communicate with air traffic control authorities, and all required related documentation.

UAV system

[Joint JAA/Eurocontrol UAV Task Force Final Report]

A UAV system comprises individual UAV system elements consisting of the flight vehicle (UAV), the control station and any other UAV system elements necessary to enable flight, such as a communication link and a launch and recovery element. There may be multiple UAVs, control stations, or launch and recovery elements within a UAV system. (Flight is defined as also including taxiing, takeoff and recovery/landing).

UAV system

[NATO]

The term "UAV system" includes the air vehicles, modular mission payloads, data links, launch and recovery equipment, mission planning and control stations, data exploitation stations and logistic support.

UAV system

[Swedish Military Flight Safety Inspectorate]

A technical system which consists of one or more UAV and the parts of one or more UAV Support Component(s) which are required during flight with appurtenant parts of the Military type design (equiv.).

UAV system (UAVS)

[UK MOD Joint Service Publication 553]

The UAV and its flight control and operating systems, including any ground control stations and data links.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

UAV system crew

[DefStan 00-970/1-Part 9]

All personnel associated with the deployment, operation and maintenance of the UAV System.

UAV system design authority

[DefStan 00-970/1-Part 9]

The approved firm, establishment or branch responsible for the overall design of the system, and for co-ordinating the design of sub-systems designed by other design authorities. The UAV System Design Authority may also be the design authority for some of the sub-systems.

UAV system integrator

[Swedish Military Flight Safety Inspectorate]

The organization responsible for configuration control of the type design (equiv.) in a life cycle perspective for a UAV system, which has shown compliance with the applicable flight safety and airworthiness requirements incorporated in the certification basis (equiv.).

Note: The UAV system integrator is expected to apply for a military type certificate for the UAV system, when this is required.

UAV system requirements specification

[DefStan 00-970/1-Part 9]

A generic term within the context of Defence Standard 00-970 Pt 9 that refers to the requirements contained in any one or a combination of the following documents:

- (a) User Requirements Document;
- (b) Systems Requirements Document;
- (c) System Design Definition, and;
- (d) System Technical Specification.

UAV unit trainer

A UAV crewmember designated to instruct in areas of special training to assist in unit training programs and achieve established training standards.

Ultimate load

[ICAO Annex 8]

The limit load multiplied by the appropriate factor of safety.

Uncontrolled airspace

[FAA Order 76104]

Class G airspace.

Uncontrollable flight condition

[WTD 61, Germany-LTG 1550-001]

Uncontrollable flight condition of UAV.

Uninhabited aerial vehicle (UAV)

[NATO]

A powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be piloted remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload.

United States

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

In a geographical sense, means (1) the States, the District of Columbia, Puerto Rico, and the possessions, including the territorial waters, and (2) the airspace of those areas.

United States air carrier

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A citizen of the United States who undertakes directly by lease, or other arrangement, to engage in air transportation.

United States message text format (USMTF)

[NATO]

Fixed format, character-oriented messages which are man-readable and machine processable.

Unmanned aerial vehicle (UAV)

[EURO UVS]

Uninhabited, re-useable or non-re-useable, motorised aerial vehicles, which are remotely controlled, semi-autonomous, autonomous, or have a combination of these capabilities, that have a loitering capability and can carry various types of payloads, making them capable of performing specific tasks within the earth's atmosphere, or beyond, for a duration, which is related to their mission.

Unmanned aerial vehicle (UAV)

[NATO]

A powered, aerial vehicle that does not carry a human operator, uses aerodynamic forces to provide vehicle lift, can fly autonomously or be

piloted remotely, can be expendable or recoverable, and can carry a lethal or nonlethal payload.

Unmanned aerial vehicle (UAV)

[US Army]

An aircraft capable of flight beyond visual line of sight under remote or autonomous control for military purposes, primarily for reconnaissance, surveillance, and other intelligence gathering missions, as well as for the adjustment of artillery and mortar fire, and may be used in an aerial target spotting/identification role. A UAV can be expendable or recoverable, can carry a payload, is not operated for sport or hobby, and does not transport passengers or crew. For purposes of compliance with 14 CFR, UAVs are to be considered "aircraft," typically either an "airplane" or "rotorcraft", as defined in 14 CFR part 1.1 [FAA refers to these aircraft as remotely operated aircraft (ROA)].

Unmanned aerial vehicle (UAV)

[UVS International]

An aircraft with no onboard human pilot capable of sustained flight by aerodynamic means, and that is re-useable or non-re-useable, remotely controlled, semi-autonomous, autonomous, or has a combination of these capabilities, that has a loitering capability and can carry various types of payloads, making them capable of performing specific tasks within the earth's atmosphere, or beyond, for a duration, which is related to their mission.

Unmanned aerial vehicle controller

[D/Flying, UK]

See UAV Controller.

Unmanned aerial vehicle system (UAVS)

[D/Flying, UK]

The UAV and its flight control and operating system. This will include any ground station and data links and any dedicated processes for communication with an Air Traffic Service Unit (ATSC).

Unmanned aerial vehicle system (UAVS)

[EURO UVS]

The UAV or UAVs and the required flight control and operating system, which includes the control station(s), communication links, data terminal(s), launch & recovery systems, ground support equipment and the communication system making it possible to communicate with air traffic control authorities.

Unmanned air vehicle (UAV)

[DefStan 00-970/1-Part 9]

The UAV is an aircraft designed from the outset to be flown without an on-board pilot. (This excludes converted manned aircraft that are designed initially to Def Stan 00-970 Volume 1 or equivalent requirements, then converted for drone use following existing approval procedures). The UAV is aerodynamically supported (at the present time, balloons and dirigibles are not addressed).

Unmanned air vehicle (UAV)

[UK MoD Joint Service Publication 553]

An aircraft which does not carry personnel and:

- Is capable of sustained flight by aerodynamic means.
- Is remotely piloted or automatically flies a pre-programmed flight profile.
- Is reusable.
- Is not classified as a guided weapon or similar one shot device designed for the delivery of munitions.

Unmanned air vehicle system (UAVS)

[DefStan 00-970/1-Part 9]

The UAV system comprises all those surface borne and airborne elements necessary to achieve the specified operational objectives. The system shall ensure that the UAV is always under control. It will be commanded by internal system and/or external communication links.

Unmanned air vehicle system (UAVS)

[UK MOD Joint Service Publication 553]

The UAV and its flight control and operating systems, including any ground control stations and data links.

Unmanned Aircraft

[RTCA SC 203 Original definition]

Aircraft operated without the possibility of direct human intervention from within or on the aircraft

Unmanned Aircraft Control Station

[Federal Aviation Administration recommended definitions]

The equipment used to maintain control, communicate, guide, or otherwise pilot an unmanned aircraft.

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

Unmanned Aircraft Observer

[Access 5 Policy IPT]

Trained person(s) assigned the duties associated with collision avoidance.

Unmanned aircraft system (UAS)

term used by FAA to designate a UAV system.

Unmanned combat air vehicle (UCAV)

[DefStan 00-970/1-Part 9]

A UAV that carries a lethal payload for attacking sea, air or ground targets.

United States

[FAA Order 76104]

The States, the District of Columbia, Puerto Rico, and the possessions, including the territorial waters and the airspace of these areas.

U.S. Pacific Command (USPACOM)

[FAA Order 76104]

A unified command whose area of responsibility extends from the west coast of Americas to the east coast of Africa and from the Arctic to the Antarctic.

User requirement

[DefStan 00-970/1-Part 9]

An expression of a single and unique user need.

User requirement document (URD)

[DefStan 00-970/1-Part 9]

An all-embracing, structural expression of the user needs for a bounded operational capability. It is generated from the single statement of need identified through the capability strategy process. The URD is owned by the Director Equipment Capability and consists of a complete set of individual user requirements supported by other documents.

Validation

[DefStan 00-970/1-Part 9]

Confirmation by examination and provision of objective evidence that the particular requirements for a specific intended use are fulfilled.

Vehicle specific module (VSM)

[NATO]

A function that resides between the DLI and the air vehicle subsystem. The VSM facilitates compliance with the control station STANAG by acting as a bridge between standard DLI data formats, and protocols, and a specific air vehicle. The VSM function, if required by a particular vehicle, should be provided by the manufacturer of that vehicle.

Verification

[DefStan 00-970/1-Part 9]

Confirmation by examination and provision of objective evidence that the specified requirements have been fulfilled.

VFR Military training routes (VR)

[FAA Order 76104]

Routes used by the Department of Defense and associated Reserve and Air Guard units for the purpose of conducting low-altitude navigation and tactical training under VFR at airspeeds in excess of 250 KIAS below 10,000 feet MSL.

VFR over-the-top

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

With respect to the operation of aircraft, means the operation of an aircraft over-the-top under VFR when it is not being operated on an IFR flight plan.

Video imagery

[NATO]

A sequence of images, with metadata, which is collected as a timed sequence of images in standard motion imagery format, managed as a discrete object in standard motion imagery format, and displayed as a sequence of images. Video imagery is a subset of the class of motion imagery.

Visual Flight Rules

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

Rules that govern the procedures for conducting flight under visual conditions. The term «VFR» is also used in the United States to indicate weather conditions that are equal to or greater than minimum VFR requirements. In addition, it is used by pilots and controllers to indicate type of flight plan.

Visual line of sight

[RTCA SC 203 Original definition]

Within a human's unaided vision without the use of any apparatus other than corrective lenses.

Visual meteorological conditions

[FAA Order 7110.65, Air Traffic Control, Pilot / Controller Glossary, Change 2, February 17, 2005]

Weather conditions in which visual flight rules apply; expressed in terms of visibility, ceiling height, and aircraft clearance from clouds along the path of flight.

Voice-page hot line communications

[FAA Order 76104]

Point-to-point landline communications, terminating in monitor speakers, so that direct voice access is available without the need for dial-up action.

Warning area

[FAA Order 76104]

A warning area is airspace of defined dimensions, extending from 3 nautical miles outward from the coast of the United States, that contains activity that may be hazardous to non-participating aircraft.

Warning area

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

A warning area is airspace of defined dimensions, extending from 3 nautical miles outward from the coast of the United States, that contains activity that may be hazardous to nonparticipating aircraft. The purpose of such warning areas is to warn nonparticipating pilots of the potential danger. A warning area may be located over domestic or international waters or both.

Warnings

[NATO]

Warnings, cautions and advisories inform the operator about any unusual or critical conditions.

Waypoint

[NATO]

A point on a UAV route which is defined by latitude/longitude. Altitude is usually defined.

Waypoint control

[NATO]

Semi-autonomous or man-in-the-loop method of air vehicle control involving the use of defined points (latitude/longitude/altitude) to cause the UAV (air vehicle, sensor(s), weapons, dispensable payloads, onboard systems, etc.) to accomplish certain actions.

Weather forecaster

[FAA Order 76104]

Any person approved by the USAF or Navy Air Weather Services, or by the National Weather Service to forecast weather for flight planning.

Weather observer

[FAA Order 76104]

Any person approved by the USAF or US Navy, or by the National Weather Service to make and report weather observations.

Weather reconnaissance (WX RECON)

[FAA Order 76104]

Missions flown by the 53 WRS under the TEAL call sign for the purpose of gathering meteorological data from specific millibar levels in both tropical and winter weather systems.

Wehrtechnische Dienststelle für Luftfahrzeuge (WTD)

German military organisation in charge of military aircraft and UAV/ROA approval and certification processes.

Whiskey alert

[FAA Order 76104]

A term used over a voice-page hot line to alert a controlling agency that a spill out situation is imminent.

Wide band link

[NATO]

A wide band link is a link which has a bandwidth associated with imagery transmissions.

Winglet or tip fin

[FAA, Doc. No. 1150, 27 FR 4588, May 15, 1962]

An out-of-plane surface extending from a lifting surface. The surface

TERMS & DEFINITIONS APPLICABLE TO UAV SYSTEMS

may or may not have control surfaces.