U.S. Department of Transportation
Federal Aviation Administration

FILE

Advisory Circular

Subject: TERMINAL CONTROL AREAS (TCA) Date: 12/19/83 AC No: 90-83
Initiated by: AAT-320 Change:

1. PURPOSE. This Advisory Circular explains the Terminal Control Areas (TCA) and answers some of the most frequently asked questions pertaining to TCA's. This circular is designed to assist persons in complying with the requirements of Part 91 pertaining to TCA's.

2. CANCELLATION. Advisory Circular AC 91-40 dated January 17, 1974, is cancelled.

3. REFERENCE. Federal Aviation Regulations (FAR), Part 91 and Part 71, Airman's Information Manual (AIM).

4. DISCUSSION.

a. A TCA is designated controlled airspace normally extending upward from the surface or higher to specified altitudes within which all aircraft are subject to the operating rules, pilot and equipment requirements specified in FAR-91. TCA's are described in FAR-71.12. Each TCA location is designated as either a Group I or Group II TCA and includes at least one primary airport for which the TCA is designed. (See FAR 71.12.)

(1) Group I TCA's represent some of the busiest locations in terms of aircraft operations and passengers carried. For reasons of safety, it is necessary to have strict requirements for operation within Group I TCA's. (See FAR 91.24 and FAR 91.90.)

(2) Group II TCA's represent less busy locations and though safety dictates some pilot and equipment requirements, requirements are not as stringent as those for Group I locations. (See FAR 91.70c and FAR 91.90.)

b. TCA's are charted in blue color on Sectional, World Aeronautical, En Route Low Altitude, and visual flight rules (VFR) Terminal Area Charts.

(1) The following areas are currently designated as Group I TCA's and are depicted on VFR Terminal Area Charts:

Atlanta
Boston
Chicago
Dallas
Los Angeles
Miami
New York
San Francisco
Washington, D.C.

(2) The following areas are currently designated as Group II TCA's and are depicted on VFR Terminal Area Charts:

Cleveland	Kansas City	Pittsburgh
Denver	Las Vegas	Seattle
Detroit	Minneapolis	St. Louis
Honolulu	New Orleans	San Diego
Houston	Philadelphia	

5. OPERATING RULES AND EQUIPMENT REQUIREMENTS.

Regardless of weather conditions, air traffic control (ATC) authorization is required prior to operating within a TCA. Pilots should not request such authorization unless the requirements of FAR 91.24 and FAR 91.90 are met. Included among these requirements are:

a. Group I TCA's.

(1) A two-way radio capable of communication with ATC on appropriate frequencies. (See FAR 91.90.)

(2) A VOR or TACAN receiver, except for helicopters. (See FAR 91.90.)

(3) A 4096 code transponder with Mode C automatic altitude reporting equipment, except for helicopters operating at or below 1000 feet above ground level (AGL) under a Letter of Agreement. (See FAR 91.24.)

NOTE - ATC may, upon notification, authorize a deviation from the altitude reporting equipment requirement; however, request for a deviation from the 4096 transponder equipment requirement must be submitted to the controlling ATC facility at least 1 hour before the proposed operation. (See FAR 91.24(c).)

(4) A private pilot certificate or better in order to land or takeoff from an airport within the TCA. (See FRA 91.90(a)(2).)

(5) Unless otherwise authorized by ATC, each person operating a large turbine engine powered airplane to or from a primary airport shall operate at or above the designated floor while within the lateral limits of the TCA. (See FAR 91.90(a)(ii).)

(6) No person may operate an aircraft in the airspace underlying a TCA, at an indicated airspeed of more than 200 knots (230 MPH) (FAR 91.70).

b. Group II TCA's:

(1) A two-way radio capable of communicating with ATC on appropriate frequencies. (See FAR 91.90b.)

(2) A VOR or TACAN receiver, except for helicopters. (See FAR 91.90(b)(2)(ii).)

(3) A 4096 code transponder, except for helicopters operating at or below 1,000 feet under a Letter of Agreement, or for IFR flights operating to or from an airport outside of but in close proximity to the TCA when the commonly used transition, approach, or departure procedures to that airport require flight within the TCA. (See FAR 91.24.)

NOTE - ATC may authorize deviations from the transponder requirements. Request for deviation must be submitted to the controlling ATC facility at least 1 hour before the proposed operation. (See FAR 91.24(c).)

(4) Unless otherwise authorized by ATC, large turbine engine powered airplanes must operate at or above the floor of the TCA while operating to or from the primary airport. (See FAR 91.90(b)(1)(ii).)

(5) No person may operate an aircraft in the airspace underlying a TCA at an indicated airspeed of more than 200 knots (230 MPH) (See FAR 91.70).

6. FLIGHT PROCEDURES.

a. IFR Flights: Aircraft within the TCA are required to operate in accordance with current IFR procedures. A clearance for a visual approach to a primary airport is not authorization for turbine powered airplanes to operate below the designated floor of the TCA. (See FAAH 7110.65, paragraph 1281.)

b. VFR Flights:

(1) Arriving flights should contact ATC on the appropriate frequency and in relation to geographical fixes shown on VFR terminal area charts. Although a pilot may be operating beneath the floor of the TCA on initial contact, communications with ATC should be established in relation to the points indicated, for spacing and sequencing purposes.

(2) Departing aircraft require a clearance to depart the TCA and should advise the clearance delivery position of their intended altitude and route of flight. ATC will advise VFR aircraft when leaving the geographical limits of the TCA. Radar service is not automatically terminated with this advisory unless specifically stated by the controller. (See FAAH 7110.65, paragraph 1287.)

(3) Aircraft not landing or departing the primary airport may obtain ATC clearance to transit the TCA when traffic conditions permit and provided the requirements of FAR 91.90 are met. Clearances will be issued on a traffic permitting basis if your aircraft meets the equipment requirements of FAR 91. It would be misleading, however, to imply that such clearances will always be issued, because of the disruption such operations may have on traffic flow to and from the major airports. For this reason, VFR pilots transiting the area are encouraged to avoid the TCA during peak periods or confine their operations to VFR corridors, if established. (See FAAH 7110.65C, paragraph 1287.)

(4) VFR non-TCA aircraft are cautioned against operating too closely to TCA boundaries, especially where the floor of the TCA is 3,000 feet or less or where normal VFR cruise altitudes are at or near the floor of higher levels. Observance of this precaution will reduce the potential for encountering a TCA aircraft operating at TCA floor altitudes.

7. ATC CLEARANCES AND SEPARATION. While operating VRF within a TCA, pilots are provided the service and separation as in Stage III. (See AIM Para-165-TERMINAL RADAR PROGRAM FOR VFR AIRCRAFT.) In the event of a radar outage, separation and sequencing of VFR aircraft will be suspended as this service is dependent on radar. The pilot will be advised that the service is not available and issued wind, runway information, and the time or place to contact the tower. Traffic information will be provided on a workload permitting basis. ATC authorization must still be obtained to enter the TCA. (See FAAH 7110.65, paragraph 1281.)

a. Assignment of radar headings and or altitudes to aircraft operating in accordance with visual flight rules are based on the provision that a pilot must request an amended clearance if compliance with an assigned route, radar heading or altitude will cause the pilot to violate basic VFR weather minima. (See FAAH 7110.65, paragraph 1282, Note 1.)

b. ATC may assign altitudes to VFR aircraft that do not conform to FAR 91.109. When the altitude assignment is no longer needed for separation or when leaving the TCA, the instruction will be broadcast: "Resume Appropriate VFR Altitudes." Pilots must return to an altitude that conforms to FAR 91.109 as soon as practicable. (See FAAH 7110.65, paragraph 1284b.)

8. MISCELLANEOUS. Attached to this Advisory Circular are a number of typical questions and answers relating to the TCA. These answers will provide you with a better understanding of the TCA rules and operating procedures. The questions are those most frequently asked at public meetings and in correspondence from the aviation community.

R. J. Van Vuren
Director, Air Traffic Service

Attachment

ATTACHMENT 1. TYPICAL QUESTIONS AND ANSWERS

REGARDING

TERMINAL CONTROL AREAS (TCA)

1. Why were TCA's established?

Terminal control areas were established at some of the busiest locations because of the large amount of aircraft operations and passenger enplanements. For safety reasons it is necessary to have stricter requirements to operate within TCA airspace. In addition, the requirement for all aircraft to be in communication with ATC prior to entering the TCA provides for a more effective and orderly flow of traffic to and from those airports which serve the greatest number of people.

2. What impact does a TCA have on the airspace user?

Any program designed to bring a higher order of regulation and control within the random flying VFR environment results in some impact, not only on the airspace users but also on the air traffic control system. Every effort has been, and will continue to be, made to minimize this impact and to provide for as equitable use of the airspace as possible. It is important to remember, however, that the requirements for TCA are established for reasons of safety.

3. What is the main difference between the Group I and Group II TCA requirements and why are they different?

a. The main difference is in the transponder requirement. VFR aircraft must be equipped with an operable 4096 code transponder with Mode C automatic altitude reporting equipment at the Group I locations. VFR aircraft at Group II TCA's must have a 4096 code transponder. Student pilots may not land/depart any airport in Group I but this is permitted at Group II TCA's.

b. The reason for the less stringent requirements at Group II locations is that these airports are generally less busy in terms of aircraft operations and passengers carried. There is a smaller percentage of use by air carriers and a larger use by slower, more maneuverable aircraft at the Group II locations. Thus, the speed and operating characteristics are not as critical from an air traffic control standpoint.

4. Are IFR operations afforded priority over VFR traffic within the TCA environment?

No. Air traffic control service will continue to be provided on a "first-come-first-served" basis as circumstances permit; however, VFR pop-up traffic will not be given priority over IFR/VFR traffic already sequenced.

5. Do TCA rules and airspace apply during instrument conditions?

The TCA rules and airspace are effective at all times, regardless of weather. It is true that a TCA is not needed when VFR operations are

suspended due to weather; however, it would not be operationally feasible to turn TCA "on and off" during varying weather conditions. First, controllers are not aware of the weather conditions existing throughout the TCA. Secondly, it would be a cumbersome, if not impossible, task to ensure that all pilots are apprised of the current status of an "on-again off-again" TCA environment.

6. Why isn't the size and shape of the TCA a standard design?

The TCA was purposely designed to provide as much airspace as possible for satellite airport operations and for VFR transiting traffic. This individual "tailoring" has necessarily resulted in a more complex configuration than a standard or uniform design. Initial attempts to provide a more standardized configuration resulted in an undue impact on uncontrolled operations. A number of factors were considered in determining individual airspace requirements. For instance, the number and location of adjacent airports, instrument approach and departure procedures, noise abatement considerations, surrounding terrain, etc., all have a bearing on the size and shape of each TCA. There is no easy solution to this problem and it is incumbent upon each pilot to become familiar with TCA airspace so that he can identify these areas the same as he identifies control zones, restricted areas and other designated airspace.

7. Do the rules governing operation within control zones and transition areas apply within a TCA environment?

Yes. It is important to understand that designation of TCA does not negate the need for other controlled airspace. There is a common misconception that airspace beneath the floors of a TCA and within VFR corridors are uncontrolled airspace wherein VFR operations can be conducted clear of clouds and with one mile flight visibility. This is not the case since portions of these excluded areas are within control zones and transition areas.

8. What is the purpose of the VFR corridors which are provided at some locations and how are they to be used?

VFR corridor, available at some locations, is airspace which has been excluded from the TCA so that VFR aircraft may overfly the airport (considered by many as the safest place) or follow another route without contacting ATC or having to meet the transponder requirement.

Except for large turbine engine powered aircraft, the corridor airspace can be used by any aircraft (IFR or VFR) provided the 200 knot speed limit is not exceeded.

While in the corridor, VFR aircraft operating more than 3,000 feet above ground level (AGL) must fly at the appropriate VFR altitude for direction of flight being flown. Where possible, the VFR corridor will be defined by VOR radials overlying prominent visual landmarks. It will be up to each pilot to determine whether he can navigate through the corridor and remain clear of the TCA. Factors to consider in making this determination are weather conditions existing at the time, pilot experience level, and familiarity with the area. When requested by the pilot,

radar advisory information will be furnished on a workload permitting basis to aircraft within the corridor.

9. What will be the vertical limits of the VFR corridor?

This will vary depending upon individual requirements. Normally the corridor vertical limits will be described as being between 3,000 and 5,000 feet AGL. This will permit VFR transit at 3,500 and 4,500, depending on direction of flight. The important thing to understand here is that large turbine powered aircraft may cross the corridor, in the above example, at 3,000 AGL or below and at 5,000 AGL or above. VFR corridor traffic must be above 3,000 and below 5,000 AGL.

10. What is the minimum vertical separation (or buffer) between controlled aircraft operating within the TCA and uncontrolled operations underneath?

There is no specified "buffer;" however, adherence to appropriate VFR cruising altitudes and the use of good judgment when flying beneath the designated floors will result in the desired segregation. In this regard, the depicted floors are to let you know at what minimum altitude you may expect to encounter a large turbine powered aircraft. Common sense would dictate that you fly as far beneath these altitudes as possible.

11. When operating to/from the primary airport, am I required to confine my operation to the designated airspace while within its lateral limits?

To obtain maximum separation and protection from uncontrolled traffic, all users of the primary airport will be encouraged to remain above the TCA floor and to avoid VFR corridors; however, this is not mandatory except for large turbine powered aircraft.

12. If I avoid the TCA, am I assured of protection from aircraft operating to and from the primary airport?

No. Primary airport traffic may also be operating outside of the TCA. Large turbine engine powered aircraft is required to operate above the floors of the TCA but such aircraft may be above the ceiling prior to entering or departing the lateral limits. In short you will be protected from large turbine powered aircraft operating to or from the primary airport if you are beneath the established floors or within the designated VFR corridors.

13. Am I required to file a VFR flight plan in order to operate within the TCA?

No. If you intend to land at the primary airport, you will be expected to request an ATC clearance on listed frequency and give your position with respect to designated entry points. Communications should be established prior to reaching the outer limits, even though you may be operating above or below the TCA at the time. This is necessary for effective spacing and sequencing of arrival traffic. If you are departing the primary airport, merely give your intended route of flight and altitude to clearance delivery so that he can plan accordingly.

14. Will I be able to obtain a clearance through the TCA if I am not landing at the primary airport?

Yes. Such clearances will be issued on a traffic permitting basis if your aircraft meets the equipment requirements of FAR 91. It would be misleading, however, to imply that such clearances will always be issued, because of the disruption such operations may have on traffic flow to and from the major airports. For this reason, VFR pilots transiting the area are encouraged to avoid the TCA during peak periods or confine their operations to VFR corridors.

15. What does a VFR pilot do if he encounters radio failure?

If the aircraft is operating within a TCA at the time of radio failure, he will be expected to adjust his transponder to Code 7600, then proceed to the airport of intended landing or, if departing, he should exit the TCA in accordance with his latest clearance. If the failure occurs outside of the TCA, the pilot will be expected to remain clear of TCA and land at an outlying airport.

16. I am a noninstrument rated pilot and prior to entering the TCA, I have received a clearance but after entering the airspace, I find that it is not possible to comply with the clearance due to a cloud condition. What action do I take?

It is the pilot's responsibility to remain VFR in these circumstances and notify ATC immediately so an alternate clearance can be issued.

U.S. Department of Transportation
Federal Aviation Administration
800 Independence Ave., S.W.
Washington, D.C. 20591

Official Business
Penalty for Private Use $300

Postage and Fees Paid
Federal Aviation
Administration
DOT 515