

California Code of Regulations

Title 21 Sections 3525 through 3560

AIRPORTS AND HELIPORTS

ARTICLE 1. DEFINITIONS

3525. PREAMBLE

The following rules and regulations are promulgated in accordance with Public Utilities Code, State Aeronautics Act. These rules and regulations do not supersede any of the regulations of the Federal Aviation Administration (FAA). The term "airport" shall apply equally to heliports unless specified for "airports only" or "heliports only".

3526. GENERAL

(a) These regulations are intended to be used in conjunction with relevant FAA Advisory Circulars (ACs); Title 14, Code of Federal Regulations [(CFRs); also referred to as Federal Aviation Regulations (FARs)]; and California Public Utilities Code (PUC), State Aeronautics Act, Sections 21001 et seq.

(b) Variations in proposed sites may justify the Department of Transportation's (Department's) reasonable deviations from the basic requirements contained herein through variances. Any justification for deviation must be balanced against the effect it would have on the safe use of the airport when compared to other advantages of the site.

(c) The Department hereby incorporates by reference pertinent sections of the following FAA ACs, all readily available from the FAA:

AC 70/7460-1J, "Obstruction Marking and Lighting", 1/1/96;
AC 150/5300-13, "Airport Design", 9/29/89, including through Change 4, 11/10/94;
AC 150/5325-4A, "Runway Length Requirements for Airport Design", 1/29/90,
including through Change 1, 3/11/91;
AC 150/5340-1G, "Standards for Airport Markings", 9/27/93;
AC 150/5340-5B, "Segmented Circle Airport Marker System", 12/21/84,
including through Change 1, 2/25/85;
AC 150/5340-24, "Runway & Taxiway Edge Lighting Systems", 9/3/75,
including through Change 1, 11/25/77;
AC 150/5390-2A, "Heliport Design", 1/20/94.

3527. DEFINITIONS

Except as provided in this section, the terms in these regulations are defined in the FARs; FAA ACs; and the PUC, State Aeronautics Act, Sections 21001 et seq.

(a) Agricultural Airport: An airport restricted to use only by agricultural aerial applicator aircraft (FAR Part 137 operators).

(b) Approach Surface: A surface which begins at the end of the primary surface, with the same width as the primary surface, and extends outward and upward for a horizontal distance, width, and slope in accordance with FAR 77.25(d) for airports only and FAR 77.29(b) for heliports only.

(c) Approach/Takeoff Path: The flight track, centered within an approach surface, which helicopters follow when landing at or taking off from a heliport.

(d) Commercial Activities: Those activities which may offer a facility, service or commodity for sale, hire, profit, or any other business purpose. Examples of commodities for sale are: food, lodging, entertainment, real estate, petroleum products, parts and equipment. Examples of services are: flight training, charter flights, maintenance, aircraft storage and tie-down. Examples of a facility used for a business purpose are: facility used for the transport of persons for a corporate business purpose and a facility used to transport persons for compensation or hire.

(e) Design Helicopter: A generic helicopter which, for helicopters expected to operate at a heliport, reflects the maximum of the following design characteristics: weight, overall length, main rotor diameter, height, and length/width of the undercarriage.

(f) Displaced Threshold: A threshold at the approach end of a runway, not located at the physical end of a runway, which designates the beginning of the portion of the runway usable for landing.

(g) Emergency Medical Services (EMS) Landing Site: A site used for the landing and taking off of EMS helicopters that is located at or as near as practical to a medical emergency or at or near a medical facility and

(1) has been designated an EMS landing site by an officer authorized by a public safety agency, as defined in PUC Section 21662.1, using criteria that the public safety agency has determined is reasonable and prudent for the safe operation of EMS helicopters and

(2) is used, over any twelve month period, for no more than an average of six landings per month with a patient or patients on the helicopter, except to allow for adequate medical response to a mass casualty event even if that response causes the site to be used beyond these limits, and

(3) is not marked as a permitted heliport as described in Section 3554 of these regulations and

(4) is used only for emergency medical purposes.

(h) Emergency Use Facility: An area for accommodating helicopters in support of emergency public safety agency operations, but it is not used as a heliport for any other purpose.

(i) Final Approach and Takeoff Area (FATO): The area of a heliport over which the final phase of the approach to a hover or a landing is completed and from which the takeoff is initiated.

(j) Heliport: An area of land, water, or structure used or intended to be used for the landing and takeoff of helicopters.

(k) Obstruction to Air Navigation: Any object that is higher than any of the heights defined in FAR 77.23.

(l) Offshore Oil Platform: A structure in the ocean, not connected to the shore by pier, bridge, wharf, dock or breakwater, used in the support of petroleum exploration or production.

(m) Operation: Either the landing or takeoff of an aircraft.

(n) Owner: The person with the authority to possess the facility, which may be in “fee simple” or a leasehold for a period of at least one year.

(o) Personal-Use Airport: An airport limited to the noncommercial activities of an individual owner or family and occasional invited guests.

(p) Primary Surface:

(1) For airports only: A surface longitudinally centered on a runway with a width and length determined in accordance with FAR 77.25(c).

(2) For heliports only: The area of the primary surface, in accordance with FAR 77.29(a), coincides in size and shape with the designated FATO of a heliport. This surface is a horizontal plane at the elevation of the established heliport elevation.

(q) Public-Use Airport: An airport that is open for aircraft operations to the general public and is listed in the current edition of the Airport/Facility Directory that is published by the National Ocean Service of the U.S. Department of Commerce.

(r) Relocated Threshold: Defines the start of the usable portion of a runway, but is not located at the physical end of a runway.

(s) Runway (airports only): A defined rectangular area on an airport prepared for the landing and takeoff of aircraft.

(t) Safety Area:

(1) For airports only: A defined surface surrounding the runway or taxiway prepared or suitable for reducing the risk of damage to airplanes in the event of an undershoot, overshoot, or excursion from the runway or taxiway.

(2) For heliports only: A defined area on a heliport surrounding the FATO which is free of objects at or above the elevation of the closest point of the TLOF, other than those required for air navigation purposes, and is intended to reduce the risk of damage to helicopters accidentally diverging from the FATO. Objects required for air navigation purposes within this area shall be on frangible mounts and shall not penetrate the approach or transitional surfaces by more than two inches.

(u) Seaplane Landing Site: An area of water used, or intended for use, for landing and takeoff of seaplanes.

(v) Site Approval Permit: A written approval issued by the Department authorizing construction of an airport in accordance with approved plans, specifications, and conditions.

(w) Special-Use Airport: An airport not open to the general public, access to which is controlled by the owner in support of commercial activities, public service operations and/or personal use.

(x) Taxiway: A designated, but not necessarily paved, path or route for aircraft to taxi from one airport area to another.

(y) Temporary Helicopter Landing Site: A site, other than an emergency medical service landing site at or near a medical facility, which is used for landing and taking off of helicopters and

(1) is used or intended to be used for less than one year, except for recurrent annual events, and

(2) is not marked or lighted to be distinguishable as a heliport and

(3) is not used exclusively for helicopter operations.

(z) Threshold: The beginning of that portion of the runway available and suitable for landing of aircraft.

(aa) Touchdown and Liftoff Area (TLOF): The load bearing area of a heliport that is centered within the FATO and upon which a helicopter lands or takes off.

(bb) Transitional Surface: Surface which extends outward and upward from the lateral boundaries of the primary surface and from the approach surfaces in accordance with FAR 77.25(e) for airports only or FAR 77.29(c) for heliports only.

ARTICLE 2. PERMITS

3530. PERMIT REQUIREMENTS

(a) No person may hold an airport open for use, unless otherwise exempted, without first applying for and obtaining an appropriate permit or authorization as required by the Department.

(b) No aircraft takeoff or landing may be made at a site that is not permitted, exempted, or authorized in accordance with these regulations.

(c) A separate heliport permit is not required for a designated heliport located within the boundaries of a permitted airport if the heliport meets heliport design standards as described in Article 4 of these regulations.

(d) Any permit issued by the Department shall continue in effect so long as the airport meets the conditions under which the permit is issued or until action is taken by the Department to revoke or suspend the permit.

(e) When airport ownership changes, the new airport owner shall submit an application [an Amended/Corrected Airport Permit-Application (DOA-0103 (Rev. 10/96) for airports only) or a Corrected Heliport Permit-Application (DOA-0202 (Rev. 10/96) for heliports only)] and documentation showing who owns the airport to the Department within 30 days of such change.

(f) Before physical or operational changes are made which affect conditions which have been imposed upon operation of the airport, the airport owner shall submit an application [an Amended/Corrected Airport Permit Application (DOA-0103 (Rev. 10/96) for airports only) or a Corrected Heliport Permit Application (DOA-0202 (Rev. 10/96) for heliports only)] and supporting documentation identified on the applicable form to the Department to remove, add or amend the conditions. The application and supporting documentation shall be submitted to the Department by the airport owner at least 30 working days prior to the physical or operational change.

3532. TEMPORARY AIRPORT AUTHORIZATION

(a) No person may make aircraft landings and takeoffs from a nonpermitted or nonexempt site without first applying for and obtaining a temporary airport authorization from the Department to conduct such operations.

(b) For a temporary airport authorization other than for helicopter operations within 1000 feet of a school, a person shall apply for a temporary airport authorization by submitting a letter to the Department. Information to be submitted with the letter, for the application to be complete, is as follows:

- (1) Name of person applying and name of the aircraft operator;
- (2) Site location (latitude and longitude or other descriptive information which will assist in locating site);
- (3) Local area map with site plotted on map (United States Geological Survey, city map, etc.);
- (4) Type(s) of aircraft to use the site;
- (5) Period and expected number of operations (landings and takeoffs);
- (6) Purpose and description of operations;
- (7) Letter or notice of approval from local governing body (city or county); and
- (8) Letter or notice of approval by landowner.

(c) For a temporary airport authorization for helicopter operations within 1000 feet of a school:

(1) No person may takeoff or land a helicopter within 1000 feet of the boundary of any public or private school that maintains kindergarten classes or any classes in grades 1 through 12, unless at a permitted heliport or an EMS landing site, without first applying for and obtaining a Helicopter Landing Authorization (HLA) from the Department or from a public safety agency (PSA) designated by the Department.

(2) To apply for an HLA, a person shall submit to the Department, or to a PSA designated by the Department, a completed Helicopter Landing Authorization-Application [Form DOA-0204 (Rev. 10/96)]. The application shall include the following:

(A) a signed statement from the administration of each school that is within 1000 feet of the proposed helicopter operations stating that the administration does not object to the proposed helicopter operations at the site and the administration waives its right to demand a public hearing in accordance with PUC Section 21662.5 and

(B) a signed statement approving the helicopter operations from the landing site's owner, if the helicopter operations will not be on school property.

(d) The Department shall evaluate temporary airport sites on the basis of the airport design standards in Articles 3 and 4 of these regulations. Variances may be granted from design standards when safety of flight or the interests of the general public are not jeopardized.

(e) Temporary airport authorizations are for specific events and specified time periods.

3533. EXEMPTIONS

(a) All airports in the State of California, except those owned or operated by the United States Government, are subject to the permitting requirements of these regulations.

(b) The following classes of airport are exempt from the permitting requirements of these regulations pursuant to PUC Section 21661:

- (1) Agricultural airports;
- (2) Seaplane landing sites;
- (3) Personal-use airports in unincorporated areas which meet the requirements of Article 5 of these regulations;
- (4) Any airport which has heretofore been established and which is currently being used pursuant to exemption granted under previous regulations of the Department. Such airports shall continue to be exempt, provided the use and conditions pertaining to such exemption continue to be met. Such airports shall be marked in accordance with Section 3560(e) of these regulations;
- (5) Heliports established on offshore oil platforms;
- (6) Temporary helicopter landing sites that are not within 1000 feet of the boundary of a public or private school maintaining kindergarten classes or any classes in grades 1 through 12;
- (7) Emergency medical services (EMS) landing sites; and
- (8) Emergency use facilities.

(c) An owner of an exempt airport may apply for a permit under these regulations.

(d) The above listed exemptions do not supersede or negate any requirements of Federal agencies or local government jurisdictions.

(e) An airport's exemption ceases if the airport's owner no longer operates the airport within the limitations of the exemption.

3534. APPLICATIONS FOR AN AIRPORT PERMIT

(a) Application to construct or establish an airport for which a permit is required in accordance with these regulations shall, prior to the construction or establishment of the proposed airport, be submitted to the Department for approval on a Site Approval Permit Application form [DOA-0100, (Rev. 10/96) for airports only or DOA-0201, (Rev. 10/96) for heliports only].

(b) For the Department to consider an application complete, the following items shall be submitted as a part of the Site Approval Permit Application:

(1) Two copies of scaled drawings of the airport and adjoining areas that show:

(A) the airport meets or exceeds the design standards established in Article 3 (for airports only) or Article 4 (for heliports only) of these regulations, unless the Department has granted a variance to a specific standard;

(B) arrows for magnetic and true north;

(C) magnetic alignment of the centerline of each approach surface; for a heliport that has multiple, consecutive approach surfaces which create a sector, include the magnetic alignment of each approach surface which defines the limits of the sector;

(D) locations and heights of structures, highways, railways, above ground wires, above ground cables, poles, fences, vegetation, and other potential obstructions that underlie the airport's imaginary surfaces as defined in FAR Part 77.25 (for airports only) or 77.29 (for heliports only); and

(E) additional information that is pertinent to the safe use of the airport;

(2) Topographic map that shows the location and altitude of the aircraft traffic patterns relative to the airport (for airports only) or the location of the approach surfaces relative to the heliport (for heliports only);

(3) Local area map or drawing depicting the airport and the location of schools, places of public gatherings, and residential areas within two miles of the centerline of a proposed runway or within 1,000 feet of the center of a proposed FATO;

(4) Documentation of approval of the plan for construction by either the Board of Supervisors of the county or the City Council of the city (as appropriate) in which the airport is to be located;

(5) Documentation of action by the Airport Land Use Commission of the county in which the airport is to be located (as appropriate);

Act; (6) Documentation of compliance with the California Environmental Quality

(7) Documentation showing ownership of the airport; and

(8) FAA Airspace Determination for the airport.

(c) Upon completion of the airport, the airport owner shall notify the Department and request an airport permit authorizing the airport to be opened for operations. The Department shall inspect the airport. If the airport meets all the conditions of the Site Approval Permit, the Department shall issue the airport permit.

(d) Examples of the various application forms are found in the Appendix of these regulations.

3535. PROCESSING TIME

(a) Within 10 working days after receipt of an application for a permit or temporary airport authorization, the Department shall notify the person applying in writing if the application is incomplete. An incomplete application cannot be processed. A complete application will initiate the permitting or authorization process.

(b) The Department's time periods for processing any complete application or notification per Section 3534(c) of these regulations from receipt to the final decision regarding issuance or denial of a permit or authorization are as follows:

(1) minimum time: 15 working days;

(2) median time: 30 working days; and

(3) maximum time: 45 working days, depending on proceedings/outcome of a public hearing or other problems.

3536. REVOCATION AND SUSPENSION

An airport owner may request, by notification in writing to the Department, that the Department suspend or revoke the airport permit.

ARTICLE 3. DESIGN STANDARDS, AIRPORTS ONLY

3540. GENERAL

(a) The information and standards included in this Article establish minimum standards for a permitted airport suitable for airplanes with a design approach speed of less than 91 knots, a wingspan of less than 49 feet, and a maximum certificated takeoff weight of 12,500 pounds or less.

(b) Design standards for runways and taxiways shall be in accordance with FAA ACs.

(c) Obstruction standards and designation of imaginary surfaces related to airports shall be in accordance with FAR Part 77.

(d) The Department may grant variances to these design and obstruction standards. These variances may be granted where reasonable conditions exist and the interests of the general public will not be compromised.

(e) The Department may require flight demonstrations by the airport's owner to assist in determining whether requested variances would affect safety.

3542. AIRPORT DESIGN STANDARDS

As a minimum, the following items are required for a permitted airport:

(a) runway and runway safety area;

(b) a wind cone;

(c) a segmented circle with traffic pattern indicators if:

(1) the airport has right traffic to any runway and

(2) the airport does not have an operational air traffic control tower during all airport operating hours;

(d) runway and taxiway markings in accordance with Section 3543(a) of these regulations;

(e) clear 20:1 approach surfaces to each end of each runway's primary surface or to its displaced threshold;

(f) clear 7:1 transitional surfaces to each runway's primary surface and approach surfaces; and

(g) if night use is planned, airport lighting in accordance with Section 3543(b) of these regulations.

3543. MARKING, LIGHTING, AND VISUAL AIDS

(a) AIRPORT MARKING. Airport markings are as follows:

(1) runway and taxiway markings:

(A) markings for paved runways and taxiways shall be in accordance with FAA AC 150/5340-1G and shall include runway designation numbers, centerline, runway holding position, and, if applicable, displaced or relocated threshold markings. Additionally, a runway that is not open to the general public shall be marked with the letter "R" at each runway end. The "R" shall be at least 20 feet in height and 11 feet in width. Line width shall be 30 inches. The marking is to be painted white and it shall be kept in a clearly distinguishable condition.

(B) markings for unpaved runways shall include delineation of runway ends and, if applicable, displaced threshold bars. Additionally, an unpaved runway that is not open to the general public shall be marked with the letter "R". The "R" shall be located adjacent to the runway as near as practical to either the runway mid-point or each end of the runway, and in a location that is not a hazard to aircraft operations. The "R" shall be at least 20 feet in height and 11 feet in width. Line width shall be 30 inches. The marking shall be a color that provides contrast with the ground and it shall be kept in a clearly distinguishable condition. Any materials used to delineate features on a runway or taxiway or to construct the "R" shall be constructed such that they are not a hazard to aircraft operations.

(2) markings of a closed or abandoned runway shall be in accordance with FAA AC 150/5340-1G.

(b) AIRPORT LIGHTING. An airport lighting system is required for night operations. An airport lighting system consists of the following:

(1) runway edge and threshold lights in accordance with FAA AC 150/5340-24;

(2) a lighted wind cone;

(3) if traffic pattern indicators are required in accordance with Section 3542(c) of these regulations, they shall be illuminated;

(4) if a runway is lighted and it is not open to the general public, at least one "R", as required in Section 3543(a) of these regulations, shall be illuminated; and

(5) obstruction lights as follows:

(A) at a public-use airport, any obstruction to air navigation as defined in FAR 77.23 shall be lighted in accordance with FAA AC 70/7460-1J, unless the FAA has conducted an aeronautical study and determined that the lighting is not necessary for safety and the Department concurs.

(B) at an airport that is not for public-use, the airport owner shall survey the airport area and shall identify objects that are obstructions to air navigation as defined in FAR 77.23. The Department shall evaluate the obstructions and determine whether obstruction lighting is required.

ARTICLE 4. DESIGN STANDARDS, HELIPORTS ONLY

3550. GENERAL

(a) The information and standards included in this Article establish minimum standards for a permitted heliport suitable for a design helicopter.

(b) Design standards for a permitted heliport shall be in accordance with FAA ACs.

(c) Obstruction standards and designation of imaginary surfaces related to heliports shall be in accordance with FAR Part 77.

(d) The Department may grant variances to these design and obstruction standards. These variances may be granted where reasonable conditions exist and the interests of the general public will not be compromised.

(e) The Department may require flight demonstrations by the heliport's owner to assist in determining whether requested variances would affect safety.

3551. HELIPORT DESIGN STANDARDS

As a minimum, the following items are required for a permitted heliport:

(a) final approach and takeoff area (FATO) with:

(1) a length and width or diameter that is at least one and one half times the overall length of the design helicopter. This area shall be free of objects, to include safety nets and guard rails, at or above the closest point of the touchdown and lift-off area (TLOF);

(2) a safety area, surrounding the FATO, that is the greater of one third times the main rotor diameter of the design helicopter or ten feet; and

(3) a load bearing portion that:

(A) is centered within the FATO and, if the entire FATO is not load bearing, is delineated as a TLOF. A delineated TLOF shall be at least 1.5 times the undercarriage length or width, whichever is greater, of the design helicopter;

(B) is free of objects and surface irregularities; and

(C) has a grade that does not exceed 2%. If approved by the Department, the grade may exceed 2% to allow for a curb around the edges so long as the curb is tapered so that it does not present a sharp lip that could create a pivot point for a helicopter's landing gear. If allowed, this curb shall not exceed two inches in height;

(b) a wind cone;

(c) at least one clear 8:1 approach surface to the FATO, centered along an approach/takeoff path;

(d) heliport markings as described in Section 3554(a) of these regulations;

(e) clear 2:1 transitional surfaces to the FATO and approach surfaces; and

(f) if night use is planned, heliport lighting in accordance with Section 3554(b) of these regulations.

3554. MARKING, LIGHTING, AND VISUAL AIDS

(a) HELIPORT MARKING. All markings, except for FATO and TLOF boundary markings, shall be oriented to be legible when flying toward the heliport using the primary approach/takeoff path. Heliport markings are as follows:

(1) an underlined letter "H" that shall be centered within the FATO and it shall be at least 10 feet in height. If the heliport is at a medical facility, the underlined letter "H" shall be red and it shall be imposed in the middle of a 30' white cross. A heliport not open to the public may utilize a company logo or some other marking in lieu of the "H" if approved by the Department;

(2) either FATO or TLOF boundary markings in accordance with Chapter 3 of FAA AC 150/5390-2A. A heliport may have both FATO and TLOF boundary markings;

(3) a heliport not open to the public shall be marked with the letters "PVT" in letters at least 5 feet in height that are located on the FATO;

(4) a heliport that is restricted to helicopters under a certain weight (e.g., rooftop heliport) shall be marked with a weight limit marking, in thousands of pounds, that is located on the FATO;

(5) a landing direction arrow shall be used when an approach/takeoff path is constrained by environmental or safety concerns which require the precise navigation that the arrow affords. An arrow shall not be used for a curved approach; and

(6) markings of a closed or abandoned heliport shall be in accordance with AC 150/5390-2A.

(b) HELIPORT LIGHTING. A heliport lighting system is required for night operations. No lights may penetrate the heliport's primary, approach, or transitional surfaces by more than two inches. Any lighting fixture used shall present a low profile to minimize interference with ground maneuvering and flight operations. A heliport lighting system consists of the following:

(1) perimeter lighting in accordance with Chapter 3 of FAA AC 150/5390-2A. Floodlights may be used in lieu of perimeter lights if approved by the Department. If approved by the Department, floodlights shall be located and oriented so they do not interfere with the pilot's ability to see clearly during takeoff, landing, or taxiing;

(2) a lighted wind cone;

(3) if a landing direction arrow is required in Section 3554(a)(5) of these regulations, the arrow shall have landing direction lights centered within it; and

(4) obstruction lights as follows:

(A) at a public-use heliport, any obstruction to air navigation as defined in FAR 77.23 shall be lighted in accordance with FAA AC 70/7460-1J, unless the FAA has conducted an aeronautical study and determined that the lighting is not necessary for safety and the Department concurs.

(B) at a heliport that is not for public-use, the heliport owner shall survey the heliport area to identify objects that are obstructions to air navigation as defined in FAR 77.23. The Department shall evaluate the obstructions and determine whether obstruction lighting is required.

ARTICLE 5. PERSONAL-USE AIRPORTS

3560. GENERAL

Many elements in the design of Personal-Use airports are at the discretion of the owner. However, the Department requires at least the following:

(a) a runway length and width or FATO dimensions adequate to enable aircraft to operate safely, considering airport location and the performance data of the most demanding aircraft to utilize the airport;

(b) the ends of each runway shall be at least 200 feet from the airport property line or the closest point of each FATO shall be at least 80 feet from the airport property line;

(c) the distance from the runway centerline to the property line of another owner shall be at least 50 feet;

(d) the distance from the taxiway centerline to the property line of another owner shall be at least 50 feet; and

(e) if the airport is identifiable as an airport from the air, it shall be marked with the letter "R" in accordance with Section 3543(a) [for airports only] or the letters "PVT" in accordance with Section 3554(a)(3) [for heliports only]. If an airport lighting system is installed, it shall illuminate the required markings. The Department shall determine whether or not the airport is identifiable from the air if there is a dispute.

APPENDIX

(Sample Application Forms)