

[Regulatory Docket No. 1882]

**PART 77—OBJECTS AFFECTING
NAVIGABLE AIRSPACE**

This revision of Part 77 of the Federal Aviation Regulations relaxes and simplifies the requirements for notice to the Agency of certain proposed structures, consolidates obstruction standards for use in the several Agency programs, and streamlines the Agency procedures for determining the effect of proposed structures on air navigation.

The proposed revision was published in the FEDERAL REGISTER (28 F.R. 7788-7795) on July 31, 1963. Extensive comments were received from aeronautical and nonaeronautical sources which endorsed generally the changes under consideration. These comments were very constructive in nature and the Agency appreciates the cooperative spirit in which they were submitted. Since the discussion here must necessarily be a limited review and explanation of the principal actions being taken, the Agency is unable to give specific recognition to each comment. However, each person who participated may be assured that full consideration was given to his recommendations.

The first noteworthy departure in this amendment from the revisions originally proposed relates to the statement in Subpart A—General on the lack of application of Subparts B, D, and E to construction work begun before July 15, 1961. This has been deleted as unnecessary and possibly misleading. The extensive amendments made by this revision to all portions of Part 77 will take effect at the effective date provided herein. Notices received after this date will be processed under the provisions of Part 77 as revised. Aeronautical studies begun prior to this effective date will be continued under the new provisions.

Public reaction to the proposed revisions of the notice requirements disclosed a need for several adjustments. The first of these involves the requirement for notice to the Agency of any proposed structure which would pierce an imagi-

nary slope of 100 to 1 extending from the property line of an airport listed in the "Airport Directory" of the Airman's Information Manual. The property line was selected as a point of beginning because of its greater availability to the public. This feature appears to be an inadequate substitute for the most appropriate point of beginning, that is, the nearest point of the runway nearest to the site of the proposed structure. The use of this point also fixes the elevation of the beginning of the pertinent imaginary slope at the elevation of that nearest point. In addition, the scope of the notice requirement has been substantially reduced. The horizontal distance of the 100 to 1 slope has been restricted to 20,000 feet and will now be applied only to airports with the longest runway more than 3,200 feet in length. For airports with the longest runway 3,200 feet or shorter, a 50 to 1 slope is prescribed for a horizontal distance of 10,000 feet. The FAA directory furnishes the length of the longest runway at each airport. The notice requirement for heliports now has a horizontal slope of 25 to 1 extending for 5,000 feet.

These notice requirements are made applicable for airports which are either listed in the directory or are operated by a Federal military agency. We have determined that military airports need not be included in the directory in view of their listing in military publications and the fact that their presence is generally well known to people living or owning property in their vicinity. In those cases where the boundaries of a runway of an airport, including a seaplane base, are not designated, the notice requirement of § 77.13(a)(2) will, obviously, not be applicable. However, the notice requirement would apply to those airports which have large sod, or other unpaved areas designated for the take-off and landing of aircraft. Those areas constitute the runways from which the notice slope is computed. Also, the directory will not list those airports constructed after December 31, 1958, which were the subject of a determination by the Agency that their establishment was not acceptable and would have an adverse effect on the efficient use of airspace and the safety of aircraft.

While this amendment simplifies the current notice requirements, it is recognized that many construction proponents may nevertheless experience difficulty in ascertaining whether they are required to notify the Agency of their proposed structures. The Airspace Utilization Branch in each FAA regional office is staffed with technicians who are available to inform any interested person of the effect of these notice requirements on a specific construction proposal. These technicians will also describe the airspace assignments and aeronautical operations in the area of the construction site so that the proponent may make an informed decision on the feasibility of the site and the availability of other areas which may serve his purpose equally and without derogation of air safety.

The substantial number of comments on the shielding provision of § 77.15

RULES AND REGULATIONS

§ 77.57 Evidence.

(a) The presiding officer receives all testimony and exhibits that are relevant to the issues of the hearing. So far as possible, each party shall submit enough copies of his exhibits that the presiding officer may keep three copies for the FAA and give one to each other party.

(b) The presiding officer excludes any testimony that is irrelevant, unduly repetitious, or consists of statements made during an aeronautical study in an effort to reconcile or compromise aviation or construction or alteration requirements. A party to the hearing may object to the admission of evidence only on the ground that it is irrelevant.

§ 77.59 Subpoenas of witnesses and exhibits.

(a) The presiding officer of a hearing may issue subpoenas for any witness or exhibit that he determines may be material and relevant to the issues of the hearing. So far as possible, each party to the hearing shall provide the witnesses and exhibits that he intends to present at the hearing.

(b) If any party to the hearing is unable to provide his necessary witnesses and exhibits, he shall advise the presiding officer far enough in advance that the presiding officer can determine whether he should issue subpoenas for the desired witnesses or exhibits.

§ 77.61 Revision of construction or alteration proposal.

(a) The sponsor of any proposed construction or alteration covered by this part may revise his proposal at any time before or during the hearing. If he revises it, the presiding officer decides whether the revision affects the proposal to the extent that he should send it to the Administrator for a redetermination of the need for a hearing.

(b) If the presiding officer decides that it does not need to be resubmitted to the Administrator, he advises the parties of the revised proposal and takes the action necessary to allow all parties to effectively participate in the hearing on the revised proposal. Without limiting his discretion, the presiding officer may recess and reconvene the hearing, or hold another prehearing conference.

§ 77.63 Record of hearing.

(a) Each hearing is recorded verbatim by an official reporter under an FAA contract. The transcript, and all exhibits, become a part of the record of the hearing.

(b) Any person may buy a copy of the transcript of the hearing from the reporter at the price fixed for it.

(c) The presiding officer may allow any party to withdraw an original document if he submits authenticated copies of it.

(d) Any person may buy, from the FAA, photostatic copies of any exhibit by paying the copying costs.

(e) A change in the official transcript of a hearing may be made only if it involves an error of substance. Any recommendation to correct the transcript

must be filed with the presiding officer within 5 days after the hearing closes. The presiding officer reviews each request for a correction to the extent he considers appropriate and shall make any revisions that he finds appropriate as a result of that review.

§ 77.65 Recommendations by parties.

Within 20 days after the mailing of the record of hearing by the official reporter, or as otherwise directed by the presiding officer, each party may submit to the presiding officer five copies of his recommendations for a final decision to be made by the Administrator.

§ 77.67 Final decision of the Administrator.

After reviewing the evidence relevant to the questions of fact in a hearing, including the official transcript and the exhibits, the Administrator resolves all these questions, based on the weight of evidence, and makes his determination, stating the basis and reasons for it. He then issues an appropriate order to be served on each of the parties.

§ 77.69 Limitations on appearance and representation.

(a) A former officer or employee of the FAA may not appear on behalf of, or represent, any party before the FAA in connection with any matter to which this part applies, if he considered or passed on that matter while he was an officer or employee of the FAA.

(b) A person appearing before the FAA on any matter to which this part applies may not, in connection with that appearance, knowingly accept assistance from, or share fees with, any person who is prohibited by paragraph (a) of this section, from appearing himself on that matter.

(c) A former official or employee of the FAA may not, within 6 months after he ceases to be such an officer or employee, appear before the FAA on behalf of, or represent, any party in connection with any proceeding that was pending under this part while he was an officer or employee of the FAA, unless he obtains written consent from an appropriate officer of the FAA, based on a verified showing that he did not personally consider the matter concerned or gain particular knowledge of it while he was an officer or employee of the FAA.

Subpart F—Establishment of Antenna Farm Areas

§ 77.71 Scope.

(a) This subpart establishes antenna farm areas in which antenna structures may be grouped to localize their effect on the use of navigable airspace.

(b) It is the policy of the FAA to encourage the use of antenna farms and the single structure-multiple antenna concept for radio and television towers whenever possible. In considering proposals for establishing antenna farm areas, it considers as far as possible the revision of aeronautical procedures and operations to accommodate antenna structures that will fulfill broadcasting requirements.

§ 77.73 General provisions.

(a) An antenna farm area consists of a specified geographical location with established dimensions of area and height, where antenna towers with a common impact on aviation may be grouped. Each such area is established under the procedural requirements of section 4 of the Administrative Procedure Act.

(b) Each proposal for an antenna farm area is evaluated on the basis of its effect on the use of navigable airspace. The views of the Federal Communications Commission are requested on the effect that each establishment of an antenna farm area would have on its statutory responsibilities. Any views submitted by it are fully considered before the antenna farm concerned is established. If the Commission advises that the establishment of any proposed antenna farm area would interfere with its statutory responsibility, the proposed area is not established.

(c) The establishment of an antenna farm area is considered whenever it is proposed by:

- (1) The FAA;
- (2) The Federal Communications Commission;
- (3) The sponsor of a proposed antenna tower; or
- (4) Any other person having a substantial interest in a proposed antenna tower.

§ 77.75 Establishment of antenna farm areas.

The airspace areas described in the following sections of this subpart are established as antenna farm areas.

Note: §§ 77.77 through 77.1100 reserved for descriptions of antenna farm areas.

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management or the air traffic control tower.

We might conclude this brief reference to some of the salient features of the obstruction standards of Subpart C by emphasizing this subpart may be applied with respect to air navigation facilities planned for future installation or alteration and to planned uses of the navigable airspace by aircraft if that application would result in a lower limiting height or surface. This point is of particular significance in regard to an airport since it includes all runway extensions and other improvements which may be contained in the approved airport layout plan.

The revisions in the procedures for the conduct of aeronautical studies, public hearings on the effect of proposed structures on the navigable airspace, and the establishment of antenna farm areas have been adopted substantially as proposed. Section 77.37 has been broadened to make available a review by the Administrator of each decision by a regional director on the effect of a proposed structure on air navigation, including "no hazard" determinations made without notice to any possible interested aeronautical source. While decisions of this type are only made in cases where the available evidence clearly indicates that air safety would not be affected by the construction, this review procedure is nevertheless provided to insure against possible error. The effective period fixed in § 77.39 for a determination of no hazard has been extended in recognition of the time necessary for the processing by the Federal Communications Commission of an application for a construction permit and the issuance of that permit. Appropriate safeguards for the protection of air navigation have been attached to this extension of time.

The comments in response to the notice of proposed rulemaking included a number of recommendations for Agency action beyond the authority contained in the Federal Aviation Act of 1958. That Act does not contain a basis for the mandatory marking and lighting of structures to warn pilots of aircraft of those structures. Neither does it contain specific authorization for regulations which would limit the heights of structures. To date, no judicial decision has been issued on the extent to which ground structures may constitute an unlawful interference with the public right of freedom of transit through the navigable airspace recognized in section 104 of the Act. Until authoritative guidance is received on that point or express legislative authority is conferred, the Agency measures in the field of ground hazards to air navigation will be limited to the areas presently covered in Part 77.

In consideration of the foregoing, Part 77 of Chapter I of Title 14 of the Code of Federal Regulations is revised, effective May 1, 1965, to read as hereinafter set forth.

Issued in Washington, D.C., on February 3, 1965.

N. E. HALABY,
Administrator.

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AUTHORITY: The provisions of this Part 77 issued under secs. 104, 307, 313, 1001, and 1101 of the Federal Aviation Act of 1958; 49 U.S.C. 1304, 1348, 1354, 1431, 1501.

Subpart A—General

§ 77.1 Scope.

This part:

- (a) Establishes standards for determining obstructions in navigable airspace;
- (b) Sets forth the requirements for notice to the Administrator of certain proposed construction or alteration;
- (c) Provides for aeronautical studies of obstructions to air navigation, to determine their effect on the safe and efficient use of airspace;
- (d) Provides for public hearings on the hazardous effect of proposed construction or alteration on air navigation; and
- (e) Provides for establishing antenna farm areas.

§ 77.3 Standards.

(a) The standards established in this part for determining obstructions to air navigation are used by the Administrator in:

- (1) Administering the Federal-aid Airport Program and the Surplus Airport Program;
- (2) Transferring property of the United States under section 16 of the Federal Airport Act;
- (3) Providing technical advice and assistance in the design and development of airports; and
- (4) Imposing requirements for public notice of the construction or alteration of any structure where notice will promote air safety.

(b) The standards used by the Administrator in the establishment of flight procedures and aircraft operational limitations are not set forth in this part but are contained in other publications of the Administrator.

§ 77.5 Kinds of objects affected.

This part applies to:

- (a) Any object of natural growth, terrain, or permanent or temporary construction or alteration, including equipment or materials used therein, and apparatus of a permanent or temporary character; and
- (b) Alteration of any permanent or temporary existing structure by a change in its height (including appurtenances), or lateral dimensions, including equipment or materials used therein.

Subpart B—Notice of Construction or Alteration

§ 77.11 Scope.

(a) This subpart requires each person proposing any kind of construction or alteration described in § 77.13(a) to give adequate notice to the Administrator. It specifies the locations and dimensions of the construction or alteration for which notice is required and prescribes the form and manner of the notice. It also requires supplemental notices 48 hours before the start and upon the completion of certain construction or alteration that was the subject of a notice under § 77.13(a).

(b) Notices received under this subpart provide a basis for:

- (1) Evaluating the effect of the construction or alteration on operational procedures and proposed operational procedures;
- (2) Determinations of the possible hazardous effect of the proposed construction or alteration on air navigation;
- (3) Recommendations for identifying the construction or alteration in accordance with the current FAA manual entitled "Obstruction Marking and Lighting," which is available through any FAA office and is on sale at the U.S. Government Printing Office, Washington, D.C., 20402;
- (4) Determining other appropriate measures to be applied for continued safety of air navigation; and
- (5) Charting and other notification to airmen of the construction or alteration.

§ 77.13 Construction or alteration requiring notice.

(a) Except as provided in § 77.15, each sponsor who proposes any of the following construction or alteration shall notify the Administrator in the form and manner prescribed in § 77.17:

(1) Any construction or alteration of more than 200 feet in height above the ground level at its site.

(2) Any construction or alteration of greater height than an imaginary surface extending outward and upward at one of the following slopes:

(i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest point of the nearest runway of each airport with at least one runway more than 3,200 feet in length, excluding heliports and seaplane bases without specified boundaries, if that airport is either listed in the Airport Directory of the current Airman's Information Manual or is operated by a Federal military agency.

(ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport with its longest runway no more than 3,200 feet in length, excluding heliports, and seaplane bases without specified boundaries, if that airport is either listed in the Airport Directory or is operated by a Federal military agency.

(iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest point of the nearest landing and takeoff area of each heliport listed in the Airport Directory or operated by a Federal military agency.

(3) Any highway, railroad, or other traverse way for mobile objects, of a height which if adjusted upward 17 feet for an interstate highway, 15 feet for other highways, 25 feet for a railroad, and, for any other traverse way, an amount equal to the height of the highest unshielded mobile objects that would normally traverse it, would exceed a standard of subparagraph (1) or (2) of this paragraph.

(4) Any construction or alteration on an airport listed in the Airport Directory of the current Airman's Information Manual.

(5) When requested by the FAA, any construction or alteration that would be in an instrument approach area (defined in the FAA standards governing instrument approach procedures) and available information indicates it might exceed a standard of Subpart C of this part.

(b) Each sponsor who proposes construction or alteration that is the subject of a notice under § 77.13(a) and is advised by an FAA regional office that a supplemental notice is required shall submit that notice on a prescribed form to be received by the FAA regional office at least 48 hours before the start of the construction or alteration.

(c) Each sponsor who undertakes construction or alteration that is the subject of a notice under § 77.13(a) shall, within 5 days after that construction or alteration reaches its greatest height, submit a supplemental notice on a prescribed form to the FAA regional office having jurisdiction over the area involved, if:

(1) The construction or alteration is

more than 200 feet above the surface level of its site; or

(2) An FAA regional office advises him that submission of the form is required.

§ 77.15 Construction or alteration not requiring notice.

No person is required to notify the Administrator for any of the following construction or alteration:

(a) Any object that would be shielded by existing structures of a permanent and substantial character or by natural terrain or topographic features of equal or greater height, and would be located in the congested area of a city, town, or settlement where it is evident beyond all reasonable doubt that the structure so shielded will not adversely affect safety in air navigation.

(b) Any antenna structure of 20 feet or less in height except one that would increase the height of another antenna structure.

(c) Any electronic facility the broadcast signal of which is used primarily for navigational guidance by aircraft, any airport visual approach or landing aid, or any airport ceiling or visibility indicator device, or other meteorological facility or instrument, approved by the Administrator, the location and height of which would be fixed by its functional purpose.

(d) Any construction or alteration for which notice is required by any other FAA regulation.

§ 77.17 Form and time of notice.

(a) Each person who is required to notify the Administrator under § 77.13 (a) shall send two executed copies of Form FAA-117, "Notice of Proposed Construction or Alteration," to the Chief, Air Traffic Division, of the FAA region having jurisdiction over the area within which the construction or alteration will be located. The Federal Aviation Agency, Washington, D.C., 20553, and the regional offices provide copies of Form FAA-117. The regional geographic areas of jurisdiction are:

1. *Eastern Region, Jamaica, Long Island, N.Y.—Maine, New Hampshire, Vermont, Massachusetts, Rhode Island, Connecticut, New York, Delaware, New Jersey, Pennsylvania, Ohio, Maryland, Virginia, West Virginia, Kentucky, and the District of Columbia.*

2. *Southern Region, Atlanta, Ga.—Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Puerto Rico, Canal Zone, Swan Island, and the Virgin Islands.*

3. *Southwest Region, Fort Worth, Tex.—Arkansas, Louisiana, Texas, Oklahoma, and New Mexico.*

4. *Central Region, Kansas City, Mo.—Michigan, Indiana, Wisconsin, Illinois, Minnesota, Iowa, Missouri, North Dakota, South Dakota, Nebraska, Montana, and Kansas.*

5. *Western Region, Los Angeles, Calif.—Wyoming, Colorado, Arizona, Utah, Idaho, Washington, Oregon, Nevada, and California.*

6. *Alaskan Region, Anchorage, Alaska.—Alaska.*

7. *Pacific Region, Honolulu, Hawaii.—Areas contained within the Honolulu, Wake, and Guam Flight Information Regions and American Samoa.*

(b) The notice required under § 77.13(a) (1) through (4) must be submitted at least 30 days before the earlier of the following dates:

(1) The date the proposed construction or alteration is to begin.

(2) The date an application for a construction permit is to be filed.

However, a notice relating to proposed construction or alteration that is subject to the licensing requirements of the Federal Communications Act may be sent to FAA at the same time the application for construction is filed with the Federal Communications Commission, or at any time before that filing.

(c) In the case of an emergency involving essential public services, public health, or public safety, that requires immediate construction or alteration, the 30-day requirement in paragraph (b) of this section does not apply and the notice may be sent by telephone, telegraph, or other expeditious means, with an executed Form FAA-117 submitted within 5 days thereafter. Outside normal business hours, emergency notices by telephone or telegraph may be submitted to the nearest FAA Flight Service Station.

§ 77.19 Acknowledgment of notice.

(a) The FAA acknowledges in writing the receipt of each notice submitted under § 77.13(a).

(b) If the construction or alteration proposed in a notice is one for which lighting or marking standards are prescribed in the FAA manual on "Obstruction Marking and Lighting," the acknowledgment contains a statement to that effect and information on how the structure should be marked and lighted in accordance with the manual.

(c) The acknowledgment states that an aeronautical study of the proposed construction or alteration has resulted in a determination that the construction or alteration:

(1) Would not exceed any standard of Subpart C and would not be a hazard to air navigation;

(2) Would exceed a standard of Subpart C but would not be a hazard to air navigation;

(3) Would exceed a standard of Subpart C and further aeronautical study is necessary to determine whether it would be a hazard to air navigation, that the sponsor may request within 30 days that further study, and that, pending completion of any further study, it is presumed the construction or alteration would be a hazard to air navigation; or

(4) Would exceed a standard of Subpart C, would be located either within a runway clear zone or the portion of a primary surface extending beyond the end of a runway, and would, therefore, be a hazard to air navigation.

For the purposes of this subpart, a runway clear zone is an area at ground level that begins at the end of each primary surface defined in § 77.27(a) and § 77.28(b) and extends with the width of each approach surface defined in § 77.27 (b) and (c), the approach clearance surface defined in § 77.28(b) to terminate directly below each approach surface slope at the point or points where the slope reaches a height of 50 feet above the terrain or 50 feet above the

elevation of the end of the runway, whichever distance is shorter.

Subpart C—Obstruction Standards

§ 77.21 Scope.

(a) This subpart establishes standards for determining obstructions to air navigation. It applies to existing and proposed manmade objects, objects of natural growth, and terrain. The standards apply with respect to existing air navigation facilities and uses of the navigable airspace by aircraft or, if a plan or proposal for a new facility or use is on file with the FAA or the Department of Defense on the date the notice required by § 77.13(a) is filed, with respect to that proposed facility or use, such as an air navigation aid, airport, Federal airway, instrument approach procedure, approved off-airway route, control zone, or transition area, or change in any of the foregoing, if that plan or proposal would result in the application of a standard constituting a lower height or surface.

(b) Minimum obstruction clearance altitudes are considered in place of minimum en route altitudes in applying the standards of this subpart to objects whenever planning information available at the time of filing of the notice required by § 77.13(a) indicates a need to lower the minimum en route altitude of a segment of a Federal airway, and that need may be filled by an additional VOR, DME, or other air navigation aid.

(c) The standards in this subpart apply to the effect of construction or alteration proposals upon an airport if, at the time of filing of the notice required by § 77.13(a), that airport is:

(1) Listed in the Airport Directory of the current Airman's Information Manual;

(2) Operated by a Federal military agency; or

(3) The subject of a proposal on file with the FAA.

(d) For the purpose of this part, a seaplane base is considered to be an airport only if it has definitely defined areas.

§ 77.23 Standards for determining obstructions.

(a) An existing object, including a mobile object, is, and a future object would be, an obstruction to air navigation if it is of greater height than any of the following heights or surfaces:

(1) A height of 500 feet above ground level at the site of the construction or alteration.

(2) A height that is 200 feet above ground level or above the established airport elevation, whichever is higher, within 3 statute miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in length, and that height increases in the proportion of 100 feet for each additional statute mile of distance from the airport up to a maximum of 500 feet.

(3) A height that is 100 feet above ground level or 100 feet above the elevation of the approach end of the runway, whichever is higher, within an instrument approach area and within 3 statute miles of the runway end, and that height

increases in the proportion of 25 feet for each additional statute mile of distance outward from the runway end up to a maximum of 250 feet and continuing at that height to a distance of 10 statute miles from the runway end.

(4) A height which would increase an instrument approach minimum flight altitude.

(5) A height in or under a Federal airway, transition area, or control zone, or within 5 statute miles of the course of an approved off-airway route, that is either 200 feet above ground level or 1,451 feet below the established minimum flight altitude, whichever is higher.

(6) An imaginary surface that begins at an altitude of 500 feet below the minimum en route altitude of each Federal airway or approved off-airway route and extends from the lateral boundaries of that airway and from a distance of 5 statute miles horizontally on both sides from the course of that route. For a distance of 25 statute miles along the airway or route from the nearest electronic air navigation aid upon which the airway or route is based, the imaginary surface extends outward and upward at a slope of 50 to 1 to 5 statute miles horizontal distance from the boundaries of each airway and 10 statute miles horizontal distance on both sides from the course of each route. At greater distances than 25 statute miles along the airway or route from the nearest such aid, the imaginary surface begins at the same height and distance in relation to each airway and route but extends outward the 5 statute miles distance on a horizontal plane.

(7) An imaginary surface that begins at an altitude of 500 feet below the minimum altitude established for any initial approach, transition or procedure turn of any instrument approach procedure, or for any holding procedure, and extends outward and upward from the boundary of the area involved, including any buffer zone, at a slope of 50 to 1 for 5 statute miles horizontal distance.

(8) The surface of a takeoff and landing area of an airport or any imaginary surface established under § 77.25, § 77.27, § 77.28, or § 77.29; however, no part of the takeoff and landing area itself shall be considered an obstruction.

(b) Except for traverse ways on or near an airport with an operative ground traffic control service furnished by an air traffic control tower or by the airport management and coordinated with the air traffic control service, the standards of paragraph (a) of this section apply to traverse ways used or to be used for the passage of mobile objects only after the heights of those traverse ways are increased 17 feet for an interstate highway, 15 feet for any other highway, 25 feet for a railroad, and, for any other traverse way, an amount equal to the height of the highest unshielded mobile object that would normally traverse it.

(c) The airport imaginary surfaces referred to in paragraph (a)(8) of this section are established for airports based on their runway lengths corrected in accordance with the current FAA airport design standards to no gradient and standard conditions of temperature and elevation.

§ 77.25 Civil airport imaginary surfaces related to airport reference points.

The following civil airport imaginary surfaces are established with relation to the airport reference point which is fixed at the approximate center of the airport takeoff and landing area and is given the established airport elevation. The size of each such surface is based on the corrected length of the longest runway of the airport. For the purposes of this part, a runway is the area designated for the landing and takeoff of aircraft.

(a) *Horizontal surface.* A circular plane, 150 feet above the established airport elevation, with a radius from the airport reference point of:

(1) 5,000 feet, for an airport with its longest runway no more than 3,200 feet in length and for all airports constructed to "VFR Airports" standards.

(2) 7,000 feet, for an airport with a runway more than 3,200, but not more than 6,000 feet in length.

(3) 11,500 feet, for an airport with a runway more than 6,000, but not more than 7,500 feet in length.

(4) 13,000 feet, for an airport with a runway more than 7,500 feet in length.

(b) *Conical surface.* A surface extending from the periphery of the horizontal surface outward and upward at a slope of 20 to 1 for the horizontal distances, and to the elevations, above the airport elevation of:

(1) 3,000 feet, to an elevation of 300 feet, for an airport with its longest runway no more than 3,200 feet in length and for all airports constructed to "VFR Airports" standards.

(2) 5,000 feet, to an elevation of 400 feet, for an airport with a runway more than 3,200, but not more than 6,000 feet in length.

(3) 7,000 feet, to an elevation of 500 feet, for an airport with a runway more than 6,000 feet in length.

§ 77.27 Civil airport imaginary surfaces related to runways.

The following civil airport imaginary surfaces are established for runways based upon their corrected lengths, whether the airport is constructed to "VFR Airports" standards, and whether the runway is an ILS runway, i.e., one equipped with a precision landing aid such as ILS, ground-controlled approach (GCA), or precision approach radar (PAR).

(a) *Primary surface.* A surface longitudinally centered on a runway and extending in length 100 feet beyond each end of a runway of an airport constructed to VFR airports standards and 200 feet beyond each end of a runway of any other airport. The elevation of any point on the longitudinal profile of a primary surface, including the extensions, coincides with the elevation of the centerline of the runway, or extension, as appropriate. The width of a primary surface is 200 feet for runways of airports constructed to VFR airports standards. For other airports the width is:

(1) 250 feet, for non-ILS runways 3,200 feet or less in length.

(2) 400 feet, for non-ILS runways more than 3,200, but not more than 4,200 feet in length.

(3) 500 feet, for non-ILS runways more than 4,200 feet in length.

(4) 1,000 feet, for ILS runways.

(b) *ILS approach surface.* A surface longitudinally centered on the extended centerline of an ILS runway, beginning at the end of the primary surface and extending outward and upward at a slope of 50 to 1 for a horizontal distance of 10,000 feet and at a slope of 40 to 1 for an additional 40,000 feet. This surface is the width of the primary surface at the beginning and expands uniformly to a width of 16,000 feet at a distance of 50,000 feet from the end of the primary surface.

(c) *Non-ILS approach surface.* A surface longitudinally centered on the extended centerline of the runway, beginning at the end of the primary surface, with slopes and dimensions as follows:

(1) Airports constructed to "VFR Airports" standards—the surface begins 200 feet wide at the end of the primary surface and extends outward and upward at a slope of 20 to 1, expanding to a width of 500 feet at a horizontal distance of 3,000 feet.

(2) Airports not constructed to "VFR Airports" standards—

(i) Runways of 3,200 feet or less in length—the surface begins 250 feet wide at the end of the primary surface and extends outward and upward at a slope of 20 to 1, expanding to a width of 2,250 feet at a horizontal distance of 10,000 feet.

(ii) Runways more than 3,200, but not more than 4,200 feet in length—the surface begins 400 feet wide at the end of the primary surface and extends outward and upward at a slope of 40 to 1, expanding to a width of 2,400 feet at a horizontal distance of 10,000 feet.

(iii) Runways more than 4,200 feet in length—the surface begins 500 feet wide at the end of the primary surface and extends outward and upward at a slope of 40 to 1, expanding to a width of 2,500 feet at a horizontal distance of 10,000 feet.

(d) *Transitional surfaces.* These surfaces apply only at airports constructed to other than "VFR Airports" standards. They extend outward and upward at right angles to the runway centerline at a slope of 7 to 1 from the edges of the primary and the approach surfaces until they intersect the horizontal or conical surface, except that transitional surfaces for those portions of ILS approach surfaces that project thru and beyond the limits of the conical surface, extend a distance of 5,000 feet measured horizontally from the edges of those portions of the approach surfaces and at right angles to the runway centerline.

(e) *Vertical surfaces.* These surfaces apply only at airports constructed to "VFR Airports" standards. They extend upward from the edges of the primary surfaces and the approach surfaces until they intersect with the horizontal surfaces.

§ 77.28 Military airport imaginary surfaces.

(a) *Related to airport reference points.*—These surfaces apply to all military airports where the length of the

longest runway is over 5,000 feet. At all other military airports, the appropriate provisions of § 77.25 apply.

(1) *Inner horizontal surface.* A plane is oval in shape at a height of 150 feet above the established airfield elevation. The plane is constructed by scribing an arc with a radius of 7,500 feet about the centerline at the end of each runway and interconnecting these arcs with tangents.

(2) *Conical surface.* A surface extending from the periphery of the inner horizontal surface outward and upward at a slope of 20 to 1 for a horizontal distance of 7,000 feet to a height of 500 feet above the established airfield elevation.

(3) *Outer horizontal surface.* A plane, located 500 feet above the established airfield elevation, extending outward from the outer periphery of the conical surface for a horizontal distance of 30,000 feet.

(b) *Related to runways.* These surfaces apply to all military airports where the length of the longest runway is over 5,000 feet. At all other military airports, the appropriate provisions of § 77.27 apply.

(1) *Primary surface.* A surface located on the ground or water longitudinally centered on each runway with the same length as the runway and the same elevation as the centerline of the runway. The width of the primary surface for runways longer than 5,000 feet is 2,000 feet. However, at established bases where substantial construction has taken place in accordance with a previous lateral clearance criteria, the 2,000 foot width may be reduced to the former criteria.

(2) *Clear zone surface.* A surface located on the ground or water at each end of the primary surface, with a length of 1,000 feet and the same width as the primary surface.

(3) *Approach clearance surface.* An inclined plane, symmetrical about the runway centerline extended, beginning 200 feet beyond each end of the primary surface at the centerline elevation of the runway end and extending for 50,000 feet. The slope of the approach clearance surface is 50 to 1 along the runway centerline extended until it reaches an elevation of 500 feet above the established airport elevation. It then continues horizontally at this elevation to a point 50,000 feet from the point of beginning. The width of this surface at the runway end is the same as the primary surface, it flares uniformly, and the width at 50,000 feet is 16,000 feet.

(4) *Transitional surfaces.* These surfaces connect the primary surfaces, the first 200 feet of the clear zone surfaces, and the approach clearance surfaces to the inner horizontal surface, conical surface, outer horizontal surface or other transitional surfaces. The slope of the transitional surface is 7 to 1 outward and upward at right angles to the runway centerline.

§ 77.29 Airport imaginary surfaces for heliports.

(a) *Heliport primary surface.* The area of the primary surface coincides in size and shape with the designated take-off and landing area of a heliport. This

surface is a horizontal plane at the elevation of the established heliport elevation.

(b) *Heliport approach surface.* The approach surface begins at each end of the heliport primary surface, with the same width as the primary surface, and extends outward and upward at a slope of 8 to 1 to the minimum en route elevation where its width is 500 feet.

(c) *Heliport transitional surfaces.* These surfaces extend outward and upward from the lateral boundaries of the heliport primary surface and from the approach surfaces at a slope of 2 to 1 for a distance of 250 feet measured horizontally from the centerline of the primary and approach surfaces.

Subpart D—Aeronautical Studies of Effect of Proposed Construction on Navigable Airspace

§ 77.31 Scope.

(a) This subpart applies to the conduct of aeronautical studies of the effect of proposed construction or alteration on the use of navigable airspace by aircraft. In the aeronautical studies, present and future IFR and VFR aeronautical operations and procedures are reviewed and any possible changes in those operations and procedures and in the construction proposal that would eliminate or alleviate the conflicting demands for the navigable airspace are ascertained.

(b) The conclusion of a study made under this subpart is normally a determination as to whether the specific proposal studied would be a hazard to air navigation.

§ 77.33 Initiation of studies.

(a) An aeronautical study is conducted by the FAA:

(1) Upon the request of the sponsor or any construction or alteration for which a notice is submitted under Subpart B of this part, unless that construction or alteration would be located within an antenna farm area established under Subpart F of this part or is an obstruction in a runway clear zone; or

(2) Whenever the FAA determines it appropriate.

§ 77.35 Aeronautical studies.

(a) The Regional Director of the region in which the proposed construction or alteration would be located, or his designee, conducts the aeronautical study of the effect of the proposal upon the safe and efficient utilization of the navigable airspace.

(b) To the extent considered necessary, the Regional Director or his designee:

(1) Solicits comments from all interested persons;

(2) Explores objections to the proposal and attempts to develop recommendations for adjustment of aviation requirements that would accommodate the proposed construction or alteration;

(3) Examines possible revisions of the proposal that would eliminate the exceeding of the standards in Subpart C of this part; and

(4) Convenes a meeting with all interested persons for the purpose of

gathering all facts relevant to the effect of the proposed construction or alteration on the safe and efficient utilization of the navigable airspace.

(c) The Regional Director or his designee issues a determination as to whether the proposed construction or alteration would be a hazard to air navigation and sends copies to all known interested persons. This determination is final unless a petition for review is granted under § 77.37.

(d) If the sponsor revises his proposal to eliminate exceeding of the standards of Subpart C of this part, or withdraws it, the Regional Director, or his designee, terminates the study and notifies all known interested persons.

§ 77.37 Discretionary review.

(a) The sponsor of any proposed construction or alteration or any person who stated a substantial aeronautical objection to it in an aeronautical study, or any person who has a substantial aeronautical objection to it but was not given an opportunity to state it, may petition the Administrator, within 30 days after issuance of the determination under § 77.19 or § 77.35 or revision or extension of the determination under § 77.39(c), for a review of the determination, revision, or extension.

(b) The petition must be in triplicate and contain a full statement of the basis upon which it is made.

(c) The Administrator examines each petition and decides whether a review will be made and, if so, whether it will be:

(1) A review on the basis of written materials, including study of a report by the Regional Director of the aeronautical study, briefs, and related submissions by any interested party, and other relevant facts, with the Administrator affirming, revising, or reversing the determination issued under § 77.19, § 77.35 or § 77.39 (c); or

(2) A review on the basis of a public hearing, conducted in accordance with the procedures prescribed in Subpart E of this part.

§ 77.39 Effective period of determination of no hazard.

(a) Unless it is otherwise extended, revised, or terminated, each final determination of no hazard made under this subpart or Subparts B or E of this part expires 18 months after its effective date, regardless of whether the proposed construction or alteration has been started, or on the date the proposed construction or alteration is abandoned, whichever is earlier.

(b) In any case where the proposed construction or alteration has not been started during the 18-month period by actual structural work, such as the laying of a foundation but excluding excavation, any interested person may, at any time up to 15 days before the final determination expires, petition the FAA official who issued the determination to:

(1) Revise the determination based on new facts that change the basis on which it was made; or

(2) Extend its effective period.

(c) The FAA official who issued the determination reviews each petition pre-

sented under paragraph (b) of this section, and revises, extends, or affirms the determination as indicated by his findings.

(d) In any case in which a final determination made under this subpart or Subparts B or E of this part relates to proposed construction or alteration that may not be started unless the Federal Communications Commission issues an appropriate construction permit, the effective period of each final determination includes—

(1) The time required to apply to the Commission for a construction permit, but not more than 6 months after the effective date of the determination; and

(2) The time necessary for the Commission to process the application except in a case where the Administrator determines a shorter effective period is required by the circumstances.

(e) If the Commission issues a construction permit, the final determination is effective until the date prescribed for completion of the construction. If the Commission refuses to issue a construction permit, the final determination expires on the date of its refusal.

Subpart E—Rules of Practice for Hearings Under Subpart D

§ 77.41 Scope.

This subpart applies to hearings held by the FAA under Titles I, III, and X of the Federal Aviation Act of 1958 (49 U.S.C. subchapters I, III, and X), on proposed construction or alteration that affects the use of navigable airspace.

§ 77.43 Nature of hearing.

Sections 4, 5, 7, and 8 of the Administrative Procedure Act (5 U.S.C. 1003, 1004, 1006, and 1007) do not apply to hearings held on proposed construction or alteration to determine its effect on the safety of aircraft and the efficient use of navigable airspace because those hearings are factfinding in nature. As a factfinding procedure, each hearing is non-adversary and there are no formal pleadings or adverse parties.

§ 77.45 Presiding officer.

(a) If, under § 79.37, the Administrator grants a public hearing on any proposed construction or alteration covered by this part, the Director of the Air Traffic Service designates an FAA employee to be the presiding officer at the hearing.

(b) The presiding officer may:

(1) Give notice of the date and location of the hearing and any prehearing conference that may be held;

(2) Administer oaths and affirmations;

(3) Examine witnesses;

(4) Issue subpoenas and take depositions or have them taken;

(5) Obtain, in the form of a public record, all pertinent and relevant facts relating to the subject matter of the hearing;

(6) Rule, with the assistance of the legal officer, upon the admissibility of evidence;

(7) Regulate the course and conduct of the hearing; and

(8) Designate parties to the hearing and revoke those designations.

§ 77.47 Legal officer.

The General Counsel designates a member of his staff to serve as legal officer at each hearing under this subpart. The legal officer may examine witnesses and assist and advise the presiding officer on questions of evidence or other legal questions arising during the hearing.

§ 77.49 Notice of hearing.

In designating a time and place for a hearing under this subpart, the presiding officer considers the needs of the FAA and the convenience of the parties and witnesses. The time and place of each hearing is published in the "Notices" section of the FEDERAL REGISTER before the date of the hearing, unless the notice is impractical or unnecessary.

§ 77.51 Parties to the hearing.

The presiding officer designates the following as parties to the hearing—

(a) The proponent of the proposed construction or alteration.

(b) Those persons whose activities would be substantially affected by the proposed construction or alteration.

§ 77.53 Prehearing conference.

(a) The presiding officer may, in his discretion, hold a prehearing conference with the parties to the hearing and the legal officer before the hearing.

(b) At the direction of the presiding officer, each party to a prehearing conference shall submit a brief written statement of the evidence he intends to provide through his witnesses and by questioning other witnesses at the hearing, and shall provide enough copies of the statement so that the presiding officer may keep three for the FAA and give one to each other party.

(c) At the prehearing conference, the presiding officer reduces and simplifies the subject matter of the hearing so far as possible and advises the parties of the probable order of presenting the evidence.

§ 77.55 Examination of witnesses.

(a) Each witness at a hearing under this subpart shall, after being sworn by the presiding officer, give his testimony under oath.

(b) The party for whom a witness, other than an employee of the FAA, is testifying shall examine that witness. After that examination, other parties to the hearing may examine the witness, in the order fixed by the presiding officer. The presiding officer and the legal officer may then examine the witness. The presiding officer may grant any party an additional opportunity to examine any witness, if that party adequately justifies the additional examination.

(c) The legal officer examines each FAA employee who is a witness, before the other parties examine him. After that examination, the order prescribed in paragraph (b) of this section applies. An FAA employee may testify only as to facts within his personal knowledge and the application of FAA regulations, standards, and policies.

§ 77.57 Evidence.

(a) The presiding officer receives all testimony and exhibits that are relevant to the issues of the hearing. So far as possible, each party shall submit enough copies of his exhibits that the presiding officer may keep three copies for the FAA and give one to each other party.

(b) The presiding officer excludes any testimony that is irrelevant, unduly repetitious, or consists of statements made during an aeronautical study in an effort to reconcile or compromise aviation or construction or alteration requirements. A party to the hearing may object to the admission of evidence only on the ground that it is irrelevant.

§ 77.59 Subpoenas of witnesses and exhibits.

(a) The presiding officer of a hearing may issue subpoenas for any witness or exhibit that he determines may be material and relevant to the issues of the hearing. So far as possible, each party to the hearing shall provide the witnesses and exhibits that he intends to present at the hearing.

(b) If any party to the hearing is unable to provide his necessary witnesses and exhibits, he shall advise the presiding officer far enough in advance that the presiding officer can determine whether he should issue subpoenas for the desired witnesses or exhibits.

§ 77.61 Revision of construction or alteration proposal.

(a) The sponsor of any proposed construction or alteration covered by this part may revise his proposal at any time before or during the hearing. If he revises it, the presiding officer decides whether the revision affects the proposal to the extent that he should send it to the Administrator for a redetermination of the need for a hearing.

(b) If the presiding officer decides that it does not need to be resubmitted to the Administrator, he advises the parties of the revised proposal and takes the action necessary to allow all parties to effectively participate in the hearing on the revised proposal. Without limiting his discretion, the presiding officer may recess and reconvene the hearing, or hold another prehearing conference.

§ 77.63 Record of hearing.

(a) Each hearing is recorded verbatim by an official reporter under an FAA contract. The transcript, and all exhibits, become a part of the record of the hearing.

(b) Any person may buy a copy of the transcript of the hearing from the reporter at the price fixed for it.

(c) The presiding officer may allow any party to withdraw an original document if he submits authenticated copies of it.

(d) Any person may buy, from the FAA, photostatic copies of any exhibit by paying the copying costs.

(e) A change in the official transcript of a hearing may be made only if it involves an error of substance. Any recommendation to correct the transcript

must be filed with the presiding officer within 5 days after the hearing closes. The presiding officer reviews each request for a correction to the extent he considers appropriate and shall make any revisions that he finds appropriate as a result of that review.

§ 77.65 Recommendations by parties.

Within 20 days after the mailing of the record of hearing by the official reporter, or as otherwise directed by the presiding officer, each party may submit to the presiding officer five copies of his recommendations for a final decision to be made by the Administrator.

§ 77.67 Final decision of the Administrator.

After reviewing the evidence relevant to the questions of fact in a hearing, including the official transcript and the exhibits, the Administrator resolves all these questions, based on the weight of evidence, and makes his determination, stating the basis and reasons for it. He then issues an appropriate order to be served on each of the parties.

§ 77.69 Limitations on appearance and representation.

(a) A former officer or employee of the FAA may not appear on behalf of, or represent, any party before the FAA in connection with any matter to which this part applies, if he considered or passed on that matter while he was an officer or employee of the FAA.

(b) A person appearing before the FAA on any matter to which this part applies may not, in connection with that appearance, knowingly accept assistance from, or share fees with, any person who is prohibited by paragraph (a) of this section, from appearing himself on that matter.

(c) A former official or employee of the FAA may not, within 6 months after he ceases to be such an officer or employee, appear before the FAA on behalf of, or represent, any party in connection with any proceeding that was pending under this part while he was an officer or employee of the FAA, unless he obtains written consent from an appropriate officer of the FAA, based on a verified showing that he did not personally consider the matter concerned or gain particular knowledge of it while he was an officer or employee of the FAA.

Subpart F—Establishment of Antenna Farm Areas**§ 77.71 Scope.**

(a) This subpart establishes antenna farm areas in which antenna structures may be grouped to localize their effect on the use of navigable airspace.

(b) It is the policy of the FAA to encourage the use of antenna farms and the single structure-multiple antenna concept for radio and television towers whenever possible. In considering proposals for establishing antenna farm areas, it considers as far as possible the revision of aeronautical procedures and operations to accommodate antenna structures that will fulfill broadcasting requirements.

§ 77.73 General provisions.

(a) An antenna farm area consists of a specified geographical location with established dimensions of area and height, where antenna towers with a common impact on aviation may be grouped. Each such area is established under the procedural requirements of section 4 of the Administrative Procedure Act.

(b) Each proposal for an antenna farm area is evaluated on the basis of its effect on the use of navigable airspace. The views of the Federal Communications Commission are requested on the effect that each establishment of an antenna farm area would have on its statutory responsibilities. Any views submitted by it are fully considered before the antenna farm concerned is established. If the Commission advises that the establishment of any proposed antenna farm area would interfere with its statutory responsibility, the proposed area is not established.

(c) The establishment of an antenna farm area is considered whenever it is proposed by:

- (1) The FAA;
- (2) The Federal Communications Commission;
- (3) The sponsor of a proposed antenna tower; or
- (4) Any other person having a substantial interest in a proposed antenna tower.

§ 77.75 Establishment of antenna farm areas.

The airspace areas described in the following sections of this subpart are established as antenna farm areas.

NOTE: §§ 77.77 through 77.1100 reserved for descriptions of antenna farm areas.

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