SUBCHAPTER A—DEFINITIONS

SUBCHAPTER E—AIRSPACE

[Docket No. 9657; Amdts. 71-7; 75-3]

PART 71—DESIGNATION OF FEDERAL AIRWAYS, AREA LOW ROUTES, CONTROLLED AIRSPACE, AND REPORTING POINTS

PART 75—ESTABLISHMENT OF JET ROUTES AND AREA HIGH ROUTES

Designation of Area Low Routes and Area High Routes

The purpose of this amendment is to establish a regulatory basis in Parts 71 and 75 of the Federal Aviation Regulations for the future designation of specific area low routes and area high routes.

Interested persons have been afforded an opportunity to participate in the making of these amendments by a notice of proposed rule making (Notice 69-27) issued on June 13, 1969, and published in the FEDERAL REGISTER on June 18, 1969 (34 F.R. 9570). Due consideration has been given to all comments presented in response to that notice.

Some comments recommended that system errors and route widths should be measured from the navigational facility from which the navigation signal emanates. In response to this comment, this amendment contains route width definitions based on distances measured from the reference navigational facility rather than distances measured from the tangent point as in the notice. This difference is reflected in the table in § 71.6(b). While the basis for measuring route width has changed from the notice, the actual route widths under this amendment will be approximately the same as those proposed in the notice.

One comment stated that the proposed rule should be amended to reflect the particular characteristics of short takeoff and landing aircraft. If experience later demonstrates that special procedures or route widths should be adopted for particular aircraft classes, this may be done. However, at the present time it is believed that a single rule of general applicability is appropriate.

One comment expressed concern that distance-measuring equipment saturation and deterioration would become significant with 50 interrogators served by a single transponder, and stated that complete breakdown of service could occur with 120 interrogators being served by a single transponder. Distance measuring equipment operated by the FAA is designed so that more than 100 interrogators can be served by a single transponder without deterioration in service. Best estimates of expected transponder workload indicate a probable maximum of less than 50 aircraft interrogating a transponder at one time. Further, routes will be established and designated so as to minimize the load on any particular facility.

One comment referenced draft advisory circulars on area navigation and stated that any requirements in this area should follow the normal procedures for rule making rather than being published as Advisory Circulars. It was never contemplated that any procedure other than full notice and public procedure would be used in this or any other regulatory area. So far as equipment requirements are concerned, Advisory Circular 90-45, "Approval of Area Navigation Systems for Use in the U.S. National Airspace System," clearly states (par. 2.a.(3)) that rule making will be considered to specify types of airborne equipment required and the accuracy required of that equipment for use in the air traffic system. So far as airspace assignment is concerned, route designation will also follow rule making procedures.

Several comments suggesting detailed technical changes to the notice were received and have been accepted and incorporated herein.

In other respects, for the reasons stated in the preamble to the notice, the rule is adopted as prescribed herein.

In consideration of the foregoing, Parts 71 and 75 of the Federal Aviation Regulations are amended, effective July 22, 1970, as hereinafter set forth:

1. Part 71 is amended as follows:

a. The title of Part 71 is amended to read as set forth above.

b. A new § 71.1(c) is added to read as follows:

§ 71.1 Applicability.

* * * * *

(c) The airspace assignments described in Subpart J are designated as area low routes.

c. A new § 71.6 is added to read as follows:

§ 71.6 Extent of area low routes.

(a) Each area low route is based on a centerline that extends from one waypoint to another waypoint (or through several waypoints) specified for that area low route. An area low route does not include the airspace of a prohibited area. All mileages specified in connection with area low routes are nautical miles.

(b) Unless otherwise specified in Subpart J, the following apply:

(1) Except as provided in subparagraph (2) of this paragraph, each area low route includes, and is limited to, that airspace within parallel boundary lines 4 or more miles on each side of the route centerline as described in the middle column of the following table, plus that additional airspace outside of those parallel lines and within lines drawn outward from those parallel lines at angles of 3.25°, beginning at the distance from the tangent point specified in the right-hand column of the following table:

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Miles from reference facility to tangent point	Miles from centerline to parallel lines	Miles from tangent point along parallel lines to vortices of 3.25° angles
Less than 17	4	51.
17 to, but not including 27	4	50.
27 to, but not including 33	4	49.
33 to, but not including 38	4	48.
38 to, but not including 43	4	47.
43 to, but not including 47	4	46.
47 to, but not including 51	4	45.
51 to, but not including 55	4	44.
55 to, but not including 58	4	43.
58 to, but not including 61	4	42.
61 to, but not including 63	4	41.
63 to, but not including 66	4	40.
66 to, but not including 68	4	39.
68 to, but not including 70	4	38.
70 to, but not including 72	4	37.
72 to, but not including 74	4	36.
74 to, but not including 76	4	35.
76 to, but not including 78	4	34.
78 to, but not including 79	4	33.
79 to, but not including 81	4	32.
81 to, but not including 83	4	31.
83 to, but not including 84	4	30.
84 to, but not including 86	4	29.
86 to, but not including 87	4	28.
87 to, but not including 88	4	27.
88 to, but not including 89	4	26.
89 to, but not including 91	4	25.
91 to, but not including 92	4	24.
92 to, but not including 93	4	23.
93 to, but not including 94	4	22.
94 to, but not including 95	4	21.
95 to, but not including 96	4	19.
96 to, but not including 97	4	18.
97 to, but not including 98	4	17.
98 to, but not including 99	4	15.
99 to, but not including 100	4	13.
100 to, but not including 101	4	11.
101 to, but not including 102	4	8.
102 to, but not including 105	4	0 (i.e., at tangent point).
105 to, but not including 115	4.25	0 (i.e., at tangent point).
115 to, but not including 125	4.50	0 (i.e., at tangent point).
125 to, but not including 135	4.75	0 (i.e., at tangent point).
135 to, but not including 145	5.00	0 (i.e., at tangent point).
145 to, but not including 150	5.25	0 (i.e., at tangent point).

(2) Each area low route, whose centerline is at least 2 miles, and not more than 3 miles from the reference facility, includes, in addition to the airspace specified in subparagraph (1) of this paragraph, that airspace on the reference facility side of the centerline that is within lines connecting the point that is 4.9 miles from the tangent point on a perpendicular line from the centerline through the reference facility, thence to the edges of the boundary lines described in subparagraph (1) of this paragraph, intersecting those boundary lines at angles of 5.15°.

(3) Where an area low route changes direction, it includes that airspace enclosed by extending the boundary lines of the route segments until they meet.

(4) Where the widths of adjoining route segments are unequal, the following apply:

(i) If the tangent point of the narrower segment is on the route centerline, the width of the narrower segment includes that additional airspace within lines from the lateral extremity of the wider segment where the route segments join, thence toward the tangent point of the narrower route segment, until intersecting the boundary of the narrower segment.

(ii) If the tangent point of the narrower segment is on the route centerline extended, the width of the narrower segment includes that additional airspace within lines from the lateral extremity of the wider segment where the route segments join, thence toward the tangent point until reaching the point where the narrower segment terminates or changes direction, or until intersecting the boundary of the narrower segment.

(5) Where an area low route terminates, it includes that airspace within a circle whose center is the terminating waypoint, and whose diameter is equal to the route segment width at that waypoint, except that an area low route does not extend beyond the domestic/oceanic control area boundary.

(6) Each area low route includes that airspace extending upward from 1,200 feet above the surface of the earth to, but not including, 18,000 feet MSL, except that area low routes for Hawaii have no upper limits. Variations of the lower limits of an area low route are expressed in digits representing hundreds of feet above the surface (AGL) or mean sea level (MSL) and, unless otherwise specified, apply to the route segment between adjoining waypoints used in the description of the route.

(7) The airspace of an area low route within the lateral limits of a transition area has a floor coincident with the floor of the transition area.

d. The first sentence of § 71.7 *Control areas* is amended to read as follows: "Control areas consist of the airspace designated in Subparts B, C, E, and J, but do not include the continental control area."

e. A new Subpart J is added to read as follows:

Subpart J—Area Low Routes

§ 71.301 Designation.

The parts of airspace described below are designated as area low routes.

2. Part 75 is amended as follows:

a. The title of Part 75 is amended to read as set forth above.

b. Section 75.1 *Applicability* is amended by adding the following sentence at the end thereof: "The routes described in Subpart D of this Part are designated as area high routes."

c. A new § 75.13 is added to read as follows:

§ 75.13 Area high routes; control area designation.

(a) Each area high route designated in Subpart D of this Part consists of a direct course for navigating aircraft at altitudes between 18,000 feet MSL and flight level 450, inclusive, between the waypoints specified for that route.

(b) Unless otherwise specified, that airspace, on each side of an area high route, that has a lateral extent specified in § 71.6 and that extends outside the continental control areas, is designated as a control area.

d. A new Subpart D is added to read as follows:

Subpart D—Area High Routes

§ 75.400 Area high routes.

The parts of airspace described below are designated as area high routes.

(Secs. 307(a), 313(a), and 1110 of the Federal Aviation Act of 1958; 49 U.S.C. 1348(a), 1354 (a), and 1510, and sec. 6(c) of the Department of Transportation Act; 49 U.S.C. 1655(c))

Issued in Washington, D.C., on June 22, 1970.

J. H. SHAFFER,
Administrator.

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