

ARTICLE IV. AIR TRANSPORTATION

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CHAPTER 471. AIRPORT RATING AND LICENSING

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Authority

The provisions of this Chapter 471 issued under 74 Pa.C.S. §§ 5101—6169, unless otherwise noted.

Source

The provisions of this Chapter 471 adopted October 1, 1968, effective October 1, 1968, unless otherwise noted.

§ 471.1. Purpose.

- (a) This chapter sets forth criteria for the rating and licensing of airports and applies to the Bureau and airport owners throughout this Commonwealth.
- (b) The Bureau has promulgated and will enforce this chapter as necessary for the promotion of aviation, airports and air safety within this Commonwealth. This chapter shall be consistent with, and conform to the Federal statutes and

regulations governing aeronautics. The Department may revoke or suspend an airport license upon proof of any violation of law or regulation relating to aviation.

Source

The provisions of this § 471.1 adopted October 1, 1968, effective October 1, 1968; amended October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial page (226959).

§ 471.2. Definitions.

In addition to the words and terms defined in section 5102 of the code (relating to definitions), the following words and terms, when used in this chapter, have the following meanings, unless the context clearly indicates otherwise:

Aviation restricted account—The account into which revenues, generated from the sources in section 5103(b) of the code (relating to aviation restricted account), are deposited.

Based aircraft—An aircraft stored at a specific airport or heliport for more than 30 days.

Bureau—The Bureau of Aviation of the Department.

Code—74 Pa.C.S. §§ 5101—6169 (relating to the Aviation Code).

Department—The Department of Transportation of the Commonwealth.

Director—The Director of the Bureau.

FAA—The Federal Aviation Administration.

Grant—An agreement and its accompanying assurances between the Department and a sponsor to provide funding assistance.

Landing area—An area used or intended to be used, for the landing and taking off of aircraft.

NOTAM—Notice to airmen.

Operation—An aircraft take-off or landing.

Person—

(i) A corporation, company, association, society, firm, partnership or joint stock company.

(ii) The term includes an individual, the Commonwealth and all political subdivisions of the Commonwealth or agencies or instrumentalities.

Primary surface—The area on the ground centered on a runway, provided to enhance the safety of aircraft operations by having the area free of objects, except for objects that need to be located in the primary surface for air navigation or aircraft ground maneuvering purposes.

Private heliport—A heliport which is privately owned and which is not open or intended to be open to the public.

Project—A compilation of all tasks or activities associated with an approved grant on behalf of an eligible sponsor qualified to receive grant assistance.

Public heliport—A heliport, which is either publicly or privately owned, and which is open to the public.

Regional Project Management Team—Bureau staff assigned responsibility for each step of the project completion process.

Sponsor—A person applying for, or having received, an aviation development grant for a public airport. The following are different types of sponsors eligible for funds:

(i) *Planning agency*. An agency designated by the Bureau that is authorized by the laws of the State or political subdivisions concerned to engage in area wide planning for the areas in which the grant assistance is to be used. Typical planning agencies include planning offices, aeronautics commissions and departments of transportation.

(ii) *Public agencies owning airports*. A State, municipality, county, airport authority or other political subdivision, or a tax supported organization or an Indian tribe or pueblo.

(iii) *Public agencies not owning airports*. A public agency as defined in subparagraph (i) that does not own an airport seeking master planning grants for new airports, acquisition of existing airports and noise program implementing projects which are included in a noise compatibility program prepared by a local airport sponsor and not disapproved by the FAA.

(iv) *Privately owned public use airport owner*. An individual, partnership, corporation, or other legal entity that owns a public use airport.

Visual runway—A runway that is constructed for and intended solely for the operation of aircraft using only visual approach procedures.

Waiver Advisory Board—A board established under the Bureau's Waiver Process described in the current Bureau Waiver Policy. The Board will be composed of individuals as described in § 471.3(d)(1)(v)(B) (relating to airport licensing) appointed by the Secretary of the Department and will include representation from the Aviation Council of Pennsylvania.

Source

The provisions of this § 471.2 adopted October 1, 1968, effective October 1, 1968; amended October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial pages (226960) and (289751).

Notes of Decisions

Personal Use Airfield

An airfield located on personal property and used only by the landowner for private, personal use, is not excluded from the definition of "airport." *Commonwealth v. Beam*, 788 A.2d 357 (Pa. 2002).

Cross References

This section cited in 25 Pa. Code § 271.1 (relating to definitions); 25 Pa. Code § 287.1 (relating to definitions); 67 Pa. Code § 473.2 (relating to definitions); 67 Pa. Code § 477.2 (relating to definitions); and 67 Pa. Code § 479.2 (relating to definitions).

§ 471.3. Airport licensing.

(a) *Authority.* A person may not establish, maintain or operate an airport, or permit flight operations at an airport, unless authorized by the Bureau. This does not apply to an airport approved or maintained by the government of the United States, or to infrequent operations by helicopters or aircraft with characteristics permitting operation from sites not specially prepared therefore.

(b) *Written authority required.* Authority to establish, maintain or operate an airport will be provided in writing by the Bureau and will indicate whether the airport is public use, private use or otherwise restricted. An airport will be licensed by the ratings under §§ 471.5 and 471.6 (relating to airport rating—excluding heliports; and heliport rating).

(1) Commercial operations (operation of aircraft for compensation or hire, including flight instruction, aircraft maintenance, sale of aircraft, parts and fuel) shall be limited to public use airfields, or private airports that meet or exceed criteria established for private group airports. (See Appendix A, Criteria E.)

(2) Private airport and private group operators are prohibited from selling fuel to the general public, and from performing flight instruction to the general public.

(c) *Temporary licenses.* A temporary license, public or private, may be issued by the Bureau for temporary operations or special occasions. An inspection fee of \$25 will be charged for a temporary license.

(d) *Waiver.* The Bureau may issue a waiver for conditions not in compliance with criteria listed in Appendix A if control measures are put in place or if those conditions are deemed to not cause undue hazard to persons or property. Waivers may be temporary or permanent, depending on the situation and circumstances. Any conditions having a current waiver in force will be deemed to be in conditional compliance with this chapter.

(1) Waiver of criteria or requirements in this chapter will be in accordance with the following procedures.

(i) Requests for waivers must be in writing.

(ii) A sponsor shall request a waiver using forms and instructions provided by the Bureau, and available on the Department web site.

(iii) A separate request shall be submitted for each item for which waiver is requested, and the request for waiver will be posted on the Department web site.

(iv) Bureau staff will review each request and provide recommendation within 30 calendar days of receipt.

(v) Upon a Bureau staff recommendation of denial, the request will be forwarded to the Waiver Advisory Board (Advisory Board).

(A) The Advisory Board shall consist of five members appointed by the Secretary of the Department.

(B) Each Advisory Board member shall be either a certificated pilot, an accredited airport executive, a licensed professional engineer with experience in airport planning and design, or otherwise be an individual with a substantial aviation background.

(vi) The Advisory Board will review and analyze the waiver request and, within 75 calendar days of receipt of the request by the Advisory Board, provide a recommendation for disposition to the Bureau Director.

(vii) A denial of a waiver is subject to appeal under the appeal process described in § 471.9 (relating to appeal).

(2) The Bureau will also post the waiver procedures in this section on the Department web site.

(3) A nonexhaustive list of conditions for which the Bureau may grant a waiver is included in Appendix B.

(4) Waiver of criteria or requirements may not be inconsistent with the intent of this chapter.

(5) This chapter provides no authority for the Department to grant any waiver of local zoning or other municipal requirements.

(e) *Change of ownership.* A change of airport ownership requires a new license through the Bureau's licensing process. Upon the change of ownership or status of an airport, a new license which includes prior waivers of nonstandard conditions, modifications of FAA standards, or determinations of no hazard, as applicable, will be issued provided that a review by the Bureau verifies that conditions at the airport have not significantly changed since the time the previous license and waivers were issued.

(f) *Existing airport.* An airport presently in existence and licensed under pre-existing statutes and regulations is considered authorized.

(1) The Bureau may require an existing airport to correct or modify conditions which have arisen or significantly changed since the time any previous license or waiver was issued if they pose a significant threat to aviation safety.

(2) Determination that a condition poses a significant hazard to aviation safety will be based upon staff analysis by the Bureau after consultation with the Advisory Board.

(g) *Suspension or revocation of license.* The Bureau may revoke or suspend an airport license for reasonable cause, such as, but not limited to, failure to correct airport deficiencies, failure to cease unauthorized activities, or any violation of this chapter. See § 471.8 (relating to suspension, penalties and revocations).

(h) *Zoning.* Issuance of an airport license does not preempt requirements of local zoning authorities.

Source

The provisions of this § 471.3 adopted October 1, 1968, effective October 1, 1968; amended October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial pages (289751) to (289752).

Notes of Decisions*Personal Use Airfield*

An airfield located on personal property and used only by the landowner for private, personal use, is not excluded from the definition of "airport." *Commonwealth v. Beam*, 788 A.2d 357 (Pa. 2002).

Special Exception

The Zoning Hearing Board erred in granting a Fire Company's request for a special exception conditioned upon future compliance with licensing requirements; the language of § 471.3(a), (h) and the Zoning Code of East Norriton Township, Pa. § 205-144 unequivocally and unambiguously require that licensure be a condition precedent to any action by the Board on an application for a special exception to construct and operate a heliport. *Maher v. East Norriton Township Zoning Hearing Board*, 764 A.2d 98 (Pa. Cmwlth. 2000).

Cross References

This section cited in 67 Pa. Code § 471.2 (relating to definitions); and 67 Pa. Code § 471.4 (relating to licensing fees (private airports only)).

§ 471.4. Licensing fees (private airports only).

(a) A licensing fee shall be paid to the Department in form of a check, money order or bank draft, payable to "Pennsylvania Department of Transportation." The Bureau will notify private airport licensees at the time of license renewal of the appropriate licensing fee and procedure for license renewal.

(b) Licensing and inspection fees shall be as follows:

(1) The fee of \$50 for both an initial site inspection and a final inspection will be paid at the time of the initial application for airport license. Subsequent inspections required to receive a license will be subject to an additional \$50 fee.

(2) A written request and fee of \$25 are required for any additional inspections.

(3) A licensing fee of \$25 per year is payable in 3-year intervals (\$75 for a 3-year renewal).

(4) Temporary licenses, as required under § 471.3(c) (relating to airport licensing), require an inspection fee.

Source

The provisions of this § 471.4 adopted October 1, 1968, effective October 1, 1968; amended October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial page (289752).

§ 471.5. Airport rating—excluding heliports.

(a) The following are rating categories to be used by the Bureau for the issuance of an airport license:

(1) *Public airport.*

(i) *Scheduled service/general aviation.* An airport accommodating regularly scheduled air carrier or commuter service or general aviation operations, or both.

(ii) *Basic utility.* An airport with a visual runway, turf or paved, serving aircraft less than 12,500 pounds max gross weight, without beacon or runway edge lights, authorized for visual flight rules (VFR) use only and not intended for night time operations.

(iii) *Sport and ultralight.* A landing area for the use of sport or ultralight aircraft, or both, as those terms are defined by applicable Federal Aviation Regulations (FARs).

(iv) *Seaplane base.* An area of water used as a landing area.

(2) *Private airport.*

(i) *Individual.* A private airport used exclusively by the licensee.

(ii) *Group.* A private airport used exclusively by a partnership, organization or corporation which is restricted to members of that entity.

(iii) *Sport and ultralight.* A landing area for the use of sport or ultralight aircraft, or both as those terms are defined by applicable FARs.

(iv) *Seaplane.* An area of water used as a landing area.

(b) *Use of landing areas by another aircraft.*

(1) Aircraft operators are authorized to land at public airports within the capabilities of the pilot-in-command and the aircraft. Pertinent information regarding public airports is located in the FAA Airport Facilities Directory and also updated and disseminated by a NOTAM.

(2) For private airports, aircraft operators shall receive authorization from the airport owner prior to operating to or from the airport. A private airport owner/licensee may invite an aircraft operator to use his landing area if the owner has thoroughly briefed the invitee on the takeoff and landing data and any peculiarities of the landing area. The invitee's aircraft expected performance values and operational requirements may not exceed the capabilities or dimensions of the landing area.

Source

The provisions of this § 471.5 adopted October 1, 1968, effective October 1, 1968; amended October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial pages (289752) to (289753).

Notes of Decisions*Personal Use Airfield*

An airfield located on personal property and used only by the landowner for private, personal use, is not excluded from the definition of "airport." *Commonwealth v. Beam*, 788 A.2d 357 (Pa. 2002).

Cross References

This section cited in 67 Pa. Code § 471.3 (relating to airport licensing).

§ 471.6. Heliport rating.

(a) *Rating categories.* The following represents the rating categories to be used by the Bureau for the issuance of heliport licenses:

(1) *Public heliport.* A heliport consisting of a landing area that is open to the public.

(2) *Private heliport.* A heliport not intended for public use (includes hospital heliports, corporate and privately owned heliports).

(b) *Use of landing area/heliport by another aircraft.*

(1) Aircraft operators are authorized to land at public heliports within the capabilities of the pilot-in-command and their aircraft. Pertinent information regarding public heliports is located in the FAA Airport Facilities Directory and also update and disseminated by a NOTAM.

(2) For private heliports, aircraft operators shall receive authorization from the heliport owner prior to operating to or from the heliport. A private heliport owner/licensee may invite an aircraft operator to use his landing area if the owner has thoroughly briefed the invitee on the takeoff and landing data and any peculiarities of the landing area. The invitee's aircraft expected performance values and operational requirements shall not exceed the capabilities or dimensions of the landing area.

Source

The provisions of this § 471.6 adopted October 1, 1968, effective October 1, 1968; amended October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial pages (289753) to (289754).

Cross References

This section cited in 67 Pa. Code § 471.3 (relating to airport licensing).

§ 471.7. Licensing criteria and requirements.

(a) Criteria for licensing of airports and heliports are described in Appendix A.

(b) The following are applicable to airports and heliports which have obtained a license:

(1) An owner or operator of an airport shall operate and maintain the airport safely and shall conform to existing statutes and this chapter, or as modified by existing waiver.

(2) An owner or operator of an airport shall give prompt written notice to the Bureau, using Bureau Form AV-19, of a proposed physical change in the airport that is likely to affect its safety or conformity with the criteria under which the airport was licensed by the Bureau.

(3) An owner or operator of an airport licensed by the Bureau shall immediately report altered, unsafe or hazardous conditions of a nontemporary nature (in excess of 72 hours) to the Bureau. Public airport owners shall also file a NOTAM with the FAA. Upon elimination of the condition, a report shall be submitted to the Bureau detailing corrective action taken. Information concerning permanent physical changes to the airport shall also be reported to the FAA for inclusion in the Airport Facilities Directory.

(4) An owner or operator of a public airport shall post, in a place visible to the public, written material required to be posted by the Bureau, the Commonwealth or the Federal government.

(5) Surface vehicles, such as, but not limited to, automobiles, trucks, mowing machines, graders or rollers may not be operated in the vicinity of runways or taxiways of a public airport without the airport manager's permission and coordination with the control tower, if existent. Surface vehicles must be marked with approved flags or flashing amber beacons in accordance with FAA guidelines when operating in air operations areas unless coordinated with the airport manager.

(6) Remote controlled model aircraft may not be operated from a public airport unless permission has been obtained from the airport manager.

(7) Nonaeronautical uses of a public airport's aviation related area require the airport sponsor to obtain Bureau approval by means of advance written notice. Failure of the Bureau to respond within 30 calendar days shall be deemed tacit approval. Airport operators shall provide advance notice to aircraft operators in accordance with FAA procedures and time frames, including a NOTAM.

(8) An abandoned or unlicensed airport shall have markers, wind direction indicators and aeronautical signs immediately removed by the owner or operator.

(9) The Bureau may randomly inspect any airport or heliport to determine compliance with the code and this chapter.

(i) Periodic safety inspections will be conducted at all scheduled service, general aviation and basic utility airports. The Bureau will coordinate the inspection date with the airport owner. Following the inspection, the Bureau will provide written report of all inspection findings. Deficiencies identified shall be mitigated in a timely manner unless waived by the Bureau. The written report containing the inspection findings, as they specifically

relate to the aviation code or aviation regulations, will itemize all deficiencies, except conditions having a current waiver in force. Any conditions having a current waiver in force is deemed to be in (conditional) compliance with this chapter.

(ii) Safety inspections at private use airports will be conducted on a random basis or at the request of the owner.

(iii) Airport sponsors who cannot mitigate airspace obstructions may submit an FAA Form 7460 for FAA evaluation and subsequent consideration for Bureau waiver.

(10) The Department may maintain an action in any court of competent jurisdiction against any licensee of an airport or aviation facility which is subject to regulation under this chapter, to prevent, restrain or enjoin any violation or threatened violation of this chapter.

Source

The provisions of this § 471.7 adopted October 1, 1968, effective October 1, 1968; amended October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial pages (289754) to (289755).

§ 471.8. Suspension, penalties and revocations.

(a) The Department may suspend or revoke an airport license when the Department finds sufficient evidence that one of the following applies:

(1) A nonconforming condition exists under this chapter that is a potential hazard to the users of the airport and has been brought to the attention of the airport sponsor, by written notice, as requiring remediation under this chapter, and the airport sponsor has not responded or sought a waiver within 90 days or less of the notice as deemed necessary by the Director.

(2) A waiver request by the airport sponsor to waive a nonconforming condition has been finally denied and the airport sponsor refuses to take reasonable steps to remediate the condition to the satisfaction of the Bureau, to file an appeal to the Director of the Bureau, or to file a legal action in a court of competent jurisdiction appealing the denial of the waiver, within 90 days of notice of the waiver denial.

Source

The provisions of this § 471.8 adopted October 1, 1968, effective October 1, 1968; amended October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial pages (289755) and (226965) to (226966).

Cross References

This section cited in 67 Pa. Code § 471.3 (relating to airport licensing).

§ 471.9. Appeal.

A person aggrieved by a decision of the Bureau to grant, deny or revoke a license may make an appeal under 2 Pa.C.S. §§ 501—508 and 701—704 (relating to the Administrative Agency Law) and 1 Pa. Code Part II (relating to general rules of administrative procedure) in the following manner:

- (1) The appeal shall be filed within 60 days of receipt of the Bureau's decision.
- (2) The appeal shall be filed with the Administrative Docket Clerk, Office of Chief Counsel, 400 North Street, 9th Floor, Harrisburg, PA 17120-0064, with a \$150 filing fee.
- (3) The appeal must provide a detailed description of the decisions being appealed and the reasons for the appeal.

Source

The provisions of this § 471.9 adopted October 1, 1968, effective October 1, 1968; amended October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial page (226966).

Cross References

This section cited in 67 Pa. Code § 471.3 (relating to airport licensing).

§ 471.10. [Reserved].**Source**

The provisions of this § 471.10 adopted October 1, 1968, effective October 1, 1968; reserved October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693. Immediately preceding text appears at serial page (62161).

§ 471.11. [Reserved].**Source**

The provisions of this § 471.11 adopted October 1, 1968, effective October 1, 1968; reserved October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693. Immediately preceding text appears at serial page (62162).

§ 471.12. [Reserved].**Source**

The provisions of this § 471.12 adopted October 1, 1968, effective October 1, 1968; reserved October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693. Immediately preceding text appears at serial page (62162).

§ 471.13. [Reserved].**Source**

The provisions of this § 471.13 adopted October 1, 1968, effective October 1, 1968; reserved October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693. Immediately preceding text appears at serial page (62162).

§ 471.14. [Reserved].**Source**

The provisions of this § 471.14 adopted October 1, 1968, effective October 1, 1968; reserved October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693. Immediately preceding text appears at serial page (62162).

§ 471.15. [Reserved].**Source**

The provisions of this § 471.15 adopted October 1, 1968, effective October 1, 1968; reserved October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693. Immediately preceding text appears at serial page (62162).

§ 471.16. [Reserved].**Source**

The provisions of this § 471.16 adopted October 1, 1968, effective October 1, 1968; reserved October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693. Immediately preceding text appears at serial page (62162) to (62163).

§ 471.17. [Reserved].**Source**

The provisions of this § 471.17 adopted October 1, 1968, effective October 1, 1968; reserved October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693. Immediately preceding text appears at serial page (62163).

APPENDIX A*Public Airport*

Scheduled Service/General Aviation	Criteria A
Basic Utility	Criteria B
Sport/Ultralight	Criteria C
Seaplane	Criteria D

Private Airport

Group	Criteria E
Individual	Criteria F

*Private Airport*Sport/Ultralight
Seaplane

Criteria G

Criteria H

Public Heliport

Criteria I

Private Heliport

Criteria J

CRITERIA A**Public Airport—Scheduled Service/General Aviation**

(a) The minimum runway length is 2,200 feet plus a 7% additional length factor for each 1,000 feet of elevation that the runway is above mean sea level, rounded up to the nearest 5 foot increment. Example: An airport at 500 feet above mean sea level would require a minimum length of 2280 feet.

(b) The minimum runway primary surface width is 250 feet or 125 feet either side of the runway centerline. The landing surface shall be centered within the primary surface. The minimum width of a turf runway is 100 feet. The minimum width of a paved runway surface is 50 feet.

(c) A paved runway shall have an obstacle free zone, extending 200 feet beyond the end of each visual utility runway, the same width as the primary surface.

(d) A runway end shall have an obstruction free approach surface with a slope of 20 feet horizontal to 1 foot vertical. The following are approach surface dimensions:

(1) The centerline of this surface shall extend outward and upward 5,000 feet along the runway extended centerline.

(2) The surface shall extend laterally 125 feet on each side of the centerline of the runway approach threshold and shall increase uniformly in width to 625 feet on each side of the centerline at a point 5,000 feet from the end of the primary surface.

(3) The approach surface shall begin at the runway end for a turf runway and 200 feet beyond the end of a paved runway.

(e) A runway other than visual shall conform to applicable FAR Part 77 Civil Airport Runway Approach Surfaces. The Bureau will acknowledge and consider mitigation factors as determined by the FAA when determining compliance with this criterion.

(f) A runway shall have an obstruction free transitional surface with a slope of 7 feet horizontal to 1 foot vertical extending from the side of the runway primary surface and the sides of the approach surface to an elevation 150 feet above the airport elevation.

(g) Runway thresholds shall be a minimum of 200 feet from airport property line as measured along the runway extended centerline.

(h) A runway shall be marked.

- (1) *Turf runway.* Turf runway ends and displaced thresholds shall be marked. Edge markers shall be placed at intervals not exceeding 200 feet along each side of the runway for its entire length.
- (2) *Paved runway.* A paved runway shall be marked. For the dimensions and spacing of the markings see the current edition of the FAA Advisory Circular relating to runway markings.
 - (i) For planning purposes, principal runway alignment for new airports should be in the direction of the prevailing winds. Runway alignment other than into the prevailing winds, may restrict use of the airport during conditions where crosswind velocities exceed the crosswind component of the aircraft.
 - (j) A wind indicator shall be installed at a location that adequately indicates the surface wind direction and velocity. The wind indicator shall be lighted where night operations are to be conducted.
 - (k) The runway surface longitudinal and transverse grade may not exceed 2.0%. It is desirable that a line-of-sight standard exist along the entire length of the runway. Runway grade changes should be such that any 2 points 5 feet above the runway centerline will be mutually visible for the entire length of the runway.
 - (l) If night operations are to be conducted at the airport, runway edge lighting shall be installed to define the lateral and longitudinal limits of the useable landing area. Lights shall be installed in accordance with the current edition of the FAA Advisory Circular related to runway lighting.
 - (m) A rotating beacon shall be installed for night operations at public airports.
 - (n) Telephone service shall be available during hours of operation. Emergency contact information shall be posted near the telephone.
 - (o) A first aid kit shall be available.
 - (p) A traffic pattern diagram with altitudes shall be posted and visible to the aviation public.
 - (q) A favorable airspace determination by the FAA shall be required prior to final licensing.
 - (r) The airport license must be posted and visible to the aviation public.
 - (s) Fire extinguishing equipment shall be available for emergency fire protection. See NFPA Codes and local fire codes for appropriate guidelines.
 - (t) Where public fueling services are provided use NFPA Codes for guidelines for storage and distribution of fuels.
 - (u) Issuance of a license does not preempt other State, federal or local zoning or permitting requirements.

CRITERIA B

Public Airport—Basic Utility

- (a) The minimum runway length is 1,600 feet.
 - (1) The minimum required runway length will be increased where required to accommodate a family of airplanes having similar performance characteris-

tics or a specific airplane needing the longest runway and will be based on the performance data obtained from the aircraft flight manuals.

(2) Runway length will be that length needed for take-off ground run or landing ground run whichever is greater, factored for density altitude (85°F day; runway elevation above sea level); plus a factor for grass. The grass factor may be that required by the manufacturer. If the manufacturer requires no grass factor, a factor of 10% for conventional landing gear or 15% for tricycle landing gear will be used. An additional safety factor of 20% shall also be applied.

(3) If the aircraft performance data is not available from the aircraft flight manual, due to its vintage or modifications, the Bureau may accept a written statement by the applicant-aircraft owner-as to aircraft performance and runway length needed. Performance data may be considered, using less than maximum certificated takeoff weight-down loaded condition, if requested in writing by the applicant, to meet minimum runway length requirements.

(4) Displacement of runway thresholds may be used to reduce or eliminate approach slope obstructions as long as sufficient effective runway length remains.

(b) The minimum runway primary surface width is 180 feet or 90 feet either side of the runway centerline. The landing surface shall be centered within the primary surface. The minimum width of a paved runway is 50 feet. The minimum width of a turf runway is 100 feet. The runway primary surface shall extend 200 feet beyond the end of a paved runway and to the end of a turf runway.

(c) A runway end shall have an obstruction free approach surface with a slope of 20 feet horizontal to 1 foot vertical. The following are approach surface dimensions for a visual runway.

(1) The centerline of this surface shall extend outward and upward 5,000 feet along the runway extended centerline.

(2) The surface shall extend laterally from each edge of the primary surface at the runway approach threshold and increase uniformly in width to 625 feet on each side of the centerline at a point 5,000 feet from the end of the primary surface.

(3) The approach surface shall begin at the runway end for an unpaved runway and at a point 200 feet beyond the end of a paved runway.

(d) A runway shall have an obstruction free transitional surface with a slope of 7 feet horizontal to 1 foot vertical extending from the side of the runway primary surface and the sides of the approach surface to an elevation 150 feet above the airport elevation.

(e) Runway landing thresholds shall be a minimum of 200 feet from the airport property line along the runway extended centerline.

(f) A runway shall be marked.

- (1) *Turf runways.* Runway ends shall be marked. Edge markers shall be placed at intervals not exceeding 200 feet along each side of the runway for its entire length.
- (2) *Paved runway.* Runway numbers shall be marked at each end.
- (3) Runway threshold displacements shall be marked.
- (g) For planning purposes, principal runway alignment for new airports should be in the direction of the prevailing wind. Runway alignment, other than into the prevailing wind, may restrict use of the airport during conditions where crosswind velocities exceed the crosswind component of the aircraft.
- (h) Operations are intended for day, visual meteorological conditions (VMC).
- (i) A wind indicator shall be installed at a location that adequately indicates surface wind direction and velocity. The wind indicator shall be lighted if night operations are to be conducted.
- (j) The runway longitudinal and transverse gradient should not exceed 4.0%.
- (k) Telephone service should be available during hours of operation. Emergency contact information should be posted near the telephone.
- (l) Fire extinguishing equipment should be available for emergency fire protection. See NFPA Codes and local fire codes for appropriate guidelines.
- (m) A traffic pattern diagram with altitudes shall be posted and visible to the aviation public.
- (n) A favorable airspace determination from the FAA shall be required prior to license.
- (o) Issuance of a license does not preempt other state, federal or local zoning or permitting requirements.

CRITERIA C

Public Airport—Sport/Ultralight

- (a) The minimum runway length shall be 1,000 feet. The runway should be aligned within 40° of the prevailing wind. Longitudinal and transverse gradients should not exceed 4%.
- (b) A runway end shall have an obstruction free approach surface with a slope of 15 feet horizontal to 1 foot vertical. The following are approach surface dimensions:
 - (1) The centerline of this surface shall extend outward and upward 1,000 feet along the extended runway centerline.
 - (2) The surface shall extend laterally 50 feet on each side of the centerline of the runway approach threshold and increase uniformly in width to 100 feet on each side of the centerline at a point 1,000 feet from the runway end.
 - (3) The approach surface shall begin at the runway end.
- (c) The minimum runway width shall be 100 feet.
- (d) A runway shall have an obstruction free transitional surface with a slope of 3 feet horizontal to 1 foot vertical extending from the side of the runway surface and the sides of the approach surface.

- (e) Runway landing thresholds shall be a minimum of 200 feet from the airport property line as measured along the extended runway centerline.
- (f) Runway ends shall be marked. Edge markers shall be placed at intervals not exceeding 200 feet along each side of the runway for its entire length.
- (g) For planning purposes, principal runway alignment for new airports should be in the direction of the prevailing wind. Runway alignment, other than into the prevailing winds may restrict use of the airport during conditions where crosswind velocities exceed the crosswind component of the aircraft.
- (h) A wind indicator shall be installed at a location that adequately indicates the surface wind direction and velocity.
- (i) Night operations are not authorized.
- (j) Telephone service should be available during hours of operation. Emergency contact information should be posted near the telephone.
- (k) A traffic pattern diagram with altitudes shall be posted and visible to the aviation public.
- (l) The airport license shall be posted and visible to the aviation public.
- (m) The airport operator should provide fire extinguishing equipment for emergency fire protection.
- (n) A favorable airspace determination from the FAA shall be required prior to final licensing.
- (o) Issuance of a license does not preempt other State, federal or local zoning or permitting requirements.

CRITERIA D

Public Airport—Seaplane

- (a) The minimum landing lane length is 2,500 feet. The length of the landing lane shall be increased by 7% per 1,000 feet of elevation above sea level. The additional length factor is calculated proportionately using a ratio of 7% for each 1000 feet of elevation that the runway is above mean sea level, rounded up to the nearest 5-foot increment. (i.e. An airport at 500 feet above mean sea level would require a minimum length of 2,590 feet.)
- (b) The minimum primary surface width is 200 feet or 100 feet each side of the landing lane centerline. The landing lane minimum width is at least 100 feet and centered within the primary surface.
- (c) A minimum water depth of 3 feet is required at all points within the primary surface.
- (d) A landing lane shall have an obstruction free approach surface with a slope of 20 feet horizontal to 1 foot vertical. The following are the approach slope dimensions:
 - (1) The centerline shall extend outward and upward for 5,000 feet along the landing lane extended centerline.

- (2) The surface shall extend laterally 100 feet each side of the centerline, beginning at the landing lane threshold and increase uniformly to 625 feet each side of the centerline at a point 5,000 feet from the end of the landing lane.
- (e) A wind indicator shall be installed at a location that adequately indicates the surface wind direction and velocity. The wind indicator shall be lighted if night operations are to be conducted.
- (f) Documentation of ownership or lease of suitable docking facilities and written authorization or permit to use the waterway shall be submitted with the application.
- (g) If night operations are to be conducted at the airport, landing lane edge lighting shall be installed to define the lateral and longitudinal limits of the useable landing area.
- (h) A public telephone should be available during airport operating hours. Emergency contact information telephone numbers shall be posted.
- (i) The airport license shall be posted and visible to the aviation public.
- (j) A traffic pattern diagram with altitudes shall be posted at the docking facility and visible to the aviation public.
- (k) A powerboat shall be readily available for emergencies during normal operating hours.
- (l) The airport operator should provide fire extinguishing equipment for emergency fire protection.
- (m) Final airspace determination by FAA shall be required prior to final licensing.
- (n) Issuance of a license does not preempt other State, federal or local zoning or permitting requirements.

CRITERIA E

Private Airport—Group

- (a) The minimum runway length is 1,200 feet.
- (1) The minimum required runway length will be adjusted where required to accommodate the aircraft to be operated from the airport and will be based upon the performance data obtained from the aircraft flight manuals.
- (2) Runway length will be that length needed for take-off ground run or landing ground run, whichever is greater, factored for density altitude temperature (85°F day; runway elevation above sea level); plus a factor for grass. The grass factor may be that required by the manufacturer. If the manufacturer requires no grass factor, a factor of 10% for conventional landing gear or 15% for tricycle landing gear will be used. An additional safety factor of 20% shall also be applied.
- (3) If the aircraft performance data is not available from the aircraft flight manual, due to its vintage, a statement by the applicant/aircraft owner as to aircraft performance and runway needed may be accepted by the Bureau.

- (4) Performance data may be considered, using less than gross weight down loaded condition, if requested by the applicant, to meet minimum runway length requirements.
- (5) Displacement of runway thresholds may be used to reduce or eliminate approach slope obstructions as long as sufficient effective runway length remains.
- (6) The minimum runway primary surface width shall be 180 feet or 90 feet each side of the runway centerline. The landing surface shall be centered within the primary surface. The minimum width of a turf landing surface shall be 100 feet. The minimum width of a paved landing surface shall be 50 feet. A paved runway primary surface shall extend 200 feet beyond the end of a paved runway and to the end of a turf runway.
 - (b) A runway end shall have an obstruction free approach surface with a slope of 20 feet horizontal to 1 foot vertical. The following are the approach slope dimensions:
 - (1) The centerline of this surface shall extend outward and upward for 5,000 feet along the runway extended centerline.
 - (2) The surface shall extend laterally 90 feet on each side of the centerline of the runway approach threshold and shall increase uniformly in width to 625 feet on each side of the centerline at a point 5,000 feet from the end of the primary surface.
 - (c) Runway thresholds shall be a minimum of 200 feet from airport property line as measured along the runway extended centerline.
 - (d) A runway shall be marked.
 - (1) *Turf runways.* Runway ends shall be marked. Markers shall be placed at intervals not exceeding 200 feet along each side of the runway for its entire length.
 - (2) *Paved runways.* Runway numbers shall be marked at each end.
 - (3) Marked threshold displacement. Runway threshold displacements shall be marked.
 - (4) Displacements shall be lighted if night operations are to be conducted.
 - (e) For planning purposes, principal runway alignment for new airports should be in the direction of the prevailing wind. Runway alignment, other than into the prevailing wind, may restrict use of the airport during conditions where crosswind velocities exceed the crosswind component of the aircraft.
 - (f) A wind indicator shall be installed at a location that adequately indicates surface wind direction and velocity. It shall be lighted if night operations are to be conducted.
 - (g) The runway longitudinal and transverse gradient should not exceed 4%.
 - (h) If night operations are to be conducted at the airport, runway edge lighting shall be installed to define the lateral and longitudinal limits of the useable landing area. Lights will be installed in accordance with current applicable standards.

- (i) Fire extinguishing equipment and first aid kits are recommended.
- (j) Standard traffic patterns shall be established. Where a nonstandard traffic pattern is necessary, the information shall be made available to those authorized by the owners to use the airport.
- (k) A favorable airspace determination from the FAA shall be required prior to license.
- (l) Issuance of a license does not preempt other state, federal or local zoning or permitting requirements.

CRITERIA F

Private Airport—Individual

- (a) The minimum Runway length is 1,200 feet.
 - (1) The minimum required runway length will be increased where required to accommodate the aircraft to be operated from the airport and will be based upon the performance data obtained from the aircraft flight manuals.
 - (2) Runway length will be that length needed for take-off ground run or landing ground run, whichever is greater, factored for density altitude (temperature - 85°F day; runway elevation above MSL); plus a factor for grass. The grass factor may be that required by the manufacturer. If the manufacturer requires no grass factor, a factor of 10% for conventional gear or 15% for tricycle gear aircraft will be used. An additional safety factor of 20% shall also be applied.
 - (3) If the aircraft performance data is not available from the aircraft flight manual, due to its vintage or modifications, a statement by the applicant/aircraft owner as to the performance and runway needed may be accepted by the Bureau.
 - (4) Performance data may be considered, using less than maximum certificated takeoff weight down loaded condition, if requested by the applicant, to meet runway length requirements.
 - (5) Displacement of runway thresholds may be used to reduce or eliminate approach slope obstructions as long as sufficient effective runway minimum length remains.
- (b) The minimum primary surface shall be 100 feet or 50 feet either side of the runway centerline. The landing surface shall be centered within the primary surface. The minimum width of a paved landing surface shall be 50 feet. The minimum width of a turf landing surface shall be 100 feet. The runway primary surface shall extend 200 feet beyond the end of a paved runway and to the end of a turf runway.
- (c) A runway end will have an obstruction free approach surface with a slope of 20 feet horizontal to 1 foot vertical. The following are approach surface dimensions for a runway:
 - (1) The centerline of this surface shall extend outward and upward 1,500 feet along the extended runway centerline.

- (2) The surface shall extend laterally 50 feet each side of the centerline at the runway approach threshold and increase uniformly in width to 150 feet on each side of the centerline at a point 1,500 feet from the end of the primary surface.
- (3) The approach surface shall begin at the runway end for an unpaved runway and at a point 200 feet beyond the end of a paved runway.
- (d) The runway landing thresholds shall be a minimum of 200 feet from airport property line along the runway extended centerline.
- (e) A runway shall be marked.
- (1) *Turf runways.* Runway ends shall be marked. Edge markers shall be placed at intervals not exceeding 200 feet along each side of the runway for its entire length.
- (2) *Paved runways.* Runway numbers shall be marked at each end.
- (3) *Marked threshold displacement.* Runway threshold displacements shall be marked.
- (f) For planning purposes, principal runway alignment for new airports should be in the direction of the prevailing wind. Runway alignment, other than into the prevailing wind, may restrict use of the airport during conditions where crosswind velocities exceed the crosswind component of the aircraft.
- (g) A wind indicator shall be installed at a location that adequately indicates surface wind direction and velocity.
- (h) The runway longitudinal and transverse gradient should not exceed 4%.
- (j) Operations are intended for day, visual meteorological conditions (VMC).
- (k) Fire extinguishing equipment and first aid kits are recommended.
- (l) Standard traffic patterns shall be established. Where a non-standard pattern is necessary, the information shall be made available to those authorized by the owner to use the airport.
- (m) A favorable airspace determination from the FAA shall be required prior to license.
- (n) Issuance of a license does not preempt other state, federal or local zoning or permitting requirements.

CRITERIA G

Private Airport—Sport/Ultralight

- (a) Minimum runway dimensions of 500 feet in length x 100 feet in width aligned within 40° of the prevailing wind are required. Longitudinal and transverse gradients should not exceed 4.0%.
- (b) The minimum runway length will be increased to accommodate sport aircraft where applicable and will be based on the performance data obtained from the aircraft flight manuals. Runway length will be that length needed for take-off ground run or landing ground run, whichever is greater, factored for density altitude (temperature 85 degrees F, runway elevation above MSL), plus a factor for grass. The grass factor may be that required by the manufacturer. If the manufac-

turer requires no grass factor, a factor of 10% for conventional gear of 15% for tricycle gear will be used. An additional safety factor of 20% shall also be applied.

(c) A runway end shall have an obstruction free approach surface with a slope of 15 feet horizontal to 1 foot vertical. The following are approach surface dimensions:

(1) The centerline of this surface shall extend outward and upward 1,000 feet along the extended runway centerline.

(2) The surface shall extend laterally 50 feet on each side of the centerline of the runway approach threshold and increase uniformly in width to 100 feet on each side of the centerline at a point 1,000 feet from the runway end.

(3) The approach surface shall begin at the runway end.

(d) Runway landing thresholds shall be a minimum of 200 feet from the airport property line as measured along the extended runway centerline.

(e) Runway ends shall be marked. Runway edges shall be marked at intervals necessary to define the lateral runway limits.

(f) For planning purposes, principal runway alignment for new airports should be in the direction of the prevailing wind. Runway alignment, other than into the prevailing winds may restrict use of the airport during conditions where crosswind velocities exceed the crosswind component of the aircraft.

(g) A wind indicator shall be installed at a location that adequately indicates the surface wind direction and velocity.

(h) A favorable airspace determination from the FAA shall be required prior to license.

(i) Issuance of a license does not preempt other state, federal or local zoning or permitting requirements.

CRITERIA H

Private Airport—Seaplane

(a) The minimum landing lane length is 2,500 feet. Landing lane length may be reduced if performance data is provided which indicates required take-off and landing distances of less than 2,500 feet.

(b) The minimum primary surface and landing lane width is 100 feet or 50 feet each side of the landing lane centerline. The landing lane minimum width is at least 100 feet and centered within the primary surface.

(c) A minimum water depth of 3 feet is required at all points within the primary surface.

(d) A landing lane end shall have an obstruction free approach surface with a slope of 20 feet horizontal to 1 foot vertical. The following are the approach surface dimensions:

(1) The centerline shall extend outward and upward for 1,500 feet along the landing lane extended centerline.

- (2) The approach surface shall extend laterally 50 feet on each side of the centerline of the landing area, beginning at the landing lane threshold and increase uniformly in width to 300 feet at 1,500 feet from the end of the landing area.
- (e) A wind indicator shall be installed at a location that adequately indicates the surface wind direction and velocity. The wind indicator shall be lighted if night operations are to be conducted.
- (f) Documentation of ownership or lease of suitable docking facilities and written authorization or permit to use the waterway shall be submitted with the license application.
- (g) If night operations are to be conducted at the airport, landing lane edge lighting shall be installed to define the lateral and longitudinal limits of the useable landing area.
- (h) A favorable airspace approval from the FAA shall be required prior to final licensing.
- (i) Standard traffic patterns shall be established. Where a nonstandard traffic pattern is necessary, the information shall be made available to those authorized by the owner to use the airport.
- (j) Issuance of a license does not preempt other state, federal or local zoning or permitting requirements.

CRITERIA I

Public Heliport—General Aviation

- (a) The least dimension (i.e. length, width, or diameter) of the final approach and take off area (FATO) shall be at least 1.5 times the overall length of the design helicopter rounded up to the next 5 foot increment, but not less than 60 feet.
- (1) Helicopters located on raised platforms, piers, docks or buildings may have outer portions of the FATO extend beyond the platform.
- (2) The FATO should be graded to provide a smooth surface. A slope gradient of no more than 2% is allowed for any part of the FATO on which a helicopter is expected to land.
- (3) The FATO shall be free of objects.
- (b) When the entire FATO is not load bearing, a paved or stabilized touch down and lift off area (TLOF) is recommended. The least dimension of the TLOF is recommended to be not less than the rotor diameter of the design helicopter.
- (c) A safety area shall be provided around the FATO.
- (1) The width of the safety area shall be 1/3 of the rotor diameter of the design helicopter, but not less than 20 feet.
- (2) The safety area shall be free of objects.
- (d) The heliport shall have two approach/take off paths separated by an arc of at least 90° and shall have unobstructed approach/take off surfaces with a slope of 8 feet horizontal to one foot vertical.

- (1) The approach/take off paths may curve to avoid objects and/or noise sensitive areas and to use airspace above public lands.
- (2) The approach/take off surface shall begin at the threshold, at the same width as the FATO, and shall extend outward and upward for 4,000 feet where its width is 500 feet.
- (3) One approach/take off path may be acceptable if the approaches and take offs can be conducted safely and if it is unobstructed and crosswind to the prevailing winds.
- (e) Transitional surfaces shall be unobstructed. Transitional surfaces shall extend outward and upward with a slope of two feet horizontal to one foot vertical from the edge of the approach/take off surfaces and the FATO for a distance of 250 feet from the center of the FATO and from the centerline of the approach/ departure path.
- (f) The FATO shall be marked with FAA standard markings for heliports.
 - (1) The FATO shall be designated by marking the outer perimeter boundary.
 - (2) If applicable, the TLOF shall also be marked. An H marking will identify the heliport as a public facility as well as mark the intended landing position. The H is oriented on the axis of the dominant approach/take off path. A bar may be placed under the H when it is necessary to distinguish the preferred approach direction.
 - (3) In ground or surface markings may be used to define either or both the FATO and TLOF.
 - (4) *Unpaved surfaces.* The perimeter of a turf FATO shall be identified with in ground markers that will not catch helicopter skids or create barriers to helicopter maneuvering. If raised markings are used, they shall be located at the outer boundary of the safety area and be no more than 8 inches in height. Markers are placed at the corners, and as needed along the edges of the FATO.
 - (5) *Paved surfaces.* A 12-inch dashed white line defines the limits of the FATO when the entire surface is paved.
 - (6) A 12-inch solid white line is used to define the limits of the TLOF.
- (g) A wind indicator shall be installed at a location that adequately indicates the surface wind direction and velocity. The indicator shall be lighted if night operations are to be conducted.
- (h) *Night operations.*
 - (1) The perimeter of the FATO and the TLOF shall be defined with lights colored in accordance with the current FAA Advisory Circular pertaining to heliport lighting. The lights may not penetrate the approach or transitional surface slopes.
 - (2) A minimum of four flush or raised fixtures is required per side of a square or rectangular FATO or TLOF. A light is located at each corner, with additional lights spaced uniformly between the corner lights with a maximum interval of 25 feet between lights.

(3) An even number of lights, at least 8, evenly spaced, is required to define a circular FATO or TLOF, with a maximum interval of 25 feet between lights.

(4) Raised light fixtures, modified to be not more than 8 inches in height, should be located 10 feet out from the FATO edge.

(5) Flush lights may be located on the TLOF edge or within 1 foot of the TLOF edge.

(6) When nonflush lights are used on a raised TLOF, light fixtures modified to no more than 8 inches in height may be used to define the TLOF. They must be located 10 feet out from the TLOF edge and must not penetrate a horizontal plane at the TLOF's elevation by more than 2 inches.

(7) Flood lighting may also be used in lieu of, or to supplement, perimeter lights. The flood lights shall be installed so they do not interfere with helicopter operations or interfere with pilot vision.

(8) Obstruction lights should be installed on objects near the approach surfaces or where deemed necessary by the Bureau.

(i) A rotating beacon is recommended to be installed for night operations at public heliports.

(j) When the TLOF is on a platform elevated more than 30 inches above its surroundings, a five foot wide safety net or shelf shall be provided. The safety net shall have a load carrying capability of at least 25 pounds per square foot. The net or shelf may not project above the level of the TLOF.

(k) *Rooftop heliports.*

(1) The size of the FATO and the TLOF for a rooftop or elevated heliport shall be the same as for ground level.

(2) When the TLOF is less than the rotor diameter of the design helicopter, additional nonload bearing surface is required for support of the main rotor downwash ground effect. Load bearing surface size and designed load capacity shall be in accordance with the current edition of the FAA heliport design guide.

(l) Where practicable, wires within 500 feet of the FATO are recommended to be marked.

(m) A telephone shall be available to the public 24 hours a day. Emergency and aviation information telephone numbers shall be posted near the telephone.

(n) A traffic pattern diagram with altitudes shall be posted and visible to the aviation public.

(o) The heliport operator will provide fire extinguishing equipment for emergency fire protection.

(p) A favorable airspace determination from the FAA shall be required prior to final licensing.

(q) Issuance of a license does not preempt other state, federal or local zoning or permitting requirements.

CRITERIA J
Private Heliport

(a) The least dimension (i.e. length, width, or diameter) of the final approach and take off area (FATO) shall be 1.5 times the overall length of the design helicopter rounded up to the nearest 5 foot increment, but not less than 60 feet.

(1) Helicopters located on raised platforms, piers, docks or buildings may have outer portions of the FATO extend beyond the platform.

(2) The FATO should be graded to provide a smooth surface. A slope gradient of no more than 2% is allowed for any part of the FATO on which a helicopter is expected to land.

(3) The FATO shall be free of objects.

(b) When the entire FATO is not load bearing, a paved or stabilized touch down and lift off area (TLOF) is recommended. The least dimension of the TLOF is recommended to be not less than the rotor diameter of the design helicopter.

(c) A safety area will be provided around the FATO.

(1) The width of the safety area shall be 1/3 of the rotor diameter of the design helicopter, but not less than 10 feet.

(2) The safety area shall be free of objects.

(d) The heliport shall have two approach/take off paths separated by an arc of at least 90° and shall have unobstructed approach/take off surfaces with a slope of 8 feet horizontal to 1 foot vertical.

(1) Approach/take off paths may curve to avoid objects and/or noise sensitive areas and to use airspace above public lands. Approach surface requirements are applicable for the entire route.

(2) The approach/take off surface shall begin at the threshold, at the same width as the FATO, and shall extend upward and outward for a distance of 1,000 feet where its width is 200 feet.

(3) One approach/take off path may be acceptable if approaches can be conducted safely and if it is unobstructed and crosswind to the prevailing winds.

(e) The FATO shall be marked with FAA standard markings for heliports.

(1) The FATO shall be designated by marking the outer perimeter boundary.

(2) If applicable, the TLOF shall also be marked.

(3) The FATO or TLOF may be marked with company logo or name.

(4) A hospital heliport shall be identified by a red capital H centered on a white cross. The dimensions of the cross and H are described in the current edition of the FAA Heliport Design Advisory Circular.

(5) In ground or surface markings may be used to define either or both the FATO and TLOF.

(6) *Unpaved surfaces.* The perimeter of a turf FATO shall be identified with in ground markers that will not catch helicopter skids or create barriers to

helicopter maneuvering. If raised markings are used, they shall be located at the outer boundary of the safety area and be no more than 8 inches in height.

(7) *Paved surfaces.* A 12-inch dashed white line defines the limits of the FATO when the entire surface is paved.

(8) A 12-inch solid white line is used to define the limits of the TLOF.

(f) A wind indicator shall be installed at a location that adequately indicates the surface wind direction and velocity. The wind indicator shall be lighted if night operations are to be conducted.

(g) *Night operations.*

(1) The perimeter of the FATO or the TLOF (but not both) shall be defined with lights colored in accordance with the current FAA Advisory Circular pertaining to heliport lighting.

(2) At least 8 evenly spaced lights are required to define a circular FATO or TLOF, with a maximum interval of 25 feet between lights.

(3) A minimum of three flush or raised fixtures is required per side of a square or rectangular FATO or TLOF. A light is located at each corner, with additional lights spaced uniformly between the corner lights with a maximum interval of 25 feet between lights.

(4) Raised light fixtures, modified to be not more than 8 inches in height, should be located 10 feet out from the FATO edge.

(5) Flush lights may be located on the TLOF edge or within 1 foot of the TLOF edge.

(6) When nonflush lights are used on a raised TLOF, light fixtures modified to no more than 8 inches in height may be used to define the TLOF. They must be located no more than 10 feet out from the TLOF edge and must not penetrate a horizontal plane at the TLOF's elevation by more than 2 inches.

(7) Flood lighting may also be used in lieu of, or to supplement, perimeter lights. The flood lights shall be installed so as not to interfere with helicopter operations or interfere with pilot vision.

(8) Obstruction lights should to be installed on objects near the approach surfaces or where deemed necessary by the Bureau.

(h) When the TLOF is on a platform elevated more than 30 inches above its surroundings, a five foot wide safety net or shelf shall be provided. The safety net shall have a load carrying capability of at least 25 pounds per square foot. The net or shelf may not project above the level of the TLOF.

(i) *Rooftop heliports*

(1) The size of the FATO and TLOF for a rooftop or elevated heliport shall be the same as for ground level.

(2) When the TLOF is less than the rotor diameter of the design helicopter, additional non load bearing surface is required for support of the main rotor downwash ground effect. Load bearing surface size and designed load capacity shall be in accordance with the current edition of the FAA heliport design guide.

(j) Where practicable, wires within 500 feet of the FATO are recommended to be marked.

(k) The heliport operator will provide fire extinguishing equipment for emergency fire protection.

(l) A favorable airspace determination from the FAA shall be required prior to final licensing.

(m) Issuance of a license does not preempt other state, federal or local zoning or permitting requirements.

Source

The provisions of this Appendix A adopted October 3, 1986, effective October 4, 1986, 16 Pa.B. 3693; readopted July 20, 1990, effective July 21, 1990, 20 Pa.B. 3981; amended October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273. Immediately preceding text appears at serial pages (226967) to (226980).

Cross References

This Appendix A, Criteria E cited in 67 Pa. Code § 471.3 (relating to airport licensing). This Appendix A cited in 67 Pa. Code § 471.7 (relating to licensing criteria and requirements).

APPENDIX B

Section 471.3(d) allows the Bureau to waive, for “good cause,” compliance with the licensing criteria and related requirements. No waivers will be granted for conditions which are inconsistent with FAA Grant Assurance obligations or other applicable FAA regulation unless permission is granted by the FAA.

The following is a nonexhaustive illustrative list of potential waivable conditions:

- (1) Runway Length.
- (2) Runway Width.
- (3) Runway Obstacle Free Zone.
- (4) Approach Surface Penetrations.
- (5) Runway Markings.
- (6) Runway Alignment.
- (7) Longitudinal and Transverse Grades.
- (8) Telephone Requirements.

When evaluating any nonstandard condition for a waiver, the following will be considered in determining “good cause:”

- (1) Type and performance characteristics of the critical aircraft operating at the facility.
- (2) History of incidents attributable to the non-standard conditions as determined by the FAA and/or NTSB.
- (3) Operational limitations, such as VFR-day only.
- (4) Physical constraints.
- (5) Financial feasibility of undertaking improvements to meet airport licensing criteria.
- (6) How similar issues have been handled with respect to other airports.
- (7) Facility preservation.
- (8) Availability of visual guidance systems.

Source

The provisions of this Appendix B adopted October 29, 2010, effective October 30, 2010, 40 Pa.B. 6273.

Cross References

This Appendix B cited in 67 Pa. Code § 471.3 (relating to airport licensing).

[Next page is 473-1.]

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