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FEDERAL AVIATION AGENCY

[14 CFR Part 77]

[Reg. Docket No. 1882; Notice 63-29]

OBJECTS AFFECTING NAVIGABLE AIRSPACE

Notice of Proposed Rule Making

The Federal Aviation Agency has under consideration a proposal to revise substantially Part 77 [New] of the Federal Aviation Regulations which currently imposes requirements for notice to the Agency of certain proposed structures, contains procedures for determining the effect of such structures on air navigation, and provides for the establishment of antenna farm areas to group tall structures. This revision would relax and simplify the notice requirements, provide obstruction standards which would be uniform for all of the Agency programs, and make minor revisions of the Agency procedures to ease the administrative workload and expedite the processing of cases.

Interested persons may participate in the making of the proposed amendment by submitting such written information, views, or arguments as they may desire. Communications should be sent in triplicate to the Office of the General Counsel: Attention Rules Docket, Room A-103, 1711 New York Avenue NW., Washington 25, D.C. All communications received on or before October 28, 1963, will be considered by the Administrator before taking action on the proposed amendment. The proposal contained in this notice may be changed in the light of comments received. All comments submitted will be available in the Docket Section for examination by interested persons at any time.

The first major revision of Part 77 is presented in subpart B and would substantially relax and simplify the existing requirements for sponsors of construction or alteration to notify the Agency of their proposed structures. A notice would be required in five types of cases, (1) construction of more than 200 feet in height, (2) construction extending above a slope of 1 foot in height to 100 feet of horizontal distance from the property line of an FAA-listed airport, (3) any highway or other route for mobile objects which, with the mobile object, would exceed either of the preceding standards, (4) construction on an FAA-listed airport, (5) construction in an instrument approach area when a notice is requested by the Agency. While this list specifies five classes of cases, the impact on the persons sponsoring construction would be substantially less than the current requirements. In essence, a construction proponent could determine whether a construction notice would be required by the application of the two basic criteria, 200 feet of height or the 1 to 100 slope. The construction sponsor of a highway or similar route would merely adjust the height of his construction by the height of the intended vehicles before applying the basic criteria. In the remaining cases, no difficulty is envisioned in the submission of a notice for construction on an airport itself or when specifically requested by the Agency.

The notice requirements with respect to airports would apply for only those airports listed in the Agency "Directory of Airports and Seaplane Bases." These airports would include seaplane bases, but only those with definitely defined areas. The provision for Directory Listing should benefit construction proponents by providing a definite guide on the existence and locations of airports in the vicinity of a construction site. It should also benefit aviation in encouraging the reporting of airports to the Agency so that a more complete listing may be made available to the aeronautical interests.

The use of the 1 to 100 slope as a notice requirement may result in the Agency not receiving notification from a construction proponent of some structures which would be less than 200 feet high but would nevertheless be classified as an obstruction to air navigation under Subpart C. These structures would generally be in an instrument approach area between the final approach fix and the runway. The Agency proposal to impose a notice requirement which may thus not cover all possible obstructions to air navigation is based on the need to provide reasonable notice criteria which can be applied and complied with by the average construction proponent. A notice requirement geared fully to the obstruction criteria of Subpart C appears impracticable of application. If the 1 to 100 slope is adopted, the Agency would supplement the information received from notices by requiring increased vigilance by Agency flight inspection personnel and other employees for indications of such prospective obstructions in the approach areas as may not be covered by the notice requirements. Also, the aviation public would be encouraged to alert Agency employees to such prospective obstructions. It is expected these measures, applied in conjunction with the requirement for a notice upon Agency request, would be adequate for air safety purposes.

In addition to providing information on possible hazards to air navigation, the notices furnished under Subpart B would be reviewed to determine the need for charting, marking or lighting of the obstruction. The current FAA manual on "Obstruction Marking and Lighting" would be revised to adjust the marking and lighting standards to the obstruction criteria which would be adopted under Subpart C. The current provision for a second notice in the course of the construction would become a regulatory requirement for the submission of supplementary notices. One such notice would be required upon the completion of any structure that was more than two hundred feet high or was of such height and location that, upon review of the first notice, the Agency determined air safety required information on its completion. A supplementary notice would also be required 48 hours prior to construction in those cases where the Agency found it necessary.

Perhaps the most important single feature of this proposal is that it would revise and consolidate the obstruction criteria to present a single Agency standard for identifying obstructions. Part 77 was originally adopted as Part 626 of the regulations of the Administrator, effective July 15, 1961. The preamble to that part explained that the Agency was inaugurating a detailed review of obstruction criteria with the objective of effecting further refinement in those criteria. That review has now been completed and the results analyzed in the light of the experience gained in operations under Part 626 and Part 77.

The proposed obstruction criteria are based principally on the standards contained in Technical Standard Order TSO-N18, entitled "Criteria for Determining Obstructions to Air Navigation." This Amendment would supersede TSO-N18, which has been employed in the performance of many Agency functions. However, these activities would not be substantially affected by the substitution of the new criteria.

The standards contained in the airport imaginary surfaces of the proposed subpart C have their origin in section A of TSO-N18, except the outer horizontal surface referred to in § 77.25(a)(3). These standards are specified in §§ 77.25, 77.27, and 77.29. With the noted exception, they would be employed in the performance of the statutory functions relating to the formation of long-range plans and policies for the orderly development and location of landing areas; the furnishing of technical advice and assistance to airport operators regarding land use programs and zoning; the reporting of obstruction data on Facility Record Forms; the determination of property interests eligible for Federal grants under the Federal Airport Act or necessary for transfer as surplus property or eligible for transfer under Section 16 of the Federal Airport Act; the design and development of airports under the Federal-aid Airport Program or otherwise; and in the administration, promotion, encouragement and development of civil aeronautics.

Current Grant Agreements executed under the Federal Airport Act contain obligations by each Project Sponsor regarding obstructions in the approach areas of the airport. These obstructions are now determined by reference to section A of TSO-N18. Future Grant Agreements in the Federal-aid Airport Program would employ as obstruction criteria the sections of this Part which were developed from that section A.

Appropriate revisions of the references in the Agency FAAP Regulations to the Technical Standard Order would be made at a later date and the contractual provisions of subsequent Grant Agreements would be modified accordingly.

Section B of TSO–N18 contains the limiting heights which, combined with certain criteria of Part 77, form the basis for the criteria presented in § 77.23(a)(2), exclusive generally of paragraph (a)(2). These limiting heights identify obstructions which could affect minimum instrument approach and circling altitudes in the vicinity of airports, minimum en route altitudes under the Instrument Flight Rules and en route and terminal operations under the Visual Flight Rules. The substance of these criteria is utilized by the Agency in the establishment of instrument approach procedures and minimum en route altitudes and the imposition of aircraft operating limitations. The FAA will continue to perform these functions in accordance with the separation criteria contained in the specific regulations governing the activities. Since the criteria would conform the resultant Agency actions would be compatible with the obstruction criteria proposed here.

The Agency would continue to study proposed obstructions to determine their effect on air navigation but the resultant decision would be issued on the question of "adverse effect on air navigation," rather than "hazard to air navigation," as more appropriate terminology. Aeronautical studies conducted by the Agency to determine whether a proposed structure would have an adverse effect on air navigation would be based upon a review of the construction proposal in the light of actual and proposed aeronautical operations, procedures and minimum flight altitudes. An obstruction, as identified by application of the standards in Subpart C, would not necessarily be determined to have an adverse effect on air navigation unless it were also located in a runway clear zone. Except for such an obstruction which would automatically be determined to have an adverse effect on air navigation, the question of whether an obstruction to air navigation would actually have an adverse effect would be determined largely by the effect of that structure on instrument approach procedures and minimum en route IFR altitudes and on the actual IFR and VFR operations in the vicinity of the construction or alteration site. However, the presumption of adverse effect would exist with respect to certain construction proposals.

The new criteria would differ in several respects from those contained in TSO–N18 and the present Part 77. The amendment would provide specific criteria to protect VFR airports with a potential for IFR operations. This added protection should assist in the prevention of local developments which might otherwise stifle the normal growth of an airport currently being employed for only VFR operations. The listings in the Agency Directory of Airports and Seaplane Bases would distinguish these airports from those without an IFR potential. In addition, the obstruction standards would be applied by the Agency to all airports, including those not listed in the Directory.

The consolidated criteria would extend by 500 feet the en route criteria of Part 77 applicable to the established minimum en route altitudes of low altitude and intermediate altitude Federal airways and approved off-airway routes. This limiting height protection is currently fixed at 951 feet below the MEA. The proposed extension to 1,451 feet below the MEA would recognize the purpose of CAR Amendments 60–21 and 60–29 to provide additional uncontrolled airspace for VFR operations and would preclude the unrestricted erection of structures in these airways and routes which might nullify the effect of the airspace actions implementing the cited Amendments.

Several other criteria revisions are proposed in this amendment, generally to provide added protection of air navigation. Interested persons should compare the criteria in their areas of concern with the current provisions of Part 77 and TSO–N18. A leading example of these revisions is the increase of the radius of the heliport primary surface from 200 to 500 feet in recognition of the operating characteristics of helicopters which include acceleration after take-off to climb out speed prior to climbing to en route altitude.

One relaxation in the form of the obstruction criteria would involve VFR flyways. This would not currently affect the substance of Part 77 since, although Part 77 contains hazard criteria protecting VFR flyways, no such routes have been established within the scope of Part 77. To qualify under Part 77, such a route must be depicted on an aeronautical chart and must be an established route used for VFR operations. The Agency studied the establishment of a program to provide for these routes but the study revealed a lack of interest and, moreover, opposition on the part of some of the aviation community to such a program. This opposition was based on the possibility of creating congestion and a possible hazardous situation in the channeling of VFR traffic. While this Agency study is being continued, its present status indicates that protection of VFR flyways as presently provided is not justified. Of course, the use of a particular route by VFR traffic will continue to be a factor for consideration in aeronautical studies, even though that route may not be designed specifically as a VFR flyway.

The procedures contained in Subpart D for the conduct of aeronautical studies of the effect of proposed construction on the use of the navigable airspace would be revised to shorten the time required to process a study to determine whether the proposed construction would be an adverse effect on air navigation. Each Regional Assistant Administrator would be authorized to issue a determination on the issue of adverse effect on air navigation. This determination could be issued at any point in the regional aeronautical study when sufficient facts had been obtained to support the determination, whether that point was reached upon an initial analysis of the proposed structure, receipt of the information provided by informal circularization of the aeronautical interests, revision in the aviation requirements to accommodate the construction proposal, adjustment of the proposal to eliminate violation of the obstruction criteria, or at the conclusion of all fact-collection procedures in the region. The determination would then be subject to a review by the Agency at the Washington level if any interested party required it. This review would be conducted either on the basis of the information forwarded in writing by the region and the interested parties upon being advised of the review, or on the basis of a public hearing.

Only minor editorial revisions are proposed for Subpart E, which prescribes the procedures governing Agency hearings to determine the effect of proposed structures on the safety of aircraft and the efficient use of the navigable airspace. One such revision would also be made to Subpart F on the establishment of antenna farm areas. Section 77.73 would include a specific statement on the fact that establishment of an antenna farm area is accomplished by the Agency in accordance with the procedural requirements of section 4 of the Administrative Procedure Act. While the establishment of an antenna farm area is an airspace rule-making action which must, necessarily, comply with section 4 of the Act, an express reference to that section should avoid any misunderstanding on that point.

In consideration of the foregoing, it is proposed to revise Part 77 of the Federal Aviation Regulations to read as hereinafter set forth.

This amendment is proposed under the authority of sections 104, 307, 313, 1001, and 1101 of the Federal Aviation Act of 1958 (72 Stat. 740, 749, 752, 788, and 797; 49 U.S.C. 1304, 1348, 1354, 1481, 1501).

Issued in Washington, D.C., on July 25, 1963.

N. E. Halaby,
Administrator.

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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 established in this part for determining obstructions to air navigation are compatible with those employed by the Administrator in establishing flight procedures and aircraft operational limitations. However, the actual establishment of those procedures and limitations is governed by other regulations of the Administrator.

§ 77.5 Kinds of objects affected.

(a) This part applies to:

(1) 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.

(2) 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.

(b) Subparts B, D, and E of this part do not apply to any construction or alteration begun before July 15, 1961.

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;

(2) Preliminary 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 at any FAA Office and is on sale at the U.S. Government Printing Office, Washington 25, D.C.;

(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 person 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 that would be more than 200 feet above the surface level of its site.

(2) Any construction or alteration of greater height than an imaginary surface extending from the property line of each airport listed in the FAA "Directory of Airports and Seaplane Bases," upward and outward at a slope of 1 to 100.

(3) Any highway, railroad, or other traverse way for mobile objects, of a height which if adjusted upward 17 feet for a highway, 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 FAA "Directory of Airports and Seaplane Bases."

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

(b) Each person who proposes construction or alteration that is the subject of a notice under § 77.13(a) shall submit a supplemental notice on a prescribed form 48 hours before the start of construction or alteration, to the FAA regional office that advises him the supplemental notice is required.

(c) Each person who completes construction or alteration that is the subject of a notice under § 77.13(a) shall, within five days after that completion, submit a supplemental notice on a prescribed form to the National Flight Data Center, AT-435, Washington 25, D.C., 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 that would not be located on another antenna structure or on an airport listed in the FAA "Directory of Airports and Seaplane Bases."

(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, 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 three 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 25, D.C. and the regional offices provide copies of Form FAA-117. The regional geographic areas of jurisdiction are:

1. Eastern Region. Jamaica, Long Island, New York; 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, Georgia; Tennessee, North Carolina, South Carolina, Georgia, Florida, Alabama, Mississippi, Puerto Rico, Canal Zone, Swan Island, and the Virgin Islands.

3. Southwest Region. Fort Worth, Texas; Arkansas, Louisiana, Texas, Oklahoma, and New Mexico.

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

5. Western Region. Los Angeles, California; 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) thru (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 the FAA at the same time the application for construction is filed with the Federal Communications Commission, or at any time prior thereto.

(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.

(d) The notice required under § 77.13 (a) (5) must be submitted within 10 days after the date of the FAA request for that notice.

§ 77.19 Acknowledgment of notice.

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

(b) If the construction or alteration proposed in a notice does not exceed any standard of Subpart C of this part, the acknowledgment contains a statement to that effect and a recommendation as to whether the structure should be marked and lighted in accordance with the FAA Manual.

(c) If the construction or alteration proposed in a notice exceeds any standard in Subpart C of this part, the acknowledgment advises the sponsor that the construction or alteration would exceed a specified standard in Subpart C and a determination has been made that the construction or alteration:

(1) Would be such an obstruction to air navigation that further aeronautical study is necessary to determine whether it would have an adverse effect on air navigation and, pending completion of that further study, it is presumed the construction or alteration would have an adverse effect on air navigation;

(2) Would be located within a runway clear zone and would, therefore, have an adverse effect on air navigation;

(3) Would not have an adverse effect on air navigation, provided that it would be marked and lighted in accordance with the FAA Manual; or

(4) Would constitute an obstruction under those standards but would not, because of the peculiar circumstances of the case, have an adverse effect on air navigation and marking and lighting would or would not be necessary.

For the purposes of this subpart, a runway clear zone is an area on the surface that begins at the end of each primary surface defined in § 77.27(a)(1) and (b)(1) and extends with the width of each approach-departure surface defined in § 77.27 (a) (2) and (3) and (b)(2) to terminate directly below each approach-departure 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 landing strip, whichever distance is shorter.

(d) The acknowledgment also advises of any possible modification of the construction or alteration that would eliminate the conflict with the standards in Subpart C of this part.

(e) Each determination made under this subpart, that a proposed obstruction would not have an adverse effect on air navigation, expires 18 months after its effective date, unless the construction or alteration has begun, or upon the date the proposed construction or alteration is abandoned, whichever date is earlier.

Subpart C—Obstruction standards

§ 77.21 Scope.

(a) This subpart establishes standards for determining obstructions to air navigation. It applies to existing and proposed man-made 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 and, if a plan or proposal for a new facility or use is on file with the FAA on the date the notice required by § 77.13(a) is filed, to that proposed facility or use, such as an air navigation aid, airport, low or intermediate altitude Federal airway, instrument approach procedure, approved off-airway route, control zone, or transition area, or change therein.

(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 either listed in the FAA "Directory of Airports and Seaplane Bases" or is the subject of a proposal on file with the FAA.

(d) For the purposes of this part, only those seaplane bases with definitely defined areas are considered to be airports.

§ 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 of greater height than any of the following heights or surfaces:

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

(2) Any imaginary surface established under § 77.25, 77.27, or 77.29.

(3) A height that is 200 feet above the ground or above the established airport elevation, whichever is higher, within five statute miles of the established reference point of an airport with its longest landing strip more than 3,600 feet in length, or within three statute miles of the established reference point of an airport with its longest landing strip 3,600 feet or less 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.

(4) A height that would require an increase in an instrument approach minimum flight altitude.

(5) A height in or under a low or intermediate altitude Federal airway, transition area, or control zone, or within five statute miles of the course of an approved off-airway route, that is either 200 feet above the ground 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 five 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 upward and outward at a slope of 1 to 50 to five statute miles horizontal distance from the boundaries of each airway and ten 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 out-

ward the five statute miles distance on a horizontal plane.

(7) An imaginary surface that begins at an altitude of 500 feet below the minimum altitude of any instrument approach, initial approach, or procedure turn maneuvering area (defined in the FAA regulations governing instrument approach procedures) and extends upward and outward from the boundary of the area, including any buffer zone, at a slope of 1 to 50 for a distance of five horizontal miles.

(b) 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 a 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 described in paragraph (a)(2) of this section are established for airports in accordance with the IFR and VFR classifications. The FAA "Directory of Airports and Seaplane Bases" lists airports as either IFR, including those with IFR potential, or VFR. The IFR classification includes any airport with an instrument landing strip equipped with a precision landing aid or for which a "straight in" instrument approach is prescribed and any airport without such a strip but having the potential for the development of one. The VFR classification consists of airports with only noninstrument landing strips and without the potential for development of an instrument landing strip.

§ 77.25 Airport imaginary surfaces related to airport reference points.

The following airport imaginary surfaces are established for airports based on the actual measured length of the longest landing strip. A landing strip is a graded area of designated length and width upon which the longitudinal axis of the runway is centrally located or, where no prepared hard surface exists, that graded area used or intended for use in the takeoff and landing of aircraft.

(a) *IFR Airports and airports having IFR potential*—(1) *Inner horizontal surface.* A circular plane, 150 feet above the established airport elevation, with a radius from the established airport reference point of:

(i) 7,000 feet, for an airport with landing strips 3,600 feet or less in length.

(ii) 10,000 feet, for an airport with a landing strip more than 3,600 but not more than 6,400 feet in length.

(iii) 13,000 feet, for an airport with a landing strip more than 6,400 feet in length.

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

(3) *Outer horizontal surface.* A circular plane, 500 feet above the established airport elevation, extending outward from the periphery of the conical surface:

(i) 8,000 feet, for an airport with a landing strip more than 3,600, but not more than 6,400, feet in length.

(ii) 30,000 feet, for an airport with a landing strip more than 6,400 feet in length.

(b) *VFR Airports*—(1) *Inner horizontal surface.* A circular plane, 150 feet above the established airport elevation with a radius from the airport reference point of:

(i) 7,000 feet, for an airport with landing strips 5,200 feet or less in length.

(ii) 10,000 feet, for an airport with a landing strip more than 5,200 feet in length.

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

(3) *Outer horizontal surface.* There is no outer horizontal surface for VFR airports.

§ 77.27 Airport imaginary surfaces related to landing strips.

The following airport imaginary surfaces are established for landing strips:

(a) *IFR Airports and Airports having IFR potential.*—(1) *Primary surface.* A surface longitudinally centered on the landing strip with the same length as the strip except that it extends 200 feet beyond each end of the prepared hard surface of any strip with such a surface. The width of this surface is:

(i) 250 feet, for non-instrument landing strips of 3,600 feet or less in length.

(ii) 500 feet, for non-instrument landing strips more than 3,600 feet in length.

(iii) 1000 feet, for instrument landing strips.

The transverse profile of a primary surface is horizontal but the elevation of any point on the transverse or longitudinal profile coincides with that of the highest ground elevation along the width of the landing strip.

(2) *Instrument approach-departure surface.* A surface longitudinally centered on the extended centerline of the landing strip beginning at the end of the primary surface and rising upward and outward at a slope of 1 to 50 to an elevation of 500 feet above the established airport elevation, then extending at this elevation to 50,000 feet beyond the primary surface. This surface is 1,000 feet wide at the beginning and expands uniformly to a width of 16,000 feet at the outer extremity, 50,000 feet from the end of the primary surface.

(3) *Non-instrument approach-departure surface.* A surface longitudinally centered on the extended centerline of the landing strip, beginning at the end of the primary surface and rising to an elevation of 500 feet above the established airport elevation. The slopes and dimensions of these planes are:

(i) Landing Strips more than 3,600 feet long—the surface is 500 feet wide at the end of the primary surface and rises at a slope of 1 to 40, expanding uniformly to a width of 4,500 feet at a distance of 20,000 feet.

(ii) Landing Strips 3,600 feet or less in length—the surface is 250 feet wide at the end of the primary surface and rises at a slope of 1 to 20, expanding uniformly to a width of 2,250 feet at a distance of 10,000 feet.

(4) *Transitional surface.* These surfaces extend upward and outward at a slope of 1 to 7 from both sides of the primary surface and the approach-departure surfaces until they intersect the inner horizontal, conical, outer horizontal, or other transitional surfaces, or reach the controlling height of 500 feet above the established airport elevation.

(b) *Airports with only VFR landing strips*—(1) *Primary surface.* A surface longitudinally centered on a landing strip with the same length as the landing strip. A landing strip with a prepared hard surface extends 100 feet beyond each end of the prepared hard surface. The width of the primary surface is:

(i) 200 feet, for a landing strip less than 150 feet in width.

(ii) 50 feet wider than the landing strip, for a landing strip 150 feet or more in width.

(2) *Approach-departure surface.* A surface longitudinally centered on the extended centerline of the landing strip beginning at the end of the primary surface and rising upward and outward to a height of 150 feet above the established airport elevation. The slopes and dimensions of these planes are:

(i) Landing Strips 5,200 feet or less in length—the surface is the same width at the end of the primary surface as the primary surface, a minimum of 200 feet, and expands uniformly, at a slope of 1 to 20, to a maximum width of 500 feet at a horizontal distance of 3,000 feet outward.

(ii) Landing Strips more than 5,200 feet in length—the surface is the same width at the end of the primary surface as the primary surface, a minimum of 200 feet, and expands uniformly, at a slope of 1 to 40, a maximum width of 800 feet at a horizontal distance of 6,000 feet outward.

(3) *Vertical surfaces.* These surfaces extend upward from the sides of the primary surface and the approach-departure surfaces to a height of 150 feet above the established airport elevation.

§ 77.29 Airport Imaginary Surfaces for Heliports.

(a) *Heliport primary surface.* A circular surface at the elevation of the established heliport elevation with a 500-foot radius from the center of each helipad.

(b) *Heliport conical surface.* A surface extending upward and outward from the circumference of each heliport primary surface at a slope of 1 to 8 to a height of 500 feet above the established heliport elevation.

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.

(b) The conclusion of a study made under this subpart is normally a deter-

mination as to whether the specific proposal studied would have an adverse effect on air navigation.

§ 77.33 Initiation of studies.

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

(1) Upon the request of the sponsor of 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.

(b) If the proposed construction or alteration would exceed a standard of Subpart C of this part and would be located in a runway clear zone, the Air Traffic Division concerned notifies the sponsor and all other known interested persons, in writing, that the proposal would have an adverse effect on air navigation.

§ 77.35 Aeronautical studies.

(a) The Assistant Administrator 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 Assistant Administrator or his designee:

(1) Solicits comments from all interested persons;

(2) Explores objectives 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 violation 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 Assistant Administrator, or his designee, issues a determination as to whether the proposed construction or alteration would have an adverse effect on 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 violation of the standards of Subpart C of this part, or withdraws it, the Assistant Administrator, or his designee, terminates the study and notifies all known interested persons.

§ 77.37 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, may petition the Administrator, within 30 days after issuance of the determination under § 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 Assistant Administrator 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 § 77.35 or §77.39(c),

(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 adverse effect on air navigation.

(a) Unless it is otherwise revised or terminated, each final determination, made under this subpart or Subpart E of this part, that a proposed obstruction would not have an adverse effect on air navigation, expires 18 months after its effective date unless the construction or alteration has begun, or upon the date the proposed construction or alteration is abandoned, whichever is earlier.

(b) In any case where a proposed obstruction, for which a determination of no adverse effect on air navigation has been issued, has not been started during the 18-month period any interested person many petition the Assistant Administrator of the FAA Region having jurisdiction to:

(1) Revise the final determination based on new facts that alter the basis upon which the determination was made; or

(2) Extend the effective period of the determination.

(c) The Assistant Administrator provides an appropriate review for each petition and the facts upon which it is based, and revises or extends the determination as indicated by his findings.

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 fact-finding in nature. As a fact-finding procedure, each hearing is non-adversary and there are no formal pleadings or adverse parties.

§ 77.45 Presiding officer.

(a) If, under § 77.39, the Administrator grants a public hearing on any proposed construction or alteration covered by this part, the Director of the Air Traffic Service designates a member of that Service 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, at 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 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 or unduly repetitious. 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 five 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 six 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 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: §§ 77.77–77.1100 reserved for descriptions of antenna farm areas.

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