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PART 1--DEFINITIONS AND ABBREVIATIONS

Sec.

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Authority: 49 U.S.C. 106(g), 40113, 44701.

Sec. 1.1 General definitions.

As used in Subchapters A through K of this chapter, unless the context requires otherwise:

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

"Aerodynamic coefficients" means non-dimensional coefficients for aerodynamic forces and moments.

"Air carrier" means a person who undertakes directly by lease, or other arrangement, to engage in air transportation.

"Air commerce" means 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.

"Aircraft" means a device that is used or intended to be used for flight in the air.

"Aircraft engine" means 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.

"Airframe" means 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" means 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" means 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" means an engine-driven lighter-than-air aircraft that can be steered.

"Air traffic" means aircraft operating in the air or on an airport surface, exclusive of loading ramps and parking areas.

"Air traffic clearance" means 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" means a service operated by appropriate authority to promote the safe, orderly, and expeditious flow of air traffic.

"Air transportation" means interstate, overseas, or foreign air transportation or the transportation of mail by aircraft.

Alert Area. 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.

"Alternate airport" means an airport at which an aircraft may land if a landing at the intended airport becomes inadvisable.

"Altitude engine" means a reciprocating aircraft engine having a rated takeoff power that is producible from sea level to an established higher altitude.

"Appliance" means 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.

"Approved", unless used with reference to another person, means approved by the Administrator.

"Area navigation (RNAV)" means 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" means 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" means an area navigation route within the airspace extending upward from, and including, 18,000 feet MSL to flight level 450.

"Armed Forces" means the Army, Navy, Air Force, Marine Corps, and Coast Guard, including their regular and reserve components and members serving without component status.

"Autorotation" means 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" means 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.

Balloon means 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.

"Brake horsepower" means the power delivered at the propeller shaft (main drive or main output) of an aircraft engine.

"Calibrated airspeed" means 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.

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

Canard configuration means a configuration in which the span of the forward wing is substantially less than that of the main wing.

"Category":

(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," 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," 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", 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," 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, 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, 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, an ILS approach and landing with no DH and no runway visual range limitation.

"Ceiling" means 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".

"Civil aircraft" means aircraft other than public aircraft.

"Class":

(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.

"Clearway" means:

(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.

"Climbout speed," with respect to rotorcraft, means a referenced airspeed which results in a flight path clear of the height-velocity envelope during initial climbout.

"Commercial operator" means 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.

"Controlled airspace" means 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 Firing Area. A controlled firing area is established to contain activities, which if not conducted in a controlled environment, would be hazardous to nonparticipating aircraft.

"Crewmember" means a person assigned to perform duty in an aircraft during flight time.

"Critical altitude" means 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" means the engine whose failure would most adversely affect the performance or handling qualities of an aircraft.

"Decision height," 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.

"Equivalent airspeed" means 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.

"Extended over-water operation" means--

- (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" means a load that is carried, or extends, outside of the aircraft fuselage.

"External-load attaching means" means 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.

"Fireproof"--

- (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"--

(1) With respect to sheet or structural members means the capacity to 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" means not susceptible to combustion to the point of propagating a flame, beyond safe limits, after the ignition source is removed.

"Flammable", with respect to a fluid or gas, means susceptible to igniting readily or to exploding.

"Flap extended speed" means the highest speed permissible with wing flaps in a prescribed extended position.

"Flash resistant" means not susceptible to burning violently when ignited.

"Flightcrew member" means a pilot, flight engineer, or flight navigator assigned to duty in an aircraft during flight time.

"Flight level" means 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 plan" means specified information, relating to the intended flight of an aircraft, that is filed orally or in writing with air traffic control.

Flight time means:

(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" means 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.

"Foreign air carrier" means 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" means 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" means 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.

Forward wing means 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.

"Glider" means 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.

Go-around power or thrust setting means the maximum allowable in-flight power or thrust setting identified in the performance data.

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

"Gyrodyne" means 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" means 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.

"Helicopter" means a rotorcraft that, for its horizontal motion, depends principally on its engine-driven rotors.

"Heliport" means an area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters.

"Idle thrust" means 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" means weather conditions below the minimum for flight under visual flight rules.

"IFR over-the-top", 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".

"Indicated airspeed" means 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.

"Instrument" means 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.

"Interstate air commerce" means 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 between places in the same territory or possession of the United States, or the District of Columbia.

"Interstate air transportation" means 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.

"Intrastate air transportation" means 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.

"Kite" means 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 gear extended speed" means the maximum speed at which an aircraft can be safely flown with the landing gear extended.

"Landing gear operating speed" means the maximum speed at which the landing gear can be safely extended or retracted.

"Large aircraft" means aircraft of more than 12,500 pounds, maximum certificated takeoff weight.

"Lighter-than-air aircraft" means aircraft that can rise and remain suspended by using contained gas weighing less than the air that is displaced by the gas.

"Load factor" means 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.

Long-range communication system (LRCS). A system that uses satellite relay, data link, high frequency, or another approved communication system which extends beyond line of sight.

Long-range navigation system (LRNS). 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.

"Mach number" means the ratio of true airspeed to the speed of sound.

"Main rotor" means the rotor that supplies the principal lift to a rotorcraft.

"Maintenance" means inspection, overhaul, repair, preservation, and the replacement of parts, but excludes preventive maintenance.

"Major alteration" means 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 repair" means 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.

"Manifold pressure" means absolute pressure as measured at the appropriate point in the induction system and usually expressed in inches of mercury.

Maximum speed for stability characteristics, VFC/MFC means 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" means acceptable evidence of physical fitness on a form prescribed by the Administrator.

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

"Minimum descent altitude" means 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.

"Minor alteration" means an alteration other than a major alteration.

"Minor repair" means a repair other than a major repair.

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

"Night" means 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.

"Nonprecision approach procedure" means a standard instrument approach procedure in which no electronic glide slope is provided.

"Operate," with respect to aircraft, means use, cause to use or authorize to use aircraft, for the purpose (except as provided in Sec. 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 control", with respect to a flight, means the exercise of authority over initiating, conducting or terminating a flight.

"Overseas air commerce" means 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" means 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 other forms of transportation.

"Over-the-top" means above the layer of clouds or other obscuring phenomena forming the ceiling.

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

"Person" means 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.

"Pilotage" means navigation by visual reference to landmarks.

Pilot in command means 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" means 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" means control of all air traffic, within designated airspace, by air traffic control.

Powered-lift means 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 nonrotating airfoil(s) for lift during horizontal flight.

"Precision approach procedure" means a standard instrument approach procedure in which an electronic glide slope is provided, such as ILS and PAR.

"Preventive maintenance" means simple or minor preservation operations and the replacement of small standard parts not involving complex assembly operations.

Prohibited area. 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" means 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.

Public aircraft means 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 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.

"Rated continuous OEI power," 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 maximum continuous augmented thrust", 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," 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", 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", 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", 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", 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," 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," 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.

Rated 30-second OEI power, 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, 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.

"Rating" means a statement that, as a part of a certificate, sets forth special conditions, privileges, or limitations.

"Reporting point" means a geographical location in relation to which the position of an aircraft is reported.

Restricted area. A restricted area is airspace designated under Part 73 within which the flight of aircraft, while not wholly prohibited, is subject to restriction.

"RNAV way point (W/P)" means a predetermined geographical position used for route or instrument approach definition or progress reporting purposes that is defined relative to a VORTAC station position.

"Rocket" means 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" means 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" means 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" means 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.

"Sea level engine" means a reciprocating aircraft engine having a rated takeoff power that is producible only at sea level.

"Second in command" means a pilot who is designated to be second in command of an aircraft during flight time.

"Show", unless the context otherwise requires, means to show to the satisfaction of the Administrator.

"Small aircraft" means aircraft of 12,500 pounds or less, maximum certificated takeoff weight.

"Special VFR conditions" means 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" means 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.

"Standard atmosphere" means the atmosphere defined in U.S. Standard Atmosphere, 1962 (Geopotential altitude tables).

"Stopway" means 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.

"Takeoff power":

(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.

"Takeoff safety speed" means a referenced airspeed obtained after lift-off at which the required one-engine-inoperative climb performance can be achieved.

"Takeoff thrust", 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.

Tandem wing configuration means a configuration having two wings of similar span, mounted in tandem.

"Time in service", 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.

"True airspeed" means the airspeed of an aircraft relative to undisturbed air. True airspeed is equal to equivalent airspeed multiplied by $(\rho_0/\rho)^{1/2}$.

"Traffic pattern" means the traffic flow that is prescribed for aircraft landing at, taxiing on, or taking off from, an airport.

"Type":

(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.

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

"VFR over-the-top", 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.

Warning area. 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.

Winglet or tip fin means an out-of-plane surface extending from a lifting surface. The surface may or may not have control surfaces.

[Doc. No. 1150, 27 FR 4588, May 15, 1962, as amended by Amdt. 1-36, 54 FR 34389, Aug. 18, 1989; Amdt. 1-37, 56 FR 351, Jan. 3, 1991; Amdt. 1-38, 56 FR 65653, Dec. 17, 1991; Amdt. 1-39, 60 FR 5067, Jan. 25, 1995; Amdt. 1-40, 60 FR 30749, June 9, 1995; Amdt. 1-42, 61 FR 2081, Jan. 24, 1996; Amdt. 1-43, 61 FR 5183, Feb. 9, 1996; Amdt. 1-44, 61 FR 7190, Feb. 26, 1996; Amdt. 1-46, 61 FR 31328, June 19, 1996; Amdt. 1-45, 61 FR 34547, July 2, 1996; Amdt. 1-47, 62 FR 16298, Apr. 4, 1997]

Editorial Note: For Federal Register citations affecting Sec. 1.1 prior to August 18, 1989, see the List of CFR Sections Affected appearing in the Finding Aids section.

Sec. 1.2 Abbreviations and symbols.

In Subchapters A through K of this chapter:

- "AGL" means above ground level.
- "ALS" means approach light system.
- "ASR" means airport surveillance radar.
- "ATC" means air traffic control.
- "CAS" means calibrated airspeed.
- "CAT II" means Category II.
- "CONSOL or CONSOLAN" means a kind of low or medium frequency long range navigational aid.
- "DH" means decision height.
- "DME" means distance measuring equipment compatible with TACAN.
- "EAS" means equivalent airspeed.
- "FAA" means Federal Aviation Administration.
- "FM" means fan marker.
- "GS" means glide slope.
- "HIRL" means high-intensity runway light system.
- "IAS" means indicated airspeed.
- "ICAO" means International Civil Aviation Organization.
- "IFR" means instrument flight rules.
- "ILS" means instrument landing system.
- "IM" means ILS inner marker.
- "INT" means intersection.
- "LDA" means localizer-type directional aid.
- "LFR" means low-frequency radio range.
- "LMM" means compass locator at middle marker.
- "LOC" means ILS localizer.
- "LOM" means compass locator at outer marker.
- "M" means mach number.
- "MAA" means maximum authorized IFR altitude.
- "MAL S" means medium intensity approach light system.
- "MALSR" means medium intensity approach light system with runway alignment indicator lights.
- "MCA" means minimum crossing altitude.
- "MDA" means minimum descent altitude.
- "MEA" means minimum en route IFR altitude.
- "MM" means ILS middle marker.
- "MOCA" means minimum obstruction clearance altitude.

"MRA" means minimum reception altitude.
"MSL" means mean sea level.
"NDB (ADF)" means nondirectional beacon (automatic direction finder).
"NOPT" means no procedure turn required.
"OEI" means one engine inoperative.
"OM" means ILS outer marker.
"PAR" means precision approach radar.
"RAIL" means runway alignment indicator light system.
"RBN" means radio beacon.
"RCLM" means runway centerline marking.
"RCLS" means runway centerline light system.
"REIL" means runway end identification lights.
"RR" means low or medium frequency radio range station.
"RVR" means runway visual range as measured in the touchdown zone area.
"SALS" means short approach light system.
"SSALS" means simplified short approach light system.
"SSALSR" means simplified short approach light system with runway alignment indicator lights.
"TACAN" means ultra-high frequency tactical air navigational aid.
"TAS" means true airspeed.
"TCAS" means a traffic alert and collision avoidance system.
"TDZL" means touchdown zone lights.
"TVOR" means very high frequency terminal omnirange station.

VA means design maneuvering speed.

VB means design speed for maximum gust intensity.

VC means design cruising speed.

VD means design diving speed.

VDF/MDF means demonstrated flight diving speed.

VEF means the speed at which the critical engine is assumed to fail during takeoff.

VF means design flap speed.

VFC/MFC means maximum speed for stability characteristics.

VFE means maximum flap extended speed.

VH means maximum speed in level flight with maximum continuous power.

VLE means maximum landing gear extended speed.

VLO means maximum landing gear operating speed.

VLOF means lift-off speed.

VMC means minimum control speed with the critical engine inoperative.

VMO/MMO means maximum operating limit speed.

VMU means minimum unstick speed.

VNE means never-exceed speed.

VNO means maximum structural cruising speed.

VR means rotation speed.

VS means the stalling speed or the minimum steady flight speed at which the airplane is controllable.

VS0 means the stalling speed or the minimum steady flight speed in the landing configuration.

VS1 means the stalling speed or the minimum steady flight speed obtained in a specific configuration.

VT0SS means takeoff safety speed for Category A rotorcraft.

VX means speed for best angle of climb.

VY means speed for best rate of climb.

V1 means the maximum speed in the takeoff at which the pilot must take the first action (e.g., apply brakes, reduce thrust, deploy speed brakes) to stop the airplane within the accelerate-stop distance. V1 also means the minimum speed in the takeoff, following a failure of the critical engine at VEF, at

which the pilot can continue the takeoff and achieve the required height above the takeoff surface within the takeoff distance.

V2 means takeoff safety speed.

V2 min means minimum takeoff safety speed.

"VFR" means visual flight rules.

"VHF" means very high frequency.

"VOR" means very high frequency omnirange station.

"VORTAC" means collocated VOR and TACAN.

[Doc. No. 1150, 27 FR 4590, May 15, 1962, as amended by Amdt. 1-35, 54 FR 950, Jan. 10, 1989; Amdt. 1-48, 63 FR 8318, Feb. 18, 1998]

Editorial Note: For Federal Register citations affecting Sec. 1.2 prior to Jan. 10, 1989, see the List of CFR Sections Affected appearing in the Finding Aids.

Federal Register Notes

63 FR 8298, No. 32, Feb. 18, 1998

SUMMARY: This action amends the airworthiness standards for transport category airplanes to: revise the method for taking into account the time needed for the pilot to accomplish the procedures for a rejected takeoff; require that takeoff performance be determined for wet runways; and require that rejected takeoff and landing stopping distances be based on worn brakes. The FAA is taking this action to improve the airworthiness standards, reduce the impact of the standards on the competitiveness of new versus derivative airplanes without adversely affecting safety, and harmonize with revised standards of the European Joint Aviation Requirements-25 (JAR-25). These standards, which affect manufacturers and operators of transport category airplanes, are not being applied retroactively to either airplanes currently in use or airplanes of existing approved designs that will be manufactured in the future.

EFFECTIVE DATE: March 20, 1998.

Sec. 1.3 Rules of construction.

(a) In Subchapters A through K of this chapter, unless the context requires otherwise:

- (1) Words importing the singular include the plural;
- (2) Words importing the plural include the singular; and
- (3) Words importing the masculine gender include the feminine.

(b) In Subchapters A through K of this chapter, the word:

- (1) "Shall" is used in an imperative sense;
- (2) "May" is used in a permissive sense to state authority or permission to do the act prescribed, and the words "no person may * * *" or "a person may not * * *" mean that no person is required, authorized, or permitted to do the act prescribed; and

(3) "Includes" means "includes but is not limited to".

[Doc. No. 1150, 27 FR 4590, May 15, 1962, as amended by Amdt. 1-10, 31 FR 5055, Mar. 29, 1966]

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