

**CHANGE**

**U.S. DEPARTMENT OF TRANSPORTATION  
FEDERAL AVIATION ADMINISTRATION**

**JO 7400.2L  
CHG 1**

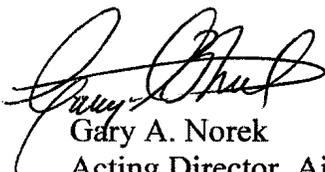
Air Traffic Organization Policy

**Effective Date:**  
October 12, 2017

**SUBJ:** Procedures for Handling Airspace Matters

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- 1. Purpose of This Change.** This change transmits revised pages to Federal Aviation Administration Order JO 7400.2L, Procedures for Handling Airspace Matters.
- 2. Audience.** This change applies to all Air Traffic Organization (ATO) personnel and anyone using ATO directives. This order also applies to all regional, service area, and field organizational elements involved in rulemaking and nonrulemaking actions associated with airspace allocation and utilization, obstruction evaluation, obstruction marking and lighting, airport airspace analysis, and the management of air navigation aids.
- 3. Where Can I Find This Change?** This change is available on the FAA website at [http://faa.gov/air\\_traffic/publications](http://faa.gov/air_traffic/publications) and [https://employees.faa.gov/tools\\_resources/orders\\_notices](https://employees.faa.gov/tools_resources/orders_notices).
- 4. Explanation of Policy Change.** See the Explanation of Changes attachment which has editorial corrections and changes submitted through normal procedures.
- 5. Distribution.** This change is available online and will be distributed electronically to all offices that subscribe to receive email notification/access to it through the FAA website at [http://faa.gov/air\\_traffic/publications](http://faa.gov/air_traffic/publications).
- 6. Disposition of Transmittal.** Retain this transmittal until superseded by a new basic order.
- 7. Page Control Chart.** See the page control chart attachment.



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Air Traffic Organization

Date: 9/19/17



## Explanation of Changes Change 1

**Direct questions through appropriate facility/service center office staff  
to the Office of Primary Interest (OPI).**

**a. 1-1-1. PURPOSE OF THIS ORDER**  
**1-1-9. RECOMMENDATIONS FOR PROCEDURAL CHANGES**  
**1-1-11. SAFETY MANAGEMENT SYSTEM**  
**1-2-2. AUTHORITY AND APPLICABILITY**  
**1-2-3. FUNCTIONAL RESPONSIBILITIES**  
**1-2-4. TITLE 14 CODE OF FEDERAL REGULATIONS (CFR) REFERENCES**  
**1-2-5. WORD USAGE**  
**1-2-6. ABBREVIATIONS**  
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**1-3-2. POLICY**  
**2-1-1. DEFINITION**  
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**2-6-4. OTHER AIRSPACE ACTIONS**  
**2-6-5. LOCATION**  
**2-6-6. AGENDA ITEMS**  
**2-6-7. RECORD OF MEETINGS**

These paragraphs have been updated to reflect correct office titles, replace inaccurate information, and add new information to better explain airspace proposal processing requirements. This change clarifies existing ATO policies on general procedures for airspace management as well as procedures for accomplishing rulemaking and nonrulemaking airspace actions. The impetus for the review was feedback from elements within Headquarters, service centers, and field facilities that clarification of certain guidance within Chapters 1 and 2 is required. The last comprehensive review of said chapters was accomplished in 2004.

**b. 6-3-6. RESPONSIBILITY**

**Appendix 12. Evaluating Air Traffic Impacts for Wind Turbine Farm Proposals**

This change adds Appendix 12 and updates guidance regarding responsibility and procedures as they relate to evaluating the effects of proposed wind turbine farms.

**c. 14-1-1. PURPOSE**

**14-1-12. DEFINITIONS**  
**14-1-3. GOVERNING CRITERIA**  
**14-1-4. FRACTIONAL MILES**  
**14-1-5. AIRSPACE LEGAL DESCRIPTION**

This change updates the definitions of U.S. airspace classifications to provide more clear information. It corrects the format for terminal airspace legal descriptions to align with FAA Order JO 7400.11, Airspace Designations and Reporting Points, listings and adds additional legal description examples for

those terminal airspace descriptions not currently included. It also provides standardized information for use by service center and Headquarters airspace specialists.

- d. 15-1-1. PURPOSE**
- 15-1-2. REGIONAL/SERVICE AREA OFFICE EVALUATION**
- 15-1-3. RESPONSIBILITIES**
- 15-1-4. SERVICE CENTER EVALUATION**
- 15-2-1. CRITERIA**
- 15-2-2. DESIGNATION**
- 15-2-3. CONFIGURATION**
- 15-2-4. IFR TRANSITION ROUTES**
- 15-2-5. VFR CONSIDERATIONS**
- 15-2-6. CHART ENHANCEMENTS**
- 15-3-1. RESPONSIBILITIES**
- 15-3-2. STAFF STUDY**
- 15-3-3. AIRSPACE USERS**
- COORDINATION**
- 15-3-4. NPRM PHASE**
- 15-3-5. POST-NPRM PROCESSING**

This change provides a significant update to Class B airspace guidance which has been largely unchanged for over 20 years. It responds to service center requests for more up-to-date Class B airspace criteria to match current operational realities. It clarifies and expands responsibilities for processing Class B airspace proposals; updates Class B design criteria to shift away from the standard “upside wedding cake” shape to a configuration based on site-specific operational factors and improved safety and efficiency; updates staff study and periodic

review requirements to adopt the use of available FAA airspace modelling and safety analysis tools; adds guidance for enhancing VFR charts; and expands the rulemaking procedures section to more fully explain requirements.

- e. 16-1-1. PURPOSE**
- 16-1-2. NONRULEMAKING ALTERNATIVES**
- 16-1-3. REGIONAL/SERVICE AREA OFFICE EVALUATION**
- 16-1-4. CLASS C AIRSPACE**
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- 16-2-2. DESIGNATION**
- 16-2-3. CONFIGURATION**
- 16-2-4. TIME OF DESIGNATION**
- 16-3-1. RESPONSIBILITIES**
- 16-3-2. STAFF STUDY**
- 16-3-3. AIRSPACE USERS**
- COORDINATION**
- 16-3-4. POST-NPRM PROCESSING**
- 16-3-5. PUBLICITY**

This change provides a significant update to Class C airspace guidance which has been largely unchanged for several years. It responds to service center requests for more up-to-date Class C airspace criteria to match current operational realities. It clarifies and expands responsibilities for processing Class C airspace proposals and updates the rulemaking process and staff study requirements.

**f. Entire publication.**

Additional editorial/format changes were made where necessary. Revision bars were not used because of the insignificant nature of these changes.

**FAA Order JO 7400.2L  
Change 1  
Page Control Chart  
October 12, 2017**

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# Part 1. General Procedures for Airspace Management

## Chapter 1. General

### Section 1. Introduction

#### 1-1-1. PURPOSE OF THIS ORDER

a. This order prescribes policy, criteria, guidelines, and procedures applicable to the System Operations Services; Mission Support Services; Technical Operations Air Traffic Control Spectrum Engineering Services; the Office of Airport Planning and Programming (APP); the Office of Airport Safety and Standards (AAS); Technical Operations Aviation System Standards; and the Flight Standards Service (AFS).

b. While this order provides procedures for handling airspace matters, additional procedures and criteria to supplement those contained herein may be set forth in other directives and should be consulted.

#### 1-1-2. AUDIENCE

a. This order applies to to all ATO personnel and anyone using ATO directives.

b. This order also applies to all regional, service area, and field organizational elements involved in rulemaking and nonrulemaking actions associated with airspace allocation and utilization, obstruction evaluation, obstruction marking and lighting, airport airspace analysis, and the management of air navigation aids.

#### 1-1-3. WHERE TO FIND THIS ORDER

This order is available on the FAA website at [http://www.faa.gov/air\\_traffic/publications](http://www.faa.gov/air_traffic/publications) and [http://employees.faa.gov/tools\\_resources/orders\\_notices](http://employees.faa.gov/tools_resources/orders_notices).

#### 1-1-4. WHAT THIS ORDER CANCELS

FAA Order JO 7400.2K, Procedures for Handling Airspace Matters, dated April 3, 2014, and all changes to it are canceled.

#### 1-1-5. CHANGE AUTHORITY

The Vice President, Mission Support Services, will issue changes to this directive after obtaining concurrence from the affected Headquarters offices/services/service units on the cover of this order.

#### 1-1-6. EXPLANATION OF CHANGES

a. The significant changes to this order are identified in the Explanation of Changes page(s). It is advisable to retain the page(s) throughout the duration of the basic order.

b. If further information is desired, please direct questions through the appropriate facility/service area/regional office to the headquarters office of primary responsibility.

#### 1-1-7. SUBMISSION CUTOFF AND EFFECTIVE DATES

This order and its changes are scheduled to be published to coincide with AIRAC dates. However, due to the infrequent nature of changes submitted for this order, publishing may be postponed.

Publication Schedule		
Basic or Change	Cutoff Date for Submission	Effective Date of Publication
JO 7400.2L	11/10/16	4/27/17
Change 1	4/27/17	10/12/17
Change 2	10/12/17	3/29/18
Change 3	3/29/18	9/13/18
JO 7400.2M	9/13/18	2/28/19

#### 1-1-8. DELIVERY DATES

This order will be available on the FAA website 30 days prior to its effective date.

All organizations are responsible for viewing, downloading, and subscribing to receive electronic mail notifications when changes occur to this order.

Subscriptions can be made at [http://www.faa.gov/air\\_traffic/publications](http://www.faa.gov/air_traffic/publications).

### **1-1-9. RECOMMENDATIONS FOR PROCEDURAL CHANGES**

**a.** The responsibility for processing and coordinating revisions to this order is delegated to the Airspace Policy Group Manager.

**b.** Proposed changes or recommended revisions must be submitted, in writing, to the Airspace Policy Group. The proposal should include a description of the change or revision, the language to be inserted in the order, and the rationale for the change or revision.

**c.** The Airspace Policy Group will review and revise proposed changes as necessary and submit supported proposals to Air Traffic Procedures (AJV-8). When appropriate, the Airspace Policy Group may convene a workgroup for this purpose. Composition of the workgroup will be determined by the subject matter and the expertise required. The Airspace Policy Group is responsible for the selection of the members of the workgroup, and for appointing the chairperson of the group.

**d.** The Air Traffic Procedures directorate is responsible for ensuring all approved revisions are published.

**e.** When revised, reprinted, or additional pages are issued, they will be marked as follows:

**1.** Each revised or added page will show the change number and effective date of the change.

**2.** Bold vertical lines in the margin of the text will mark the location of substantive procedural, operational, or policy changes (for example, when material that affects the performance of duty is added, revised, or deleted).

### **1-1-10. DISTRIBUTION**

This order is available online and will be distributed electronically to all offices that subscribe to receive email notification/access to it through the FAA website at [http://www.faa.gov/air\\_traffic/publications](http://www.faa.gov/air_traffic/publications).

### **1-1-11. SAFETY MANAGEMENT SYSTEM**

Every employee is responsible for ensuring the safety of equipment and procedures used in the provision of services within the National Airspace System (NAS).

**a.** Risk assessment techniques and mitigations, as appropriate, are intended for implementation of any planned safety significant changes within the NAS, as directed by FAA Order 1100.161, Air Traffic Safety Oversight.

**b.** Direction regarding the Safety Management System and its application can be found in the Air Traffic Organization Safety Management System Manual; FAA Order JO 1000.37, Air Traffic Organization Safety Management System; and FAA Order 1100.161, Air Traffic Safety Oversight.

## Section 2. Authority and Order Use

### 1-2-1. POLICY

The navigable airspace is a limited national resource that Congress has charged the Federal Aviation Administration (FAA) to administer in the public interest as necessary to ensure the safety of aircraft and its efficient use. Although the FAA must protect the public's right of freedom of transit through the airspace, full consideration must be given to all airspace users, to include national defense; commercial and general aviation; and space operations. Accordingly, while a sincere effort must be made to negotiate equitable solutions to conflicts over the use of the airspace for non-aviation purposes, preservation of the navigable airspace for aviation must be the primary emphasis.

### 1-2-2. AUTHORITY AND APPLICABILITY

The authority for the procedures and associated rules and regulations addressed in this order are provided in 49 U.S.C. Subtitle VII, Aviation Programs, Part A – Air Commerce and Safety, and Part B – Airport Development and Noise:

- a. Section 40101, Policy.
- b. Section 40102, Definitions.
- c. Section 40103, Sovereignty and Use of Airspace, and the Public Right of Transit.
- d. Section 40106(a), Deviations From Regulations.
- e. Section 40109, Authority to Exempt.
- f. Section 106(f), Authority of the Secretary and the Administrator.
- g. Section 106(g), Duties and Powers of Authority.
- h. Section 40113, Administrative.
- i. Section 44501(a), Long Range Plans and Policy Requirements.
- j. Section 44502, General Facilities and Personnel Authority.
- k. Section 44502(c), Military Construction, Rockets, and Missiles.

l. Section 44718, Structures Interfering with Air Commerce.

m. Section 44719, Standards for Navigational Aids.

n. Section 44720, Meteorological Services.

o. Section 44721, Aeronautical Maps and Charts.

p. Section 46104(e), Designating Employees to Conduct Hearings.

q. Section 46301, Civil Penalties.

r. Section 46308, Interference with Air Navigation.

s. Chapter 471, Airport Development – All of Subchapters I and II.

t. Chapter 475, Noise – All of Subchapters I and II.

### 1-2-3. FUNCTIONAL RESPONSIBILITIES

Functional responsibilities of headquarters and regional/service area organizations referred to in this order are detailed in Order 1100.1, FAA Organization-Policies and Standards.

### 1-2-4. TITLE 14 CODE OF FEDERAL REGULATIONS (CFR) REFERENCES

- a. Part 11, General Rulemaking Procedures.
- b. Part 71, Designation of Class A, B, C, D, and E Airspace Areas; Air Traffic Service Routes; and Reporting Points.
- c. Part 73, Special Use Airspace.
- d. Part 77, Objects Affecting Navigable Airspace.
- e. Part 91, General Operating and Flight Rules.
- f. Part 93, Special Air Traffic Rules.
- g. Part 95, IFR Altitudes.
- h. Part 97, Standard Instrument Approach Procedures.
- i. Part 101, Moored Balloons, Kites, Amateur Rockets, Unmanned Free Balloons, and Certain Model Aircraft.
- j. Part 152, Airport Aid Program.

k. Part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports.

l. Chapter III, Commercial Space Transportation.

m. Chapter V, National Aeronautics and Space Administration.

**1-2-5. WORD MEANING**

As used in this Order:

a. “Must” means an action/procedure is mandatory.

b. “Must not” means an action/procedure is prohibited.

c. “Should” is used when application is recommended.

d. “May” and “need not” are used when application is optional.

e. “Will” is used only to indicate futurity, never to indicate any degree of requirement for application of a procedure.

f. “Navigable airspace” means airspace at or above the minimum flight altitudes prescribed by the Code of Federal Regulations, including airspace needed for safe takeoff and landing.

g. “Controlled airspace” is a generic term used to describe Class A, Class B, Class C, Class D, and Class E airspace.

h. “Uncontrolled Airspace” (Class G) is airspace that has not been designated by rule as Class A, B, C, D, or E.

**1-2-6. ABBREVIATIONS**

See TBL 1-2-1 for a list of abbreviations used in this Order.

*TBL 1-2-1*  
**FAA Order JO 7400.2 Abbreviations**

Abbreviation	Meaning
AAS	Office of Airport Safety and Standards
ADO	Airport District Office
AE	Airport Elevation
AFS	Flight Standards Service

Abbreviation	Meaning
AGC	Office of the Chief Counsel
AGL	Above Ground Level
AIM	Aeronautical Information Manual
AIS	Aeronautical Information Services
ALP	Airport Layout Plan
APO	Office of Aviation Policy and Plans
APP	Office of Airport Planning and Programming
ARP	Airport Reference Point
ARSR	Air Route Surveillance Radar
ARTCC	Air Route Traffic Control Center
ARU	Airborne Radar Unit
ASR	Spectrum Policy and Management
AST	Office of Commercial Space Transportation
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
ATCRBS	Air Traffic Control Radar Beacon System
ATCSCC	David J. Hurley Air Traffic Control System Command Center
ATCT	Airport Traffic Control Tower
ATO	Air Traffic Organization
ATREP	Air Traffic Representative
CARF	Central Altitude Reservation Function
CDRH	Center for Devices and Radiological Health
CFA	Controlled Firing Area
CFZ	Critical Flight Zone
CFR	Code of Federal Regulations
CP	Construction Permit
DF	Direction Finder
DME	Distance Measuring Equipment
DMS	Docket Management System
DNE	Does Not Exceed
DNH	Determination of No Hazard
DOD	Department of Defense
DOH	Determination of Hazard
EBO	Exceeds But Okay
EMI	Electromagnetic Interference

Abbreviation	Meaning
ERP	Effective Radiated Power
FAAO	Federal Aviation Administration Order
FACSFAC	Fleet Area Control and Surveillance Facility
FCC	Federal Communications Commission
FDA	Food and Drug Administration
FL	Flight Level
FPT	Flight Procedures Team
FSDO	Flight Standards District Office
FSS	Flight Service Station
GAO	Government Accountability Office
HIL	High Intensity Light
IAP	Instrument Approach Procedure
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
ILS	Instrument Landing System
IR	IFR Military Training Route
IRAC	Interdepartmental Radio Advisory Committee
J	Joule
L/MF	Low/Medium Frequency
LFZ	Laser Free Zone
LLWG	Local Laser Working Group
LMM	Middle Compass Locator
LOA	Letter of Agreement
LOD	Letter of Determination
LOM	Outer Compass Locator
LSO	Laser Safety Officer
MAJCOM	Military Major Command
MCA	Minimum Crossing Altitude
MCP	Minimum Crossing Point
MEA	Minimum En Route Altitude
MHA	Minimum Holding Altitude
MIA	Minimum IFR Altitude
MOA	Military Operations Area
MOCA	Minimum Obstruction Clearance Altitude

Abbreviation	Meaning
MPE	Maximum Permissible Exposure
MRAD	Milliradian
MRU	Military Radar Unit
MSA	Minimum Safe Altitude
MSL	Mean Sea Level
MTR	Military Training Route
MVA	Minimum Vectoring Altitude
NAD	North American Datum
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NAVAID	Navigational Aid
NDB	Nondirectional Radio Beacon
NEPA	National Environmental Policy Act
NFDC	National Flight Data Center
NFDD	National Flight Data Digest
NFZ	Normal Flight Zone
NM	Nautical Mile
NPH	Notice of Presumed Hazard
NOHD	Nominal Ocular Hazard Distance
NOTAM	Notice to Airmen
NPIAS	National Plan of Integrated Airport Systems
NPRM	Notice of Proposed Rulemaking
NR	Nonrulemaking
NRA	Nonrulemaking Airport
NSA	National Security Area
NTAP	Notices to Airmen Publication
NWS	National Weather Service
OE	Obstruction Evaluation
OE/AAA	Obstruction Evaluation/Airport Airspace Analysis
OFZ	Obstacle Free Zone
PAPI	Precision Approach Path Indicator
PFC	Passenger Facility Charge
PL	Public Law
PSR	Project Status Request
RBS	Radar Bomb Scoring

<b>Abbreviation</b>	<b>Meaning</b>
REIL	Runway End Identifier Lights
RNAV	Area Navigation
ROFA	Runway Object Free Area
RPZ	Runway Protection Zone
RVR	Runway Visual Range
RVV	Runway Visibility Value
SFZ	Sensitive Flight Zone
SIAP	Standard Instrument Approach Procedure
SMO	System Maintenance and Operations
SR	Scientific/Research Lasers
STAR	Standard Terminal Arrival Route
SUA	Special Use Airspace
TERABA	Termination/Abandoned Letter
TEREXP	Termination/Expired Letter

<b>Abbreviation</b>	<b>Meaning</b>
TERPS	United States Standard for Terminal Instrument Procedures
TERPSR	Termination Project Status Letter
TOFA	Taxiway Object Free Area
USC	United States Code
UTC	Coordinated Universal Time
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rules
VGSI	Visual Glide Slope Indicator
VOR	Very High Frequency Omnidirectional Range
VORTAC	Very High Frequency Omni-Directional Range/Tactical Air Navigation Aid
VR	VFR Military Training Route

## Section 3. Airspace Planning and Analysis

### 1-3-1. BACKGROUND

a. Airspace management functions historically have been widely dispersed. Responsibility for airspace management has resided with the regional/service area offices, while airspace changes for operational considerations have been handled by field facilities. The focus on airspace change and redesign has been local in scope and centered, for the most part, on single areas. It is apparent that changes in airspace configuration, architecture, and/or structure have national implications for air traffic control, traffic flow management, and the user community. Therefore, changes in the use or allocation of the airspace need to be coordinated at the national level.

b. The details involved in airspace design must be centrally located. It is essential that efforts expended on airspace studies and proposed airspace changes be coordinated at the national level. This coordination will ensure that resources are effectively prioritized

and optimized for the efficient use of the nation's airspace.

### 1-3-2. POLICY

The air traffic planning and analysis policy uses an interdisciplinary approach to ensure the effective management of national airspace changes. This policy requires national implementation strategies; especially for changes designed to enhance user operations, maintain the highest standards of safety, generate new efficiencies, and effectively use our resources. With this policy in mind, the Airspace Operations Group (AJV-12) is designated as the air traffic office that will provide national oversight for:

- a. Formulating airspace efficiency policy.
- b. Establishing guidelines for airspace architecture and structural changes.
- c. Providing a high-level analysis of current and proposed operations for efficiency from a NAS-wide perspective.



## Chapter 2. Rulemaking/Nonrulemaking Airspace Cases

### Section 1. Ex Parte Communications

#### 2-1-1. DEFINITION

Ex parte communication is any contact between the FAA and a party outside the government related to a specific rulemaking proceeding, before that particular proceeding is finalized. A rulemaking proceeding does not close until all received comments have been addressed, and a final rule is published. “Ex parte” is a Latin term that is interpreted to mean “one sided,” and indicates that not all parties to an issue were present when it was discussed. Because some interested persons, including the general public, are excluded from an ex parte communication, such a contact may give, or appear to give, an unfair advantage to one party.

#### *NOTE-*

*Written comments submitted to the docket are not considered ex parte contacts because they are available for inspection by all members of the public.*

#### 2-1-2. SCOPE

Whether ex parte contacts are initiated by the FAA or by a member of the public (including affected industry), they are improper if they affect the basic openness and fairness of the decision making process. Because of this possibility and because of the possible appearance of impropriety, the FAA’s policy on ex parte contacts is very strict. This policy, however, does not significantly restrict the gathering of information needed to make an intelligent decision.

#### 2-1-3. POLICY

The FAA encourages full public participation in rulemaking and nonrulemaking actions. This policy allows for appropriate ex parte contacts when necessary to ensure adequate public comment. Persons directly responsible for the rulemaking/nonrulemaking action should, in addition to providing the public the opportunity to respond in writing to proposed actions and/or to appear and be heard at a hearing, undertake such contacts with the public as will be helpful in resolving questions of substance

and justification. Responsible persons should be receptive to proper contacts from members of the public who are affected by, or interested in, the proposed action. Contact with the public to obtain current information needed for rulemaking/nonrulemaking actions or to clarify written comments is permissible.

#### 2-1-4. DISCLOSURE

While this policy recognizes the importance of ex parte contacts, it also contains a strict mandate to disclose these contacts. Specifically, the FAA has an obligation to conduct its rulemaking activities in a public manner, whereby interested members of the public are afforded adequate knowledge of such contacts. This is necessary to ensure all interested members of the public are afforded the opportunity to make their views known to the FAA. Without such disclosure, other interested members of the public and the FAA may be deprived of informed and valuable comments.

#### 2-1-5. PERMITTED CONTACT

The kind of ex parte contacts permitted and the procedures to be followed depend on when the contact occurs. Under some circumstances, an ex parte contact could affect the basic openness and fairness of the rulemaking process. Even the appearance of impropriety can affect public confidence in the process. Any questions regarding the following authorized contacts should be addressed by the Office of the Chief Counsel.

**a.** Before the issuance of any rulemaking and/or nonrulemaking action, ex parte contacts are authorized when needed to obtain technical and economic information. Each contact that influenced the specific effort must be included in a report discussing each contact or group of related contacts. This report must be placed in the project’s docket/case file.

**b.** During the comment period, ex parte contacts are strongly discouraged, since requests for information can be submitted in writing or at a public

meeting. The only information that should be released is that contained in the proposed rule and any other information made generally available during a public meeting. Information, such as facts not presented in the rulemaking/nonrulemaking notification or at a public meeting, or the agency's preliminary thinking on the final rule, should not be discussed. Persons who contact the agency by telephone or in person seeking to discuss the proposal should be advised that the proper avenue of communication during the comment period is by written comment submitted to the docket. When the agency determines that it would be helpful to meet with a person or group during the comment period, the meeting must be announced in the Federal Register and all interested persons must be invited.

**c.** In a formal public hearing, the testimony is usually recorded and the transcript added to the docket. Summaries of all substantive oral communications and copies of materials provided that could affect the agency position must be placed in the docket. Individuals who have made oral comments at meetings should be encouraged to also submit those comments to the docket in writing.

**d.** Persons who contact the agency simply to obtain information regarding the proposal may be provided with information that has already been made available to the general public. No record of such a contact is required.

**e.** Once the comment period has closed, subsequently received written communications should also be placed in the docket. Inform those who wish to submit such "late filed" comments (in accordance with Part 11), their comments will be given consideration to the extent that they cause no undue expense or delay.

**f.** If the agency determines that it would be helpful to meet with a person or group after the close of the comment period, the meeting must be announced in the Federal Register. Moreover, consideration should be given to reopening the comment period. Substantive oral communications other than formal meetings are discouraged. If it is discovered that such a contact has occurred, a summary of the contact must be placed in the docket if it could be perceived as influencing the rulemaking process. Such a summary must be accompanied by copies of any material

distributed during meetings between the FAA and interested parties.

**g.** Contacts after the close of the comment period should be avoided. However, if an ex parte communication occurs that could substantially influence the rulemaking after the comment period has closed, it is the FAA's policy to consider reopening the comment period. Important information should not be disregarded simply because it was late. However, because contacts after the close of the comment period may result in reopening the comment period, they should be avoided. Written comments received after the closing date do not require reopening the comment period unless the agency is substantially and specifically influenced by the comment.

## **2-1-6. RECORDING CONTACTS**

A record of a contact or series of contacts need only be made when it is determined that the contact influenced the agency's action. The record of a contact or series of contacts may be made at any time after the contact, but must be made before issuance of the final action. The record of ex parte contacts need not be a verbatim transcript of the communication. However, a mere recitation that on a stated day a meeting or telephone conversation was held with listed persons to discuss a named general subject is inadequate. The report of the meeting or contact should contain at a minimum:

- a.** The date and time of the meeting or conversation.
- b.** A list of the participants.
- c.** A summary of the discussion (more than a simple list of the subjects discussed).
- d.** A specific statement of any commitments made by any FAA personnel. A copy of any documents discussed should be attached to the record. Any questions on the preparation of the record should be directed to the Office of the Chief Counsel.

## **2-1-7. ADVICE FROM COUNSEL**

Questions concerning the propriety of ex parte contacts, or the actions to be taken after such contacts, should be directed to the Office of the Chief Counsel. Ex parte contacts must be handled correctly to prevent unwarranted delay and legal challenge.

**2-1-8. RELEASE OF RULEMAKING AND/OR NONRULEMAKING TEXTS**

The agency policy is to not provide outside parties the texts of rulemaking/nonrulemaking documents before official release. Such disclosures may give the appearance that the agency is seeking outside party approval and may give an advantage to some parties over other members of the public. There is one exception to this policy. It may be necessary to discuss possible specific regulatory provisions under consideration to obtain information on technical, operational, and economic impacts needed for agency deliberations. Avoid discussion of specific language unless needed information cannot be obtained without discussion of the precise technical

language to be used. When necessary, limit discussion and disclosure to the minimum amount of rule text necessary to accomplish the task. Preamble text is not to be distributed before publication.

**2-1-9. ADDITIONAL REFERENCES**

For additional information on ex parte communications, see the following:

- a. DOT Order 2100.2, Policies for Public Contacts in Rulemaking.
- b. Appendix 1 to Title 14 CFR Part 11, Oral Communications with the Public During Rulemaking.



## Section 2. Executive Order 10854

### 2-2-1. SCOPE

a. Executive Order 10854 extends the application of 49 U.S.C. § 40103 to the overlying airspace of those areas of land or water outside the United States beyond the 12-mile offshore limit in which the United States, under international treaty agreement or other lawful arrangements, has appropriate jurisdiction or control.

b. Under the provisions of Executive Order 10854, airspace actions must be consistent with the requirements of national defense, international treaties or agreements made by the United States, or

the successful conduct of the foreign relations of the United States.

**NOTE-**

See FIG 2-2-1 for the text of Executive Order 10854.

### 2-2-2. POLICY

Any rulemaking or nonrulemaking actions that encompass airspace outside of the United States sovereign airspace (i.e., beyond 12 NM from the United States coast line) must be coordinated with the Departments of Defense and State. All Executive Order 10854 coordination will be conducted by the Airspace Policy Group.

FIG 2-2-1  
Executive Order 10854

**EXECUTIVE ORDER 10854**

**EXTENSION OF THE APPLICATION OF THE FEDERAL AVIATION ACT OF 1958**

By virtue of the authority vested in me by section 1110 of the Federal Aviation Act of 1958 (72 Stat. 800: 49 U.S.C. 1510), and as President of the United States, and having determined that such action would be in the national interest, I hereby order as follows:

The application of the Federal Aviation Act of 1958 (72 Stat. 731; 49 U.S.C. 1301 et seq.), to the extent necessary to permit the Secretary of Transportation to accomplish the purposes and objectives of Titles III and XII thereof (49 U.S.C. 1341-1355 and 1521-1523), is hereby extended to those areas of land or water outside the United States and the overlying airspace thereof over or in which the Federal Government of the United States, under international treaty, agreement or other lawful arrangement, has appropriate jurisdiction or control: Provided, that the Secretary of Transportation, prior to taking any action under the authority hereby conferred, shall first consult with the Secretary of State on matters affecting foreign relations, and with the Secretary of Defense on matters affecting national-defense interests, and shall not take any action which the Secretary of State determines to be in conflict with any international treaty or agreement to which the United States is a party, or to be inconsistent with the successful conduct of the foreign relations of the United States, or which the Secretary of Defense determines to be inconsistent with the requirements of national defense.

Dwight D. Eisenhower

The White House, November 27, 1959



## Section 3. Processing Rulemaking Airspace Actions

### 2-3-1. PURPOSE

This section prescribes procedures to be followed when taking rulemaking actions to establish, modify, or revoke regulatory airspace.

### 2-3-2. RESPONSIBILITY

a. The Airspace Policy Group is responsible for processing the following actions: Class A, B, and C airspace areas; special use airspace (except controlled firing areas); offshore airspace areas; air traffic service routes; and those Class D and E airspace areas that overlie U.S. territories and possessions.

b. The Airman Certification and Air Traffic Law Branch, AGC-240, is responsible for ensuring that the airspace cases listed in paragraph a, above, meet the requirements of the Administrative Procedure Act (5 U.S.C. Chapter 5, Section 553) and DOT Order 2100.5, Policies and Procedures for Simplification Analysis and Review of Regulations.

c. Service centers are responsible for processing all Class D and E airspace area cases (except those overlying U.S. territories and possessions).

d. The Assistant Chief Counsel for each region is responsible for ensuring that all regional airspace cases meet the requirements of the Administrative Procedures Act and DOT Order 2100.5.

### 2-3-3. DOCKETS

#### a. Docket Location.

1. The official docket for both Headquarters and service center rulemaking cases must be maintained by DOT Docket Operations, U.S. Department of Transportation, 1200 New Jersey Avenue, SE, Room W12-140, West Building Ground Floor, Washington, DC 20590.

2. The Federal Docket Management System (FDMS) is the government-wide online database that includes DOT's public dockets. The public may review documents placed in the docket, and submit comments on proposed rules, by accessing the Federal eRulemaking Portal at <http://www.regulations.gov>.

#### b. Docket Identification.

1. Rulemaking cases are identified by two docket numbers. The first, an FAA docket number, consists of the acronym FAA; the current year; and a consecutively assigned number (for example, FAA-2003-14010). The second, an Airspace docket number, includes the last two digits of the calendar year; the appropriate FAA regional abbreviation for the geographic area the airspace action falls within (for example, AEA, ASO, etc.); and a consecutively assigned number within the calendar year (for example, 16-ASW-46). The FAA docket number is assigned by DOT Docket Operations. The Airspace docket number is assigned by the service center responsible for the geographic area the airspace action falls within, except for those airspace actions that are required to be originated by Headquarters.

2. Numbers must run consecutively within each calendar year.

c. Docket Content. The official docket must include all petitions, notices, rules, comments, correspondence, available graphics, and related material concerning the case (other than working files).

### 2-3-4. COMMENT PERIODS

Notice of Proposed Rulemaking (NPRM) actions should provide the following public comment periods:

a. Proposed nonsignificant rules (for example, most airspace actions): 45 days.

b. Proposed significant rules (for example, Class B and Class C actions): 60 days.

#### REFERENCE-

*DOT Order 2100.5, Policies and Procedures for Simplification Analysis and Review of Regulations.*

### 2-3-5. FLIGHT PROCEDURAL DATA

a. If an airspace docket requires an instrument procedure change and/or flight inspection, the appropriate Operations Support Group (OSG) must coordinate the proposed effective date with Aeronautical Information Services (AIS). The proposed effective date must consider the time needed to process procedural changes, complete Part 71

rulemaking, and allow ample time for flight inspection, if required. Any problems that could affect the proposed effective date must be coordinated with AIS and the Airspace Policy Group. See Order 8260.26, Establishing and Scheduling Standard Instrument Procedure Effective Dates, for scheduled charting deadlines and publication dates.

b. If a rule without a prior NPRM is to be issued, and flight check data is required, the OSG must provide details of the change to AIS to request flight inspection and coordinate the planned effective date.

### **2-3-6. SUBMISSION OF RULEMAKING AIRSPACE CASES TO HEADQUARTERS**

a. To initiate Part 71 and Part 73 rulemaking for airspace actions that are processed by Headquarters, the OSG Manager must submit a request memorandum to the Airspace Policy Group Manager.

b. The request must include the following:

1. A regional docket number (except for Class B and C actions).

2. Background information to include the purpose and need for the proposed action. If an informal airspace meeting is held, provide the meeting summary, public comments, and proposed mitigations.

(a) Provide specific details of the proposed action for inclusion in the NPRM to present the public with enough information to develop effective comments.

(b) For airspace actions, the proposed description of the airspace and aeronautical chart depiction.

**NOTE-**

*A chart depiction is not required for ATS routes.*

(c) For Air Traffic Service (ATS) route actions, the proposed descriptions of the ATS route and TARGETS track plot.

(d) If radials, courses, or bearings are included as part of an airspace or ATS route description, both True and Magnetic values must be included for the NPRM.

c. If an airspace action needs to be completed by a specific date, the OSG must coordinate with any other FAA offices as necessary to ensure that

sufficient lead time exists for meeting airspace rulemaking, processing and charting requirements, instrument approach procedure development, and flight inspection deadlines (if required).

d. The OSG must review all public comments posted to the Federal eRulemaking Portal ([www.regulations.gov](http://www.regulations.gov)) or submitted directly to the FAA in response to an NPRM. The public comments must be analyzed to identify aeronautical impacts and whether mitigations are appropriate or cannot be adopted for specific reasons.

e. Within 90 days after the NPRM comment period closing, the OSG Manager will submit a memorandum to the Airspace Policy Group Manager with either a recommendation for further action (for example, proceed to final rule, changes required, withdraw the proposal, etc.), or a status update on the proposal. Include the following information in the memorandum:

1. An analysis of issues raised in the NPRM comments received and how they are being addressed or mitigated. Provide a detailed explanation for issues that cannot be mitigated.

2. Confirmation that the airspace description remains the same as proposed in the NPRM or details of the changes that are required.

**NOTE-**

*If substantial changes are made to the proposed action, a supplemental NPRM, with a new comment period, could be required.*

3. Copies of public comments received and any additional information that should be considered by the Airspace Policy Group.

4. The requested airspace effective date.

### **2-3-7. EFFECTIVE DATE OF FINAL RULES**

a. Amendments to Parts 71 and 73 must be made effective at 0901 Coordinated Universal Time (UTC) and must coincide with 56-day en route charting dates published in FAA Order 8260.26, Establishing Submission Cutoff Dates for Civil Instrument Flight Procedures, Appendix A, Data Submission Cutoff Dates. Exceptions are as follows:

1. Safety or national interest actions that require an earlier effective time or date.

2. Editorial changes.

3. Actions that lessen the burden on the public (for example, revocation of restricted areas).

4. Class B and C airspace areas must be made effective on the appropriate sectional aeronautical charting date. To the extent practicable, Class D airspace area and restricted area rules should become effective on a sectional chart date. Consideration should be given to selection on a sectional chart date that matches a 56-day en route chart cycle date.

b. Cutoff dates are established to allow sufficient time for chart production and distribution. To meet this requirement, final rules must be published in the

Federal Register on or before the applicable deadline for en route airspace date for the planned airspace effective date.

*REFERENCE—  
FAA Order 8260.26, Appendix A.*

#### **2-3-8. PUBLICATION IN FEDERAL REGISTER**

An original NPRM and three copies, or an original final rule and seven copies must be forwarded to AGC-200 for publication in the Federal Register. The Office of the Federal Register requires that originals be signed in blue ink.



## Section 4. Processing Nonrulemaking Airspace Actions

### 2-4-1. PURPOSE

This section prescribes the procedures to be followed when establishing, modifying, or revoking nonrulemaking airspace.

### 2-4-2. IDENTIFICATION

Nonrulemaking cases are identified by a study number. The study number includes the last two digits of the calendar year, the appropriate FAA regional or airports office abbreviation that the action falls within, a consecutively assigned number within each calendar year, and either an “NR” (nonrulemaking), “NRA” (nonrulemaking airport), or “OE” (obstruction evaluation) suffix as appropriate.

#### EXAMPLE-

1. *16-AWP-1-NR for studies involving navigational aids and nonrulemaking Special Use Airspace (SUA) cases.*
2. *16-ASO-1-NRA for studies involving airports.*
3. *16-AGL-1-OE for studies involving surface structures.*
4. *16-ORL-1-NRA for studies processed by an airports district office.*

### 2-4-3. CIRCULARIZATION

a. Except for NRA airspace proposals, nonrulemaking airspace proposals must be circularized by the service area office unless procedures for processing those types of proposals allow exemptions to circularization. Each notice must contain a complete, detailed description of the proposal including charts, if appropriate, to assist interested persons in preparing comments. Circularization lists must include, but not be limited to, all known aviation interested persons and groups such as the state aviation agencies; service center military representatives; national and local offices of aviation organizations; local flight schools, local airport owners, managers, and fixed base operators; and local air taxi and charter flight offices. In order to ensure the widest public participation, service centers should consider all available communication alternatives for distributing circulars and receiving

comments (for example, e-mail, fax, etc.). Normally, a 45-day comment period should be provided. Other parts in this order contain additional guidance regarding circularization.

b. Discuss in the nonrulemaking circular any regulatory changes (for example, Part 71, Part 73) that might be affected if the nonrulemaking proposal is adopted. Describe the regulatory changes in as much detail as is known at the time.

c. Regional/service area offices must coordinate with their respective state aviation representatives to ascertain which nonrulemaking circulars each state is interested in receiving. If various agencies within a state government request copies of particular circulars, the regional/service area office may request that one agency be designated to receive and distribute the requested copies.

d. Send one copy of each SUA nonrulemaking circular to the Airspace Policy Group.

e. Except for Class B and Class C airspace actions, when a nonrulemaking action is associated with a rulemaking action, the nonrulemaking proposal may be included in the NPRM, and a separate nonrulemaking circular is not required. The NPRM will satisfy the circularization requirement and present the full scope of both the rulemaking and nonrulemaking proposal.

### 2-4-4. CIRCULARIZATION DOCUMENTATION

All notices of aeronautical studies, informal airspace meetings, and determinations issued for obstruction evaluation and airport airspace analysis studies require certificates of mailing. The certificate must be recorded in each case file as follows:

AERONAUTICAL STUDY [NUMBER]  
CERTIFICATE OF MAILING

I HEREBY CERTIFY THAT A COPY OF THE ATTACHED [notice/determination] WAS MAILED TO EACH OF THE ADDRESSEES LISTED ON THE ATTACHED [mailing list/distribution list number] THIS [date] DAY OF [month/year].

SIGNED: [specialist/mail clerk/etc.]

#### **2-4-5. SUBMISSION OF NONRULEMAKING SUA CASES TO AIRSPACE POLICY GROUP**

a. After the circular public comment period ends, the OSG must analyze all comments received and coordinate with the concerned ATC facility to develop a response to the issues raised by the comments, and determine if the proposal should be modified as a result of the comments. Coordinate with the appropriate service center military representative to discuss possible mitigations or changes based on the comments. If significant changes are made to what was circularized, it may be necessary to recircularize the proposal for additional public comment.

b. After considering all pertinent information, the OSG and the ATC facility will determine whether the proposal should be forwarded for approval or disapproved. If the action is to be disapproved, the OSG will comply with the guidance in Paragraph 21-5-6, Disapproval of Proposals, of this Order.

c. Within 90 days after the circular comment period closing, the OSG Manager will submit a memorandum to the Airspace Policy Group Manager with either a recommendation to approve, or a status update on the proposal. Include the following information in the memorandum:

1. A discussion of each issue raised by the comments and how it was resolved or addressed.

2. The final version of the airspace description (including a revised chart, if applicable).

3. The requested airspace effective date.

4. Copies of public comments received and any additional information that should be considered by the Airspace Policy Group.

#### **2-4-6. EFFECTIVE DATE OF NONRULEMAKING ACTIONS**

Nonrulemaking actions must be made effective at 0901 UTC and must coincide with the 56-day en route charting dates published in FAA Order 8260.26, Appendix A. Exceptions are as follows:

a. Safety or national interest actions that require an earlier effective time or date.

b. Editorial changes.

c. Actions that lessen the burden on the public (for example, revocation of special use airspace).

d. To the extent practical, consider making the nonrulemaking SUA effective on a sectional chart date that matches the 56-day en route charting dates.

#### **2-4-7. PUBLICATION OF NONRULEMAKING ACTIONS**

Nonrulemaking actions must be published in the National Flight Data Digest (NFDD) on or before the applicable charting cutoff date.

*REFERENCE—  
FAA Order 8260.26, Appendix A.*

## Section 5. Informal Airspace Meeting

### 2-5-1. PURPOSE

This section prescribes the procedures to be followed for informal airspace meetings held before the issuance of a rulemaking or nonrulemaking airspace proposal.

### 2-5-2. POLICY

**a.** Informal airspace meetings may be held when the FAA determines there is a need to obtain additional technical information or facts to assist in the development of a proposal prior to the issuance of an NPRM or a nonrulemaking circular. The number of meetings required will be determined by the service center office based on the scope of the proposal.

**b.** Informal airspace meetings are mandatory for any planned Class B and/or Class C airspace proposals prior to issuing an NPRM.

#### **NOTE-**

*Meetings are not required for minor Class B or Class C airspace changes (for example, editorial corrections, ARP updates, etc.). Contact the Airspace Policy Group if in doubt whether a proposed change requires a meeting.*

**c.** Informal airspace meetings are not a decision-making forum. The purpose is to gather additional information to be considered in developing the proposal. These meetings provide interested parties an opportunity to present views, recommendations, and comments on a proposal. All comments received during these meetings will be considered prior to any revision or issuance of a notice of proposed rulemaking.

**d.** At FAA's discretion, an electronic meeting format (such as webinars, podcasts, etc.) may be used to supplement the traditional meeting format. Electronic meetings must provide a method of posting questions and answers that can be viewed by all participants after the meeting. In addition, instructions for participants to submit written comments after the meeting must be included.

### 2-5-3. CLASS B AND C INFORMAL AIRSPACE MEETING NOTIFICATION PROCEDURES

**a.** The OSG must submit informal airspace meeting details to the Airspace Policy Group for preparation of the notice and submission to the Federal Register at least 90 days in advance of the first meeting date. The following meeting information is required:

**1.** A general explanation of the proposed action to enable interested persons to prepare comments prior to the meeting.

**2.** The name, address, and telephone number of the person from whom additional information may be obtained.

**3.** Dates and times of the meeting(s).

**4.** Address(es) of meeting location(s).

**5.** Address for submitting written comments following the meeting(s).

**b.** The Federal Register notice must be published a maximum of 60 days and a minimum of 30 days in advance. The comment closing date will be 30 days after the last meeting date.

**c.** In addition to the Federal Register publication, informal airspace meeting notices must be sent to all known aviation interested persons and groups including, but not limited to, state aviation agencies, service center military representatives, national and local offices of aviation organizations, local flight schools, local airport owners, managers and fixed base operators, and local air taxi and charter operators within a 100-mile radius of the primary airport for Class B airspace actions and within a 50-mile radius of the primary airport for Class C airspace actions.

### 2-5-4. INFORMAL AIRSPACE MEETING NOTIFICATION PROCEDURES FOR AIRSPACE ACTIONS OTHER THAN CLASS B AND CLASS C

**a.** When additional information is needed, or known/anticipated controversy warrants, the above procedures may also be used for informal airspace meetings concerning airport airspace analysis, SUA,

or commissioning/decommissioning of navigation aids. Every effort must be made to notify all interested aviation organizations and/or persons and groups that may be affected by the proposed action.

**b.** Service centers are responsible for the preparation and distribution of informal airspace meeting notices for airspace actions other than Class B and C. Meeting notices are not required to be published in the Federal Register. The notice of the meeting should be distributed at least 30 days prior to the meeting date.

**c.** The meeting notice must:

**1.** Explain that the purpose of the meeting is to solicit aeronautical comments regarding the proposal's effect on the use of the navigable airspace.

**2.** Provide a general explanation of the proposed action to enable interested persons to prepare comments prior to the meeting.

**d.** Service centers are encouraged to also make use of electronic media, local newspapers, radio, and television to supplement the dissemination of meeting notices.

#### **2-5-5. LOCATION**

Informal airspace meetings should be held at locations and times that provide an opportunity for

the public to submit aeronautical comments relative to the proposed action. For larger airspace area proposals, multiple meeting locations and times may be necessary to obtain input from the public over a wider geographic area.

#### **2-5-6. AGENDA ITEMS**

Agenda items will be included in the informal airspace meeting notice. Suggested items include, but are not limited to, meeting procedures, FAA presentation on the proposed airspace action, and an opportunity for public presentations/comments. Only presentations or comments from attendees that concern the proposed action will be accepted.

#### **2-5-7. RECORD OF MEETINGS**

**a.** Official transcripts or minutes of informal airspace meetings must not be taken or prepared. However, the chairperson must ensure that a memorandum summarizing the discussions and issues raised at the meeting(s) is prepared. A copy of the list of attendees and any written comments submitted at the meeting(s) or during the associated comment period must be attached to the memorandum.

**b.** For airspace actions, a copy of the memorandum and attachments must be included in the OSG recommendation package submitted to the Airspace Policy Group.

## Section 3. Identifying/Evaluating Aeronautical Effect

### 6-3-1. POLICY

a. The prime objective of the FAA in conducting OE studies is to ensure the safety of air navigation, and the efficient utilization of navigable airspace by aircraft. There are many demands being placed on the use of the navigable airspace. However, when conflicts arise concerning a structure being studied, the FAA emphasizes the need for conserving the navigable airspace for aircraft; preserving the integrity of the national airspace system; and protecting air navigation facilities from either electromagnetic or physical encroachments that would preclude normal operation.

b. In the case of such a conflicting demand for the airspace by a proposed construction or alteration, the first consideration should be given to altering the proposal.

c. In the case of an existing structure, first consideration should be given to adjusting the aviation procedures to accommodate the structure. This does not preclude issuing a “Determination Of Hazard To Air Navigation” on an existing structure when the needed adjustment of aviation procedures could not be accomplished without a substantial adverse effect on aeronautical operations. In all cases, consideration should be given to all known plans on file received by the end of the public comment period or before issuance of a determination if the case was not circularized.

### 6-3-2. SCOPE

Part 77 establishes standards for determining obstructions to air navigation. A structure that exceeds one or more of these standards is presumed to be a hazard to air navigation unless the aeronautical study determines otherwise. An obstruction evaluation must identify:

a. The effect the structure would have:

1. On existing and proposed public-use, private use with at least one FAA-approved instrument approach procedure, and DOD airports and/or aeronautical facilities.

2. On existing and proposed visual flight rule (VFR)/instrument flight rule (IFR) aeronautical

departure, arrival and en route operations, procedures, and minimum flight altitudes.

3. Regarding physical, electromagnetic, or line-of-sight interference on existing or proposed air navigation, communications, radar, and control systems facilities.

4. On airport capacity, as well as the cumulative impact resulting from the structure when combined with the impact of other existing or proposed structures.

b. Whether marking and/or lighting is necessary.

### 6-3-3. DETERMINING ADVERSE EFFECT

If a structure first exceeds the obstruction standards of Part 77, and/or is found to have physical or electromagnetic radiation effect on the operation of air navigation facilities, then the proposed or existing structure, if not amended, altered, or removed, has an adverse effect if it would:

a. Require a change to an existing or planned IFR minimum flight altitude, a published or special instrument procedure, or an IFR departure procedure for a public-use airport.

b. Require a VFR operation, to change its regular flight course or altitude. This does not apply to VFR military training route (VR) operations conducted under Part 137, or operations conducted under a waiver or exemption to the CFR.

c. Restrict the clear view of runways, helipads, taxiways, or traffic patterns from the airport traffic control tower cab.

d. Derogate airport capacity/efficiency.

e. Affect future VFR and/or IFR operations as indicated by plans on file.

f. Affect the usable length of an existing or planned runway.

### 6-3-4. DETERMINING SIGNIFICANT VOLUME OF ACTIVITY

The type of activity must be considered in reaching a decision on the question of what volume of aeronautical activity is “significant.” For example, if one or more aeronautical operations per day would be

affected, this would indicate regular and continuing activity, thus a significant volume no matter what the type of operation. However, an affected instrument procedure or minimum altitude may need to be used only an average of once a week to be considered significant if the procedure is one which serves as the primary procedure under certain conditions.

### **6-3-5. SUBSTANTIAL ADVERSE EFFECT**

A proposed structure would have, or an existing structure has, a substantial adverse effect if it causes electromagnetic interference to the operation of an air navigation facility or the signal used by aircraft, or if there is a combination of:

- a. Adverse effect as described in paragraph 6-3-3; and
- b. A significant volume of aeronautical operations, as described in paragraph 6-3-4, would be affected.

### **6-3-6. RESPONSIBILITY**

The FAA's obstruction evaluation program transcends organizational lines. In order to determine the effect of the structure within the required notice period, each office should forward the results of its evaluation within 15 working days to the Obstruction Evaluation Group (OEG) for further processing. In cases of evaluating the effects of a proposed wind turbine farm, see Appendix 12 for field air traffic control facility responsibility and procedures. Areas of responsibility are delegated as follows:

#### **a. OEG (Air Traffic) personnel must:**

- 1. Identify when the structure exceeds Section 77.23 (a)(1) (see FIG 6-3-1 thru FIG 6-3-6) and apply Section 77.23(b) (see FIG 5-2-4).
- 2. Identify the effect on existing and planned aeronautical operations, air traffic control procedures, and airport traffic patterns and making recommendations for mitigating adverse effect including marking and lighting recommendations.
- 3. Identify when the structure would adversely affect published helicopter route operations as specified in paragraph 6-3-8 subparagraph e, of this order, and forward the case to Flight Standards.

4. Identify whether obstruction marking/lighting are necessary and recommend the appropriate marking and/or lighting.

5. Identify when negotiations are necessary and conduct negotiations with the sponsor. This may be done in conjunction with assistance from other division/service area office personnel when their subject expertise is required (for example, in cases of electromagnetic interference).

6. Identify when circularization is necessary and conduct the required circularization process.

7. Evaluate all valid aeronautical comments received as a result of the circularization and those received as a result of the division evaluation.

8. Issue the determination (except as noted in paragraph 7-1-2, subparagraph b).

#### **b. Regional Airports Division personnel must:**

1. Verify that the airport/runway database has been reviewed, is correct, and contains all plans on file pertaining to the OE case.

2. Identify the structure's effect on existing and planned airports or improvements to airports concerning airport design criteria including potential restrictions/impacts on airport operations, capacity, efficiency and development, and making recommendations for eliminating adverse effect. Airports Divisions are not required to perform evaluations on OE cases that are further than 3 NM from the Airport Reference Point (ARP) of a public-use or military airport.

3. Determine the effect on the efficient use of airports and the safety of persons and property on the ground. Airports will resist structures and activities that conflict with an airport's planning, design, and/or recommendations from other divisions/service area offices.

#### **c. FPT personnel must:**

1. Identify when the structure exceeds Sections 77.23(a)(3), and 77.23(a)(4).

2. Identify the effect upon terminal area IFR operations, including transitions; radar vectoring; holding; instrument departure procedures; any segment of a standard instrument approach procedure (SIAP) or special SIAP, including proposed instrument procedures and departure areas; and making recommendations for eliminating adverse effect.

## **6-3-7. AIRPORT SURFACES AND CLEARANCE AREAS**

### **a. CIVIL AIRPORT SURFACES**

**1.** Civil airport imaginary surfaces are defined in Section 77.19 and are based on the category of each runway according to the type of approach (visual, nonprecision, or precision) available or planned for each runway end (see FIG 6-3-7). The appropriate runway imaginary surface must be applied to the primary surfaces related to the physical end of the specific runway surface that is usable for either takeoff or landing.

**2.** Approach Surface Elevation – Use the runway centerline elevation at the runway threshold and the elevation of the helipad as the elevation from which the approach surface begins (see Sections 77.19 and 77.23).

**3.** Heliport imaginary surfaces are defined in Section 77.23 and are based upon the size of the takeoff and landing area.

**4.** Planned Airport/Runway Improvements – Consider the planned runway threshold and approach type when there is a plan on file with the FAA or with an appropriate military service to extend the runway and/or upgrade its use or type of approach. The existing runway threshold and type of approach may be used for temporary structures/equipment, as appropriate.

**b. DOD AIRPORT SURFACES** – The obstruction standards in Section 77.19, Civil Airport Imaginary Surfaces, apply to civil operated joint-use airports. The obstruction standards in Section 77.21, DOD Airport Imaginary Surfaces, are applicable only to airports operated and controlled by a DOD service of the United States, regardless of whether use by civil aircraft is permitted.

**c. TERMINAL OBSTACLE CLEARANCE AREA** – The terminal obstacle clearance area specified in Section 77.17(a)(3) includes the initial, intermediate, final, and missed approach segments of an instrument approach procedure, and the circling approach and instrument departure areas. The applicable FAA approach and departure design criteria are contained in the 8260.3 Order series.

**d. EN ROUTE OBSTACLE CLEARANCE AREA** – The en route obstacle clearance area specified in Section 77.17(a)(4) is applicable when

evaluating the effect of a structure on an airway, a feeder route, and/or an approved off-airway route (direct route) as prescribed in the 8260.3 Order series.

## **6-3-8. EVALUATING EFFECT ON VFR OPERATIONS**

**a. PURPOSE.** These guidelines are for use in determining the effect of structures, whether proposed or existing, upon VFR aeronautical operations in the navigable airspace. The intent of these guidelines is to provide a basis for analytical judgments in evaluating the effect of structures on VFR operations.

### **b. CONSIDERATIONS**

**1. Minimum VFR Flight Altitudes.** Minimum VFR flight altitudes are prescribed by regulation. Generally speaking, from a VFR standpoint, the navigable airspace includes all airspace 500 feet AGL or greater and that airspace below 500 feet required for:

(a) Takeoff and landing, including the airport traffic pattern.

(b) Flight over open water and sparsely populated areas (an aircraft may not be operated closer than 500 feet to any person, vessel, vehicle, or structure).

(c) Helicopter operations when the operation may be conducted without hazard to persons and property on the surface.

**2. VFR Weather Minimums.** Proposed or existing structures potentially have the greatest impact in those areas where VFR operations are conducted when ceiling and/or visibility conditions are at or near VFR weather minimums. Any structure that would interfere with a significant volume of low altitude flights by actually excluding or restricting VFR operations in a specific area would have a substantial adverse effect and may be considered a hazard to air navigation.

**3. Marking and/or Lighting of Structures.** Not every structure penetrating the navigable airspace is considered to be a hazard to air navigation. Some may be marked and/or lighted so pilots can visually observe and avoid the structures.

**4. Shielded Structures.** A structure may be “shielded” by being located in proximity to other permanent structures or terrain and would not, by

itself, adversely affect aeronautical operations (see paragraph 6–3–13).

**5. Height Of Structures.** Structures are of concern to pilots during a climb after takeoff, low altitude operations, and when descending to land. Any structure greater than 500 feet AGL, or structures of any height which would affect landing and takeoff operations, requires extensive evaluation to determine the extent of adverse effect on VFR aeronautical operations.

**6. Airport Traffic Patterns.** The primary concern regarding structures in airport traffic pattern areas is whether they would create a dangerous situation during a critical phase of flight.

**7. Class B and C Airspace.** Structures that exceed obstruction standards in areas available for VFR flight below the floor of Class B or C airspace areas require careful evaluation. Class B and C airspace areas are designed to provide a more regulated environment for IFR and VFR traffic in and around certain airports. Consequently, the floors of some Class B and C areas compress VFR operations into airspace of limited size and minimum altitude availability.

**8. VFR Routes.** Pilots operating VFR frequently fly routes that follow rivers, coastlines, mountain passes, valleys, and similar types of natural landmarks or major highways, railroads, powerlines, canals, and other manmade structures. A VFR route may also be comprised of specific radials of a Very High Frequency Omnidirectional Range (VOR). These routes may correspond to an established Federal Airway, direct radials between navigation facilities, or a single radial providing transition to a route predicated on visual aids. While there may be established minimum en route altitudes for segments of these routes and navigation is dependent upon adequate signal reception, a VFR pilot may fly at an altitude below the established minimum altitude in order to maintain visual contact with the ground. The basic consideration in evaluating the effect of obstructions on operations along these routes is whether pilots would be able to visually observe and avoid them during marginal VFR weather conditions. At least 1-mile flight visibility is required for VFR operations beneath the floor of controlled airspace. This means that a surface reference used for VFR low altitude flight must be horizontally visible to pilots for a minimum of 1 mile.

**c. EN ROUTE OPERATIONS.** The area considered for en route VFR flight begins and ends outside the airport traffic pattern airspace area or Class B, C, and D airspace areas.

**1.** A structure would have an adverse effect upon VFR air navigation if its height is greater than 499 feet above the surface at its site, and within 2 statute miles of any regularly used VFR route (see FIG 6–3–8).

**2.** Evaluation of obstructions located within VFR routes must recognize that pilots may, and sometimes do, operate below the floor of controlled airspace during low ceilings and 1-mile flight visibility. When operating in these weather conditions and using pilotage navigation, these flights must remain within 1 mile of the identifiable landmark to maintain visual reference. Even if made more conspicuous by the installation of high intensity white obstruction lights, a structure placed in this location could be a hazard to air navigation because after sighting it, the pilot may not have the opportunity to safely circumnavigate or overfly the structure.

**3. VFR DOD TRAINING ROUTES (VR) –** Operations on VRs provide DOD aircrews low altitude, high speed navigation and tactics training, and are a basic requirement for combat readiness (see FAA Order JO 7610.4, Special Operations). Surface structures have their greatest impact on VFR operations when ceiling and visibility conditions are at or near basic VFR minimums. Accordingly, the guidelines for a finding of substantial adverse effect on en route VFR operations are based on consideration for those operations conducted under part 91 that permits flight clear of clouds with 1 mile flight visibility outside controlled airspace. In contrast, flight along VRs can be conducted only when weather conditions equal or exceed 3,000 feet ceiling and 5 miles visibility. A proposed structure's location on a VR is not a basis for determining it to be a hazard to air navigation; however, in recognition of the DOD's requirement to conduct low altitude training, disseminate Part 77 notices and aeronautical study information to DOD representatives. Additionally, attempt to persuade the sponsor to lower or relocate a proposed structure that exceeds obstruction standards and has been identified by the DOD as detrimental to its training requirement.

that the affected MEA is not normally flown by aircraft, nor used for air traffic control purposes.

**2. Minimum Obstruction Clearance Altitudes (MOCA).** MOCAs assure obstacle clearance over the entire route segment to which they apply and assure navigational signal coverage within 22 NM of the associated VOR navigational facility. For that portion of the route segment beyond 22 NM from the VOR, where the MOCA is lower than the MEA and there are no plans to lower the MEA to the MOCA, a structure that affects only the MOCA would not be considered to have substantial adverse effect. Other situations require study as ATC may assign altitudes down to the MOCA under certain conditions.

**3. Minimum IFR Altitudes (MIA).** These altitudes are established in accordance with Order 7210.37, En Route Minimum IFR Altitude Sector Charts, to provide the controller with minimum IFR altitude information for off-airway operations. MIAs provide the minimum obstacle clearance and are established without respect to flight-checked radar or normal radar coverage. Any structure that would cause an increase in a MIA is an obstruction, and further study is required to determine the extent of adverse effect. Radar coverage adequate to vector around such a structure is not, of itself, sufficient to mitigate a finding of substantial adverse effect that would otherwise be the basis for a determination of hazard to air navigation.

**4. IFR Military Training Routes (IRs) – Operations on IR's** provide pilots with training for low altitude navigation and tactics (see FAA Order JO 7610.4, Special Operations). Flight along these routes can be conducted below the minimum IFR altitude specified in part 91, and the military conducts operational flight evaluations of each route to ensure compatibility with their obstructions clearance requirements. A proposed structure's location on an IR is not a basis for determining it to be a hazard to air navigation; however, in recognition of the military's requirement to conduct low altitude training, disseminate Part 77 notices and aeronautical study information to military representatives. Additionally, attempt to persuade the sponsor to lower, or relocate proposed structures that exceed obstruction standards and have been identified by the military as detrimental to their training requirement.

**5. Radar Bomb Sites (RBS) –** These sites are a vital link in the low level training network used by the

U.S. Air Force to evaluate bomber crew proficiency. They provide accurate radar records for aircraft flying at low altitudes attacking simulated targets along the RBS scoring line. An obstruction located within the flights' RBS boundaries may have a substantial adverse effect and a serious operational impact on military training capability.

**e. TERMINAL AREA IFR OPERATIONS.** The obstruction standards contained in part 77 are also used to identify obstructions within terminal obstacle clearance areas. Any structure identified as an obstruction is considered to have an adverse effect; however, there is no clear-cut formula to determine what extent of adverse effect is considered substantial. Instrument approach and departure procedures are established in accordance with published obstacle clearance guidelines and criteria. However, there are segments of instrument approach procedures where the minimum altitudes may be revised without substantially effecting landing minimums. Thus, the determination must represent a decision based on the best facts that can be obtained during the aeronautical study.

**1. Instrument Approach Procedures (IAP)/Special SIAP.** Flight Procedures Team personnel are responsible for evaluating the effect of structures upon any segment of an IAP/Special SIAP, any proposed IAP/Special SIAP, or any departure restriction. However, all FAA personnel involved in the obstruction evaluation process should be familiar with all aspects of the terminal area IFR operations being considered. If Flight Procedures Team personnel determine that a structure will affect instrument flight procedures, their evaluation should include those procedural adjustments that can be made without adversely affecting IFR operations. When the study discloses that procedural adjustments to reduce or mitigate any adverse effect cannot be accomplished, then the comments to air traffic must identify the significance of this effect on procedures and aeronautical operations.

**NOTE–**

*This paragraph applies to any IAP and Special SIAP at public-use and private-use airports.*

**2. Minimum Vectoring Altitudes (MVA).** These altitudes are based upon obstruction clearance requirements only (see Order 8260.19). The area considered for obstacle clearance is the normal operational use of the radar without regard to the flight-checked radar coverage. It is the responsibility

of individual controllers to determine that a target return is adequate for radar control purposes. MVAs are developed by terminal facilities, approved by the Terminal Procedures and Charting Group and published for controllers on MVA Sector Charts. Any structure that would cause an increase in an MVA is an obstruction and a study is required to determine the extent of adverse effect. Radar coverage adequate to vector around such a structure is not, of itself, sufficient to mitigate a finding of substantial adverse effect that would otherwise be the basis for a determination of hazard to air navigation.

**3. Military Airports.** With the exception of the U.S. Army, the appropriate military commands establish and approve terminal instrument procedures for airports under their respective jurisdictions. Consequently, the OEG must ensure that the military organizations are provided the opportunity to evaluate a structure that may affect their operations. While the military has the responsibility for determining the effect of a structure, it is expected that the FPT will assist air traffic in reconciling differences in the military findings.

**4. Departure Procedures.** TERPS, Chapter 12, Civil Utilization of Area Navigation (RNAV) Departure Procedures, contains criteria for the development of IFR departure procedures. An obstacle that penetrates the 40:1 departure slope is considered to be an obstruction to air navigation. Further study is required to determine if adverse effect exists. Any proposed obstacle that penetrates the 40:1 departure slope, originating at the departure end of runway (DER) by up to 35 feet will be circularized. If an obstacle penetrates the 40:1 departure slope by more than 35 feet, it is presumed to be a hazard, and a Notice of Presumed Hazard will be issued, and processed accordingly. Analysis by the Terminal Procedures and Charting Group and air traffic personnel is necessary to determine if there would be a substantial adverse effect on the navigable airspace.

**5. Minimum Safe Altitudes (MSA).** A MSA is the minimum obstacle clearance altitude for emergency use within a specified distance from the navigation facility upon which a procedure is predicated. These are either Minimum Sector Altitudes, established for all procedures within a

25-mile radius of the navigational facility (may be increased to 30 miles under certain conditions), or Emergency Safe Altitudes, established within a 100-mile radius of the navigation facility and normally used only in military procedures at the option of the approval authority. These altitudes are designed for emergency use only and are not routinely used by pilots or by air traffic control. Consequently, they are not considered a factor in determining the extent of adverse effect, used as the basis of a determination, or addressed in the public notice of an aeronautical study.

**f. CONSIDERING ACCURACY.** Experience has shown that submissions often contain elevation and/or location errors. For this reason, the Flight Procedures Team uses vertical and horizontal accuracy adjustments, as reflected below, to determine the effect on IFR operations.

**1. Accuracy Application –** Current directives require the FPT to apply accuracy standards to obstacles when evaluating effects on instrument procedures. These accuracy standards typically require an adjustment of 50 feet vertically and 250 feet horizontally to be applied in the most critical direction. Normally, these adjustments are applied to those structures that may become the controlling obstructions and are applicable until their elevation and location are verified by survey.

**2. Certified Accuracy –** The FPT must notify air traffic whenever certified accuracy is needed to determine if the structure will have an adverse effect. Air traffic must then contact the sponsor to request a surveyed verification of the elevation and location. The acceptable accuracy verification method must be provided and certified by a licensed engineer or surveyor. The survey must include the plus or minus accuracy required by the FPT, as well as the signature of the engineer/surveyor and the appropriate seal.

**3. Determination –** A final determination based on improved accuracy must not be issued until after the certified survey is received and evaluated.

**4. Survey Information Distribution –** When the certified survey is received, Air Traffic personnel must ensure that the survey information is provided to FPT personnel and must send to AeroNav a copy of the survey attached to the FAA Form 7460-2, Notice of Actual Construction or Alteration.

# Part 4. Terminal and En Route Airspace

## Chapter 14. Designation of Airspace Classes

### Section 1. General

#### 14-1-1. PURPOSE

In addition to the policy guidelines and procedures detailed in Part 1 of this order, this part prescribes specific policies and procedures for managing terminal and en route airspace cases.

#### 14-1-2. CONTROLLED AIRSPACE

Controlled airspace is airspace of defined dimensions within which ATC service is provided to IFR and VFR flights in accordance with the airspace classification. Within controlled airspace, all aircraft operators are subject to certain qualification, operating, and aircraft equipment requirements (see Title 14 CFR Part 91). Controlled airspace in the United States is designated in 14 CFR Part 71 as follows:

**a. CLASS A AIRSPACE.** That airspace from 18,000 feet MSL to FL 600, including the airspace overlying the waters within 12 nautical miles (NM) of the coast of the 48 contiguous States and Alaska. Unless otherwise authorized, all persons must operate their aircraft under IFR.

**b. CLASS B AIRSPACE.** Generally, that airspace from the surface to 10,000 feet MSL surrounding the nation's busiest airports in terms of airport operations or passenger enplanements. The configuration of each Class B airspace area is individually tailored and consists of a surface area and two or more layers, and is designed to contain all published instrument procedures. An ATC clearance is required for all aircraft to operate in the area, and all aircraft that are so cleared receive separation services within the airspace. The cloud clearance requirement for VFR operations is "clear of clouds."

**c. CLASS C AIRSPACE.** Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a

certain number of IFR operations or passenger enplanements. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area with a 5 NM radius, an outer circle with a 10 NM radius that extends from no lower than 1,200 feet up to 4,000 feet above the airport elevation. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace, and thereafter maintain those communications while within the airspace.

**d. CLASS D AIRSPACE.** Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace, and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft, except as noted in FAA Orders JO 7110.65, Air Traffic Control; and JO 7210.3, Facility Operation and Administration.

**e. CLASS E AIRSPACE.** Class E airspace is controlled airspace that is designated to serve a variety of terminal or en route purposes as described in this paragraph. Class E airspace consists of:

**1.** The airspace extending upward from 14,500 feet MSL to, but not including, 18,000 feet MSL overlying the 48 contiguous States, the District of Columbia and Alaska, including the waters within 12 NM from the coast of the 48 contiguous States and Alaska; excluding the Alaska Peninsula west of longitude 160°00'00"W., and the airspace below 1,500 feet above the surface of the earth. (The

1,500 feet above the surface exclusion from Class E airspace above 14,500 feet MSL would apply in mountainous terrain areas.)

2. The airspace above FL 600.

3. Surface area designation for an airport where a control tower is not in operation and for non-towered airports. Class E surface areas extend upward from the surface to a designated altitude, or to the adjacent or overlying controlled airspace. When designated, the airspace will be configured to contain all instrument procedures.

4. Extension to a surface area. Airspace designated as extensions to Class C, Class D, and Class E surface areas. Class E airspace extensions begin at the surface and extend upward to the overlying controlled airspace. The extensions provide controlled airspace to contain standard instrument approach procedures without imposing communication requirements on pilots operating in visual meteorological conditions.

5. Airspace used for transition. Airspace extending upward from either 700 feet or 1,200 feet AGL to the overlying controlled airspace designated for transitioning aircraft to/from the terminal or en route environments.

6. Federal airways and low-altitude RNAV routes. Federal airways and low-altitude RNAV routes are Class E airspace and unless otherwise specified, extend upward from 1,200 feet AGL to, but not including, 18,000 feet MSL.

7. Offshore/Control Airspace Areas. Airspace designated in international airspace, extending outward from 12 NM from the coast of the United States to the CTA/FIR boundary, in accordance with the criteria in 14 CFR Part 71, within which the United States applies domestic ATC procedures.

8. En Route Domestic Airspace. Airspace extending upward from a specified altitude to, but not including, 18,000 feet MSL designated for providing IFR en route ATC services where the Federal airway system is inadequate.

### 14-1-3. UNCONTROLLED AIRSPACE

Airspace that is not designated in 14 CFR Part 71 as Class A, Class B, Class C, Class D, or Class E controlled airspace is Class G (uncontrolled) airspace.

### 14-1-4. FRACTIONAL MILES

Unless otherwise stated, all distances are nautical miles. When figuring the size of surface areas and Class E airspace or their extensions, any fractional part of a mile must be converted to the next higher 0.1-mile increment.

#### *EXAMPLE-*

*3.62 miles would be considered to be 3.7 miles.*

### 14-1-5. AIRSPACE LEGAL DESCRIPTION

a. A text header must be used and include the following information:

1. On line one:

- (a) FAA routing symbol of the region.
- (b) Two-letter abbreviation of the state.
- (c) Type of airspace.
- (d) Location (City, State)

2. On line two: Enter the name of the airport (Name, State) for which the airspace is designated.

3. On line three: Enter the geographic coordinates for the airport for which the airspace is designated.

#### *NOTE-*

*This does not apply to en route domestic airspace areas.*

4. If applicable, on subsequent lines: Enter the name of any NAVAID or airport, point of origin, or other reference used in the legal description. Include the NAVAID or airport geographic coordinates on the line following the name.

b. State vertical limits in the first sentence of the text.

c. Do not restate geographic coordinates used in the text header in the legal description text.

d. If applicable, use a semicolon to separate the description of geographically separate sub-areas.

## 14-1-6. EXAMPLES OF TERMINAL AIRSPACE LEGAL DESCRIPTIONS

### NOTE-

*For part-time areas add the following words to the basic legal description:*

*“This Class (add appropriate letter) airspace area is effective during the specific dates and times established in advance by a Notice to Airmen. The effective date and time will thereafter be continuously published in the Chart Supplement.”*

#### a. EXAMPLE 1-

### ANE MA B BOSTON, MA

Logan International Airport, MA (Primary Airport)

(lat. 42°21'51"N., long. 70°59'22"W.)

Boston VORTAC

(lat. 42°21'27"N., long. 70°59'22"W.)

### Boundaries.

**Area A.** That airspace extending upward from the surface to and including 7,000 feet MSL within an 8-mile radius of the Boston VORTAC.

**Area B.** That airspace extending upward from 2,000 feet MSL to and including 7,000 feet MSL within a 10.5-mile radius of the Boston VORTAC, excluding Area A.

**Area C.** That airspace extending upward from 3,000 feet MSL to and including 7,000 feet MSL within a 20-mile radius of the Boston VORTAC, excluding Areas A and B previously described and that airspace within and underlying Area D described hereinafter.

**Area D.** That airspace extending upward from 4,000 feet MSL to and including 7,000 feet MSL between the 15- and 20-mile radii of the Boston VORTAC extending from the Boston VORTAC 230° radial clockwise to the Boston VORTAC 005° radial.

#### b. EXAMPLE 2-

### ANM MT C Billings, MT

Billings Logan International Airport, MT

(lat. 45°48'30"N., long. 108°32'38"W.)

That airspace extending upward from the surface to and including 7,700 feet MSL within a 5-mile radius of the Billings Logan International Airport; and that airspace extending upward from 4,900 feet MSL to and including 7,700 feet MSL within a 10-mile radius of the airport.

#### c. EXAMPLE 3-

### AGL MN D Duluth, MN

Duluth International Airport, MN

(lat. 46°50'32"N., long. 92°11'38"W.)

That airspace extending upward from the surface to and including 3,900 feet MSL within a 4.9-mile radius of Duluth International Airport.

#### d. EXAMPLE 4-

### AEA VA E2 Danville, VA

Danville Regional Airport, VA

(lat. 36°34'22"N., long. 79°20'10"W.)

That airspace extending upward from the surface within a 5-mile radius of Danville Regional Airport and within 2.4-miles each side of a 208° bearing from the airport, extending from the 5-mile radius to 7 miles southwest of the airport, and within 2.4-miles each side of a 016° bearing from the airport, extending from the 5-mile radius to 7 miles northeast of the airport.



# Chapter 15. Class B Airspace

## Section 1. General

### 15-1-1. PURPOSE

**a.** Class B airspace areas are designed to improve aviation safety by reducing the risk of midair collisions in the airspace surrounding airports with high-density air traffic operations. Aircraft operating in these airspace areas are subject to certain operating rules and equipment requirements.

**b.** Additionally, Class B airspace areas are designed to enhance the management of air traffic operations to and from the airports therein, and through the airspace area.

### 15-1-2. NONRULEMAKING ALTERNATIVES

Before initiating a Class B airspace proposal, determine if there are nonrulemaking alternatives that could resolve the issue(s). If nonrulemaking alternatives resolve the issue(s), no Class B rulemaking action is required.

### 15-1-3. RESPONSIBILITIES

**a.** The Airspace Policy Group is responsible for oversight of the Class B airspace designation/modification process and issuance of all informal airspace meeting notices, NPRMs, and final rules. The Airspace Policy Group will provide assistance, as needed, to the service centers in developing Class B airspace proposals.

**b.** The service center is responsible for coordination to determine Class B airspace candidacy or the need for modifications to an existing area. As part of this responsibility, the service center must perform an analysis of a staff study accomplished by the appropriate ATC facility. All Class B airspace establishment or modification plans must be coordinated with the Airspace Policy Group before any public announcement.

### 15-1-4. SERVICE CENTER EVALUATION

**a.** Service centers must biennially evaluate existing Class B airspace areas to determine if the area continues to meet the purpose of Class B airspace and if airspace modifications are required. The evaluation should consider, but is not limited to, the following:

**1.** The Class B airspace guidance in this chapter;

**2.** Review the current configuration to determine if:

**(a)** It ensures the containment of instrument procedures (i.e., is there a history of Class B excursions?);

**(b)** Any lateral or vertical gaps exist between adjacent airspace areas where VFR flight could increase hazards for Class B operations; or if the configuration contains any “traps” or “dead-end” corridors for VFR aircraft.

**3.** Airspace modeling results (PDARS, TARGETS, etc.);

**4.** Controller input and user feedback;

**5.** Applicable safety data; for example:

**(a)** Traffic Alert and Collision Avoidance System (TCAS) events;

**(b)** Air Traffic Safety Action Program (ATSAP);

**(c)** Aviation Safety Reporting System (ASRS);

**(d)** Mandatory Occurrence Reports (MOR);

**(e)** Near Midair Collision (NMAC) reports;

**(f)** FAA Aviation Safety Information Analysis and Sharing (ASIAS) System; and

**(g)** Other sources as appropriate.

**6.** Significant changes in primary airport traffic flows, runway utilization, or instrument procedures that affect the Class B configuration;

**7.** Secondary/satellite airport operations affecting Class B operations or controller workload;

**8.** Planning activities such as construction of new runways, changes to existing runways (for example, decommissioned, lengthened, etc.), development of new instrument procedures, or cancellation of existing procedures, resectorization plans (determine whether planned changes require Class B airspace modifications);

**9.** Need for charting enhancements: Sectional Aeronautical Chart, Terminal Area Chart (TAC), VFR Flyway Planning Chart; and

**REFERENCE-**

FAA Order JO 7210.3, Para 10-1-4, Sectional Aeronautical and Terminal Area Charts.

**10.** Any other factors deemed relevant to the

Class B airspace area being evaluated.

**b.** If the evaluation indicates that airspace modifications should be made, service centers must follow the applicable procedures in this Order.

**c.** In addition to the biennial evaluation, airspace specialists should maintain coordination with planners (such as Metroplex, NextGen, Performance-Based Navigation, FPT, etc.) for awareness of instrument flight procedures under development to determine if they will be contained within the existing Class B airspace configuration. If the planned procedures would exit the existing Class B airspace, initiate a corresponding Class B modification project.

## Section 2. Class B Airspace Planning

### 15-2-1. CRITERIA

a. The criteria for considering a given airport as a candidate for a Class B airspace designation must be based on the volume of aircraft, the number of enplaned passengers, and an assessment of the midair collision risk in the terminal area.

b. For a site to be considered as a new Class B airspace candidate, the following criteria must be met:

1. The primary airport serves at least 5 million passengers enplaned annually;

2. The primary airport has a total airport operations count of 300,000 (of which at least 240,000 are air carriers and air taxi); and

**NOTE-**

*Operation counts are available from the Office of Aviation Policy and Plans, Statistics and Forecast Branch, APO-110. Enplaned passenger counts may be obtained by contacting the Office of Airport Planning and Programming Division, APP-1. Current validated counts are normally available in mid-October of the current year for the previous year.*

3. The Class B designation will contribute to the efficiency and safety of operations, and is necessary to correct a current situation or problem that can not be solved without a Class B designation.

**NOTE-**

*The above is the minimum criteria. It should be noted that when the criteria for the establishment of a Class B airspace area is met, it is merely an indication that the facility is a candidate for further study.*

c. These criteria are subject to periodic review by the Airspace Policy Group and service centers to determine whether adjustments are required.

### 15-2-2. DESIGNATION

Class B airspace locations must include at least one primary airport around which the Class B airspace area is designated.

### 15-2-3. CONFIGURATION

a. **General Design.** There is no standard Class B design. Instead, the size and shape of the Class B

airspace area will vary depending upon location-specific ATC operational and safety requirements. The Class B airspace design should be as simple as practical, with the number of sub-areas kept to a minimum. Its vertical and lateral limits must be designed to contain all instrument procedures at the primary airport(s) within Class B airspace.

1. Designers have the flexibility to use the configuration that best meets the purposes of reducing the midair collision potential, assures containment of instrument procedures, and enhances the efficient use of airspace.

2. Ensure that the design does not contain lateral or vertical gaps between adjacent airspace where VFR flight could pose increased hazards for Class B operations.

3. Avoid configurations that create “traps” or “dead-end” corridors for VFR aircraft attempting to navigate the area.

b. **Lateral Boundaries.** Boundaries may be defined using a variety of techniques such as latitude/longitude points, Fix/Radial/Distance references, NAVAIDs, alignment to coincide with prominent landmarks or terrain features (where feasible), etc.

1. The airspace should be centered on the airport reference point (ARP), an on-airport NAVAID, or a “point-of-origin” (defined by latitude/longitude coordinates), as dictated by local requirements.

2. The outer limits of the airspace should extend to the minimum distance necessary to provide containment of instrument procedures, including radar vectoring, but must not extend beyond 30 NM from the primary airport. This will ensure that the Class B boundaries remain within the 30 NM “Mode-C Veil.” The boundaries should be designed considering operational needs, runway alignment, adjacent regulatory airspace, and adjacent airport traffic.

3. If a circular design is appropriate, the airspace may be configured in concentric circles to include a surface area and intermediate and outer shelf sub-areas. A combination of circular and linear boundaries may also be used, as required.

(a) The surface area should be designed based on operational needs, runway alignment, adjacent regulatory airspace, or adjacent airports, but must encompass, as a minimum, all final approach fixes.

(b) The intermediate and outer shelf sub-areas may be subdivided based on terrain and other regulatory airspace, but must contain instrument procedures.

**c. Vertical Limits.** The upper limit of the airspace should not exceed 10,000 feet MSL. However, high airport field elevation, adjacent high terrain, or operational factors may warrant a ceiling above 10,000 feet MSL.

1. The surface area extends from the surface to the upper limit of the Class B airspace. This area may be adjusted to coincide with runway alignment, adjacent airports, other regulatory airspace, etc., but must encompass, as a minimum, all final approach fixes and minimum altitudes at the final approach fix.

2. The altitude floors of sub-areas should step up with distance from the airport. Determination of sub-area floors should be predicated on instrument procedure climb/descent gradients to ensure containment of the procedures. Sub-area floors may be adjusted to have various floor altitudes considering terrain, adjacent regulatory airspace, and common vectored flight paths that are not on procedures.

3. Sub-area exclusions are permitted to accommodate adjacent regulatory airspace and/or terrain.

4. Different Class B altitude ceilings may be designated for specific sub-areas if there is an operational or airspace efficiency advantage, provided this would not cause pilot confusion or lead to inadvertent intrusions into, or excursions from, Class B airspace. Address the need for different altitude ceilings in the staff study.

**d. Variations.** Variation from the above lateral or vertical design guidance is permissible, but must be justified in the staff study and recommended by the service center.

**e. Satellite Airports.** When establishing Class B airspace floors, consider the adverse effect on satellite airport operations. When airspace directly over a satellite airport is not required, it should be excluded from the Class B airspace. Special published traffic patterns, and/or procedures may be required for satellite airports.

#### 15-2-4. IFR TRANSITION ROUTES

If ATC operational factors and traffic permit, consider whether RNAV T-routes could be developed to guide transiting pilots to fly through, or navigate around, the Class B airspace area.

#### 15-2-5. VFR CONSIDERATIONS

To the extent feasible, procedures must be developed to accommodate VFR aircraft desiring to transit the Class B airspace (See FAA Order JO 7210.3, Facility Operation and Administration, Chapter 11, National Programs). The following charts can assist pilots in identifying Class B boundaries and to transit or circumnavigate the area.

**a. VFR Terminal Area Charts (TAC).** TAC charts are published for most Class B airspace areas. They provide detailed information needed for flight within or in the vicinity of Class B airspace.

**b. Charted VFR Flyway Planning Charts.** VFR Flyway Planning Charts are published on the back of selected TAC charts. The Flyway Planning Charts are intended to facilitate VFR transitions through high-density areas. They depict generalized VFR routing clear of major controlled traffic flows. An ATC clearance is not required to fly these routes. If not already published, Class B facilities are encouraged to develop a flyway planning chart.

#### 15-2-6. CHART ENHANCEMENTS

Consider enhancements to TAC and VFR Flyway Planning Charts that would increase situational awareness for VFR pilots and others transiting the area, aid the identification of Class B boundaries, and assist pilots desiring to avoid the Class B airspace. Example chart depictions include, but are not limited to:

**a.** Identification of key boundary points with a combination of latitude/longitude coordinates and NAVAID fix/radial/distance information (if available).

**b.** Prominent landmarks or terrain features easily visible from the air.

**c.** VFR checkpoints (“Flags”).

**d.** IFR arrival and departure routes to/from the primary airport. Explore the feasibility of including significant IFR arrival/departure routes at secondary airports.

e. GPS and VFR waypoints placed in and around the Class B airspace to assist pilots in transiting or avoiding the airspace.

**NOTE-**

*See FAA Order JO 7210.3 (Chapters 10 and 11) for descriptions of TAC and VFR Flyway Planning Charts and the instructions for establishing, modifying, and review of the charts.*



## Section 3. Class B Airspace Processing

### 15-3-1. OVERVIEW

Class B airspace actions require rulemaking under 14 CFR Part 71. Due to their size and operating requirements, Class B airspace proposals tend to be controversial with processing times extending to several years. This section describes the steps required from the development of a Class B proposal through the issuance of a final rule that implements the airspace change.

### 15-3-2. STAFF STUDY

A Staff Study is required to identify and document the need to establish or modify a Class B airspace area. The study will be used to determine if an ad hoc committee should be formed to begin the airspace change process. The content of the study will depend on site-specific details for the situation being considered. The following is a list of suggested items for the study. This list and study format may be modified as needed.

**a. Executive Summary.** A one-page summary that describes the problem, alternatives considered, and justification for the proposed airspace change request.

**b. Background.** Describe the current operation and aviation activity in the area and forecast data for the primary and secondary airports.

#### 1. Primary airport(s).

**(a)** Current passenger enplanement count.

**(b)** Airport(s)' latest total annual operations count.

#### 2. Secondary/satellite airport(s).

**(a)** Current passenger enplanement count.

**(b)** Airport(s)' total operations count.

**(c)** Types of operations conducted (for example, flight school training, gliders, parachuting, Unmanned Aircraft System (UAS) activities, etc.).

#### 3. Description of the terminal area.

**(a)** IFR and VFR departure and arrival traffic flows at primary and secondary/satellite airports.

**(b)** Existing routes and altitudes that IFR and VFR traffic use while operating en route through the area or transitioning to/from all affected airports.

**(c)** Numbers of VFR operations that receive ATC services that are denied service, and that circumnavigate the present terminal airspace configuration.

#### **NOTE-**

*Include any anticipated increase or decrease in these numbers if the Class B airspace configuration is designated or modified as proposed.*

#### 4. Adjacent airspace considerations.

**(a)** Other ATC facility delegated airspace.

**(b)** Special use airspace.

**(c)** Unique geographical features.

5. Overflight traffic volume affecting Class B operations.

6. FAA Terminal Area Forecast (TAF) data. Include the latest TAF data for the primary and key secondary airports.

#### c. Statement of the Problem.

1. Identify and document the operational issue(s). Explain how safety and the efficient management of air traffic operations in and through the terminal area are affected.

2. Provide supporting data to illustrate the operational issue(s), such as TCAS Resolution Advisories, Near Midair Collision (NMAC) reports, airspace modeling graphics, containment issue documentation, controller/user input, etc.

**d. Alternatives Considered.** Non-rulemaking alternatives must be examined before proposing rulemaking airspace changes, such as:

1. Are there internal measures that could resolve the problem (for example, new equipment/control positions, changing facility procedures, resectorization, etc.?)

2. Modification of instrument procedures.

3. Pilot/Controller education programs.

**e. Analysis of staffing options and issues, such as:**

1. Current staffing status and the anticipated staffing requirements for implementing the proposed Class B airspace.

2. Impact on air traffic and air navigation facilities, including new or modified control positions required; and new, or relocation of existing, navigational aids/communication equipment.

**f. Preliminary airspace design.**

1. A written description of the complete Class B airspace area including full boundaries of all sub-areas, existing and proposed. (For examples, see FAA Order JO 7400.11, Airspace Designations and Reporting Points.)

2. A depiction of the preliminary Class B airspace configuration on a VFR aeronautical chart.

3. An explanation of how the preliminary airspace design addresses the operational issue.

4. Discussion of any anticipated adverse impacts on nonparticipating aircraft.

**g. Charting.** Consider enhancements to the VFR TAC that add information to assist pilots in identifying Class B boundaries, navigating through the area, or avoiding Class B airspace. Examples include, but are not limited to:

1. Depiction of prominent terrain features or landmarks.

2. Proposed VFR Flyways, with associated recommended altitudes that would be charted to accommodate VFR aircraft desiring to avoid the Class B airspace area.

**REFERENCE-**  
FAA Order JO 7210.3, Chapter 11, Section 5, VFR Flyway Planning Chart Program.

3. VFR corridor and transition routes to transit through the Class B airspace area.

4. GPS waypoints and VFR checkpoints.

5. RNAV routes for transiting or deviating around the Class B airspace.

**NOTE-**  
TAC chart content is separate from the Class B rulemaking process. Service centers/ATC facilities must coordinate chart content/design requests directly with Aeronautical Information Services.

**h. Environmental considerations.**

**i. Conclusions.** Explain how the proposed airspace designation/modification will reduce the midair collision potential and enhance safety and efficiency in the terminal area.

### 15-3-3. PRE-NPRM AIRSPACE USER COORDINATION

The service center must ensure that user input is sought and considered before formulating any proposed Class B airspace area design.

**a.** An ad hoc advisory committee, composed of representatives of local airspace users, must be formed to present input or recommendations to the FAA regarding the proposed design of the Class B airspace area (See Chapter 14 of this order).

**b.** Informal airspace meeting(s) must be conducted in accordance with Chapter 2 of this order.

**c.** Based on the results of the service center's analysis of the staff study and user input, the service center determines whether the proposal should be continued to NPRM or terminated.

### 15-3-4. NPRM PHASE

**a.** The air traffic facility, assisted by the appropriate service center office, will develop a proposed Class B airspace design, incorporating user input, to be published in an NPRM.

**NOTE-**

*If modifying an existing Class B area that has a published Charted VFR Flyway Planning Chart, determine if changes are also needed to the flyways to ensure there are no conflicts with the proposed Class B design. Service centers/ATC facilities must coordinate flyway chart changes directly with Aeronautical Information Services (See FAA Order JO 7210.3).*

**b.** The service center will submit a memorandum to the Airspace Policy Group to initiate rulemaking action. The memorandum must summarize the background, requirement, justification, and service center recommendation. Include, as attachments, the following information:

1. Ad hoc Committee Report.

2. Informal Airspace Meeting summary(ies) and comments submitted.

3. Responses to substantive ad hoc committee recommendations and Informal Airspace Meeting public comments received.

4. Written proposed Class B airspace description.

5. An explanation of how the proposed airspace design addresses the operational issue.

**6.** Any other pertinent information.

**c.** The Airspace Policy Group will prepare the NPRM for publication in the Federal Register. A 60-day comment period applies to Class B NPRMs.

**15-3-5. POST-NPRM PROCESSING**

**a.** The service center must:

**1.** Review all comments received in response to the NPRM.

**2.** Coordinate with the ATC facility(ies) to address all substantive aeronautical comments.

**3.** Finalize the Class B airspace design for submission to the Airspace Policy Group.

**4.** Submit a memorandum to the Airspace Policy Group with recommendations for final action

on the proposal. Include, as attachments, the following information:

**(a)** A discussion of how each substantive comment was addressed.

**(b)** The final version of the Class B airspace description. Explain any differences from the NPRM design.

**(c)** The requested airspace effective date (must match the Sectional/TAC chart date).

**5.** If required, coordinate Sectional, TAC, and VFR Flyway charting changes with Aeronautical Information Services (AIS).

**b.** The Airspace Policy Group will review the service center package and prepare the final rule for publication in the Federal Register.



# Chapter 16. Class C Airspace

## Section 1. General

### 16-1-1. PURPOSE

Class C airspace areas are designed to improve aviation safety by reducing the risk of midair collisions in the terminal area and enhance the management of air traffic operations therein. Aircraft operating in these airspace areas are subject to certain operating rules and equipment requirements.

### 16-1-2. NONRULEMAKING ALTERNATIVES

Before initiating a Class C airspace proposal, determine if there are nonrulemaking alternatives that could resolve the operational issue(s). If nonrulemaking alternatives resolve the issue(s), no Class C rulemaking action is required.

### 16-1-3. RESPONSIBILITIES

**a.** The Airspace Policy Group is responsible for oversight of the Class C airspace designation/modification process and issuance of all Notices of Proposed Rulemaking (NPRM) and final rules. The Airspace Policy Group will provide assistance, as needed, to the service centers in developing Class C airspace proposals.

**b.** The service center is responsible for coordination to determine Class C airspace candidacy or the need for modifications to an existing area. All Class C airspace establishment or modification plans must be coordinated with the Airspace Policy Group prior

to any public announcement. The service center must perform an analysis of the Class C airspace candidate and document the analysis in a staff study. Preparation of the staff study may be delegated to the facility.

### 16-1-4. SERVICE CENTER EVALUATION

**a.** Service centers must biennially evaluate existing Class C airspace areas to determine if the area meets candidacy requirements, satisfies the intended purpose of reducing the potential for midair collision, and enhances the management of air traffic operations in the terminal area. Some suggested evaluation considerations include, but are not limited to:

1. The Class C standards in this chapter;
2. Airspace modeling results (PDARS, TARGETS, etc.);
3. Traffic Alert Collision Avoidance System – Resolution Advisories;
4. User feedback/controller input;
5. Safety reports (ATSAP, ASRS, etc.);
6. Significant changes in airport operations and/or terminal area traffic flows; and/or
7. Airport runway configuration changes.

**b.** If the evaluation indicates that airspace modifications should be made, service centers must follow the applicable procedures in this Order.



## Section 2. Class C Airspace Planning

### 16-2-1. CRITERIA

**a.** The criteria for considering a given airport as a candidate for Class C designation is based on the volume of aircraft or number of enplaned passengers, the traffic density, and the type or nature of operations being conducted.

**b.** For a site to be considered as a candidate for Class C airspace designation, it must meet the following criteria:

**1.** The airport must be serviced by an operational airport traffic control tower and a radar approach control; and

**2.** One of the following applies:

**(a)** An annual instrument operations count of 75,000 at the primary airport.

**(b)** An annual instrument operations count of 100,000 at the primary and secondary airports.

**(c)** An annual count of 250,000 enplaned passengers at the primary airport.

**3.** Class C designation contributes to the efficiency and safety of operations and is necessary to correct a current situation or problem that cannot be solved without a Class C designation.

#### NOTE-

*Operations counts are available from the Office of Aviation Policy and Plans, Statistics and Forecast Branch, APO-110. Enplaned passenger counts may be obtained by contacting the Office of Airport Planning and Programming, APP-1. Current validated counts are normally available in mid-October of the current year for the previous year.*

### 16-2-2. DESIGNATION

Class C airspace areas should be designated around a single primary airport.

### 16-2-3. CONFIGURATION

In general, airspace design identifies simplification and standardization of Class C airspace areas as prime requisites. Containment of instrument procedures within Class C airspace is not required. Lateral

and vertical limits must be in accordance with the following, to the extent possible:

**a. Lateral Limits.** Class C airspace areas should initially be designed as two concentric circles centered on the airport reference point. The surface area should have a 5 NM radius, and the outer limits of the airspace area should not extend beyond a 10 NM radius. Wherever possible, use VOR radials and DME arcs to define the boundaries of the airspace and any of its sub-areas. It is important, however, that prominent visual landmarks also be considered to assist the VFR traffic preferring to remain clear of Class C airspace.

**b. Vertical Limits.** The ceiling of a Class C airspace should be 4,000 feet above the primary airport's field elevation. The surface area extends from the surface to the upper limit of the airspace. The floor of the airspace between the 5 and the 10 NM must extend from no lower than 1,200 feet AGL to the upper limit of the airspace.

**c. Variations.** Any variation from the lateral and vertical limits design guidance must be justified in the staff study and recommended by the service center. (The number of sub-areas must be kept to a minimum.)

#### NOTE-

*Though not requiring regulatory action, an Outer Area is the procedural companion to Class C airspace. The normal radius of an Outer Area is 20 NM from the primary Class C airspace airport. Its vertical limit extends from the lower limits of radio/radar coverage up to the ceiling of the approach control's delegated airspace, excluding the Class C airspace itself, and other airspace as appropriate.*

### 16-2-4. TIME OF DESIGNATION

**a.** Class C airspace areas may be designated as continuous or part-time. If part-time, the effective time must be stated in local time. In order to designate a part-time Class C airspace area, the following statement must be included in the airspace description: "This Class C airspace area is effective during the specific dates and times established, in advance, by a Notice to Airmen (NOTAM). The effective date and time will thereafter be continuously published in the (*insert appropriate publication from below*)."

1. The appropriate volume of the Chart Supplement U.S.;

2. Chart Supplement Alaska; or

3. Chart Supplement Pacific.

- b. For permanent changes to existing part-time Class C airspace area designations, the following actions must be accomplished:

1. Issue an airspace NOTAM specifying the new part-time Class C effective hours.

2. Submit the new part-time Class C effective hours to NFDC for publication in the Chart Supplement U.S., Chart Supplement Alaska, or Chart Supplement Pacific, as appropriate.

3. Retain the NOTAM specifying the new part-time Class C effective hours until the new hours are published in the appropriate chart supplement.

- c. For unexpected events that affect the availability of part-time Class C services, issue a service NOTAM, in accordance with FAA Order JO 7930.2, Notices to Airmen, describing the ATC service available and duration. No airspace NOTAM is issued.

- d. Notices to Airmen specifying the dates and times of a designated part-time area may be issued by the appropriate facility only after coordination with the service center. The service center must ensure that such action is justified and in the public interest.

## Section 3. Class C Airspace Processing

### 16-3-1. STAFF STUDY

A Staff Study is required to identify and document the need to establish or modify a Class C airspace area. The study will be used to determine if an ad hoc committee should be formed to begin the airspace change process. The content of the study will depend on site-specific details for the situation being considered. The following is a list of suggested items for the study. This list and study format may be modified as needed.

**a. Executive Summary.** A one-page summary that describes the problem, alternatives considered, and justification for the proposed airspace change request.

**b. Background.** Describe the current operation and aviation activity in the area.

**1. Primary airport(s).**

**(a)** Current passenger enplanement count.

**(b)** Airport(s)' latest total annual operations count.

**2. Satellite/secondary airport(s).**

**(a)** Current passenger enplanement count.

**(b)** Airport(s)' total operations count.

**(c)** Types of operations conducted (for example, flight school training, gliders, parachuting, etc.).

**3. Description of the terminal area.**

**(a)** IFR and VFR departure and arrival traffic flows at primary and satellite/secondary airports.

**(b)** Existing routes and altitudes that IFR and VFR traffic use while operating en route through the area or transitioning to/from all affected airports.

**4. Adjacent airspace considerations.**

**(a)** Other ATC facility delegated airspace.

**(b)** Special use airspace.

**(c)** Unique geographical features.

**c. Statement of the Problem.**

**1.** Identify and document the operational issue. Explain how safety and the efficient management of

air traffic operations in and through the terminal area are affected.

**2.** Provide supporting data to illustrate the operational issue, such as Traffic Alert and Collision Avoidance System (TCAS) RAs, airspace modeling graphics, user/controller input, etc.

**d. Alternatives Considered.** Nonrulemaking alternatives must be examined before proposing rulemaking airspace changes, for example:

**1.** Are there internal operational measures that could resolve the problem (for example, new equipment, changing facility procedures, resectorization, etc.).

**2.** Modification of instrument procedures.

**3.** Pilot/controller education programs and aviation education safety seminars.

**e. Analysis of staffing options, and issues, such as:**

**1.** Current staffing status and the anticipated staffing requirements for implementing the proposed Class C airspace.

**2.** Impact on air traffic and air navigation facilities, including new or modified control positions required; and new, or relocation of existing, navigational aids/communication equipment.

**f. Proposed airspace design.**

**1.** A written description of the complete Class C airspace area including full boundaries of all sub-areas existing and proposed. For examples, see FAA Order JO 7400.11, Airspace Designations and Reporting Points.

**2.** A depiction of the proposed Class C airspace configuration on a VFR aeronautical chart.

**3.** An explanation of how the proposed airspace design addresses the operational issue.

**4.** Discussion of any anticipated adverse impacts on nonparticipating aircraft.

**g. Environmental considerations.**

**h. Conclusions.** Explain how the proposed airspace designation/modification will reduce the midair collision potential and enhance safety and efficiency in the terminal area.

### **16-3-2. PRE-NPRM AIRSPACE USER COORDINATION**

The service center must ensure that user input is sought and considered prior to formulating any proposed Class C airspace area design.

**a.** An ad hoc advisory committee, composed of representatives of local airspace users, must be formed to present input or recommendations to the FAA regarding the proposed design of the Class C airspace area. (See Chapter 14 of this order).

**b.** Informal airspace meeting(s) must be conducted in accordance with Chapter 2 of this order.

**c.** Based on the results of the service center's analysis of the staff study and user input, the service center determines whether the proposal should be continued to NPRM or terminated.

### **16-3-3. NPRM PHASE**

**a.** The service center and facility will develop a proposed Class C airspace design, incorporating user input, to be published in an NPRM.

**b.** The service center will submit a memorandum to Headquarters to initiate rulemaking action. The memorandum should summarize the background, requirement, justification, and service center recommendation. Include, as attachments, the following information:

- 1.** Ad hoc Committee Report.
- 2.** Informal Airspace Meeting summary(ies) and comments submitted.
- 3.** Responses to substantive ad hoc committee recommendations and Informal Airspace Meeting public comments received.
- 4.** Written proposed Class C airspace description.

**5.** An explanation of how the proposed airspace design addresses the operational issue.

**6.** Any other pertinent information.

**c.** The Airspace Policy Group will prepare the NPRM for publication in the Federal Register. A 60-day comment period applies to Class C NPRMs.

### **16-3-4. POST-NPRM PROCESSING**

The service center must:

**a.** Review all comments received in response to the NPRM.

**b.** Coordinate with the ATC facility(ies) to address all substantive aeronautical comments.

**c.** Finalize the Class C airspace design for submission to Headquarters.

**d.** Submit a memorandum to Headquarters with recommendations for final action on the proposal. Include, as attachments, the following information:

- 1.** A discussion of how each substantive comment was addressed.
- 2.** The final version of the Class C airspace description. Explain any differences from the NPRM design.
- 3.** The requested airspace effective date.
- e.** Headquarters will prepare the final rule.

### **16-3-5. PUBLICITY**

After issuance of the final rule designating Class C airspace, user education meetings are required to publicize the implementation of Class C service. See FAA Order JO 7210.3, Facility Operation and Administration, Chapter 11, National Programs, for details.

greater degree. Therefore, aircraft flying RNAV/RNP procedures and the associated noise are concentrated over a smaller area than would be the case for the same operations using conventional, non-RNAV/RNP IFPs.

**f. Screening Requirements.** Due to concerns with noise focusing as described above, it is particularly important to conduct appropriate noise screening to determine whether or not extraordinary circumstances exist that warrant preparation of an EA or EIS for PBN IFPs that would normally be categorically excluded.

**1.** Noise screening must be done for PBN IFPs over noise-sensitive areas below 10,000 feet AGL to determine the potential for extraordinary circumstances that may preclude use of a CATEX.

**2.** PBN IFPs that are not over noise-sensitive areas do not require noise screening; however, a CATEX declaration should be prepared in accordance with FAA JO Order 7400.2, paragraph 32-2-1.b.3.

**3.** Noise screening is also required between 10,000 feet and 18,000 feet AGL if a procedure would result in operational changes at an altitude that could increase aircraft noise in an area within a national park, national wildlife refuge, historic site (including a traditional cultural property), or similar area where quiet is an attribute and the noise increase is likely to be highly controversial. (See FAA Order 1050.1, Appendix B, paragraph B-1.5 and paragraph 32-2-1b2(e) of this chapter.) Such screening is used to determine if aircraft flying these procedures would cause increased noise over noise-sensitive areas, and if so, the magnitude of the increase.

**4.** There are several tools that the FAA has developed to screen for the level of change in noise exposure between the existing condition and a proposed procedure (see paragraph 32-3-3).

**g. Obstacle Departure Procedures (ODPs).** According to FAA Order 8260.46, Departure Procedure (DP) Program, paragraph 2-1-1b(4), there are two types of ODPs: Textual and Graphic. They are defined as:

**1.** Textual ODP. A relatively simple ODP may be published textually unless a graphical depiction is required for clarity. Textual ODP instructions that exceed a maximum of one turn, one altitude change,

and one climb gradient must be published graphically.

**(a)** A Textual ODP does not define a specific route nor have a name or computer code assignment, but only advises the operator how to avoid potential obstacles.

**(b)** This type of action is not considered a major Federal action under NEPA; therefore, FAA Order 1050.1, Paragraph 2-1.2 b, Advisory Actions, applies.

**2.** Graphic ODP. Complex ODPs are those that require a visual presentation to clearly communicate the departure instructions and desired flight paths. If the ODP is depicted graphically, it must be clearly stated on FAA Form 8260-15A, Takeoff Minimums and Textual Departure Procedures (DP), in the Departure Procedure section; for example, "USE JONES DEPARTURE." The decision to graphically publish ODPs rests within AeroNav Products.

**(a)** A Graphic ODP has a repeatable ground track, has the same naming conventions and computer code assignments, looks almost the same on a chart, and is processed the same as a standard instrument departure (SID). (See FAA Order 8260.46, Departure Procedure (DP) Program, Appendix A).

**(b)** A Graphic ODP is considered a major Federal Action under NEPA just like an SID. FAA Order 1050.1, Paragraph 5-6.5, Categorical Exclusions for Procedural Actions, should be reviewed to determine if a CATEX applies. FAA Order 1050.1, Appendix B, Paragraph B-1.1, Aircraft Noise Screening, should also be reviewed to determine if noise screening or analysis would be required.

### **32-2-3. SPECIAL USE AIRSPACE (SUA)**

The purpose of this section is to ensure that air traffic personnel and SUA proponents are aware of the need to comply with NEPA and CEQ requirements for evaluating the environmental impacts of proposed SUA actions. (For example, see FAA Order 1050.1, paragraph 3-1.2.b(14). This section supplements the airspace processing requirements contained in Part 5. of this Order.

Normally, SUA is designated to support DOD requirements. The FAA/DOD Memorandum of Understanding (MOU) provided in Appendix 7, sets forth procedures and responsibilities for the

evaluation of the environmental impacts of DOD SUA proposals. It designates when DOD is the lead agency and when FAA is the cooperating agency for NEPA compliance on SUA proposals.

Appendix 8, FAA Special Use Airspace Environmental Processing Procedures, establishes air traffic environmental processing procedures for proposed SUA actions. In the case of SUA proposals submitted by non-DOD Federal agencies, the responsibility for preparation of an EA or EIS, if required, rests with the proponent (i.e., the requesting Federal agency). However, the FAA retains responsibility under NEPA to ensure that its SUA actions are supported by adequate environmental documentation.

In accordance with FAA Order 1050.1, Paragraph 8-2, Adoption of Other Agencies' National Environmental Policy Act Documents, the FAA may adopt, in whole or in part, draft or final EAs, EISs, or the EA portion of another agency's EA/FONSI. When the FAA adopts an EA, EIS, or the EA portion of another agency's EA/FONSI, the responsible FAA official must independently evaluate the information contained in the EA or EIS, take full responsibility for the scope and content that address FAA actions, issue its own FONSI and/or ROD, and, if applicable, provide notification to EPA that the FAA has adopted the EIS.

### **32-2-4. CFR PART 150 STUDIES**

**a.** Airport sponsors (Operators) may choose to conduct a 14 CFR Part 150, Airport Noise Planning, Land Use Compatibility Guidelines study to analyze the operation of an airport, identify compatible and non-compatible land uses, and assess the costs and benefits of noise mitigation techniques.

**b.** Noise Compatibility Programs that result from Part 150 studies often recommend modifications to air traffic routes and/or procedures to accomplish noise abatement. The FAA does not normally make changes in air traffic routes and/or procedures solely for the purpose of noise abatement.

**1.** Under Part 150, the FAA can approve flight procedures to reduce noise that are recommended in a Noise Compatibility Plan.

**2.** If modifications to air traffic routes and/or procedures are recommended, air traffic will evaluate those recommendations as to feasibility and provide input to the appropriate organization in the Office of Airports.

**c.** Preparation of a Part 150 study does not necessarily invoke NEPA; however, the potential implementation of recommended noise abatement measures, such as alternative air traffic procedures, is subject to the NEPA process by the air traffic program.

**1.** During the Part 150 process, facility managers must keep the Airports Division or Airports District Office representative and the Service Center Environmental Specialist advised of any alternative air traffic control procedures that have the potential to invoke the NEPA process.

**2.** Facility managers are responsible for ensuring that current operational data and assumptions (furnished to the entity completing the Part 150 process) are accurate and that future operational data and assumptions reflect reasonable conditions. (Operational data in this context relates to flight track and profile data and/or documentation.)

**d.** The facility environmental representative and the Service Center Environmental Specialist must coordinate with the Airports Division or Airports District Office representative throughout the Part 150 process. This coordination should ensure that assumptions and data used are reviewed at each phase and results can be verified early in the process. Early coordination will allow for needed adjustments in any operational assumptions prior to completion of the study.

**e.** The Service Center Environmental Specialist must coordinate with the Airports Division or Airports District Office personnel to furnish any data necessary for use in the Part 150 study. Additionally, air traffic participation in the process does not constitute air traffic approval for a Part 150 action.

**f.** During other noise studies conducted by the airport sponsor, facility managers and Service Center Environmental Specialists must work with the airport sponsor and the Office of Airports personnel on the exchange of information as described above.

## Section 3. Environmental Impact Categories and Other Topics

Chapter 4 of FAA Order 1050.1, “Impact Categories, Significance, and Mitigation,” summarizes the requirements and procedures for environmental impact analyses according to the resource impact category. Executive Orders, DOT and FAA Orders, and memoranda and guidance documents described FAA Order 1050.1, Paragraph 1–10.13, Environmental Impact Categories, may also contain requirements that apply.

Although all resource impact categories may receive the same level of review and analysis, the actual level of detail of review and analysis for a particular resource is dependent upon the potential for impact. The following paragraphs address those impact categories that may be required as part of the environmental review for proposed air traffic actions.

### 32–3–1. ENVIRONMENTAL IMPACT CATEGORIES TO BE INCLUDED IN ANALYSIS

a. The following environmental resource categories or sub-categories could potentially be impacted by the Proposed Action. Accordingly, they must be included in an EA or EIS for further detailed analysis. For proposed actions that qualify for a categorical exclusion, certain categories or sub-categories may still need to be analyzed due to special purpose environmental requirements.”

1. Air Quality
2. Compatible Land Use
3. DOT Act: Section 4(f)

4. Biological Resources: Birds and Bats. Conduct analysis related to bird and bat strikes.

5. Biological Resources: All Species. If the proposed action increases the number of aircraft flights, changes the origins of flights, or changes their destinations, the proposed action may also need to be analyzed for the opportunity for an invasive species to be introduced into the general study area (GSA).

A significant impact would occur if the U.S. Fish and Wildlife Service or the National Marine Fisheries Service determines that the action would be likely to jeopardize the continued existence of a federally

listed threatened or endangered species, or would result in the destruction or adverse modification of federally designated critical habitat.

6. Historical, Architectural, Archeological, and Cultural Resources (*Historical and Cultural Resources only*). Review the potential for adverse effects related to the introduction of visual, atmospheric, or audible elements that diminish the integrity of the property’s significant historic or cultural features.

7. Light Emissions and Visual Impacts (*Visual Impacts only*).

8. Natural Resources and Energy Supply (*fuel burn analysis only*). Calculate fuel burn in accordance with methodology referenced in AEE-400 Guidance Memo #3 dated January 12, 2012, Considering Greenhouse Gases and Climate Under the National Environmental Policy Act (NEPA): Interim Guidance.

9. Noise. Calculate day-night sound level (DNL) exposure levels for population centroids and unique grid points. For California analyses, CNEL may be provided as a supplemental metric. Use of other supplemental metrics requires coordination with the Environmental Policy Team, AJV-114. Change analysis must be conducted as directed in FAA Order 1050.1, Appendix B.

b. The proposed procedure(s) would create a significant noise impact if it would increase noise by DNL 1.5 dB or more for a noise sensitive area that is exposed to noise at or above the DNL 65 dB noise exposure level, or that will be exposed at or above the DNL 65 dB level due to a 1.5 dB or greater increase, when compared to the no action alternative for the same timeframe.

1. For example, an increase from DNL 65.5 dB to 67 dB is considered a significant impact, as is an increase from DNL 63.5 dB to 65 dB. (See FAA Order 1050.1, Appendix B, Paragraph B-1.5, Significance Determination).

2. If the noise screening shows that the proposed procedure(s) would cause such an impact, a CATEX cannot be used, and an EA or EIS must be prepared.

3. If the procedure(s) can be modified to reduce the noise below the significance threshold, an EA and mitigated Finding of No Significant Impact (FONSI) may be prepared. (See FAA Order 1050.1, paragraphs 2-3.6, 4-4, and 6-2.3).

4. If the noise screening shows that noise over a noise-sensitive area would increase by 5 dB or more, within the DNL 45-60 dB noise range; or would increase by 3 dB or more within the DNL 60-65 dB noise range, further analysis may be required to determine the potential for the procedure(s) to be highly controversial because of the potential noise impacts.

5. The determination of the appropriate level of additional analysis should be made in consultation with Mission Support, Airspace Services, Airspace Policy Group and Environmental Policy Team.

c. If the noise screening shows that none of the above increases would occur, the results of the noise screening with these conclusions should be attached to the CATEX Declaration resulting in a documented CATEX. (See FAA Order JO 7400.2, Appendix 6).

### **32-3-2. ENVIRONMENTAL IMPACT CATEGORIES EXCLUDED FROM ANALYSIS**

a. The following environmental resource categories or sub-categories would not be affected by the Proposed Action because the resource either does not exist within the general study area (GSA) or the types of activities associated with the Proposed Action would not affect them. Accordingly, they would not be included in an EA or EIS for further detailed analysis.

1. Coastal Resources (Coastal Barriers and Coastal Zones).

(a) Coastal Barriers. The Proposed Action is not expected to involve any actions (physical changes or development of facilities) that would be inconsistent with management plans for designated Coastal Barrier Resource System (CBRS) areas. However, if there are coastal zones within the GSA, management plans will need to be reviewed to ensure that there are no activities related to aircraft overflight noise in the management plan.

(b) Coastal Zones. The Proposed Action is not expected to directly affect any shorelines or change the use of shoreline zones and be inconsistent

with the NOAA-approved state Coastal Zone Management Plan (CZMP). However, if there are coastal zones within the GSA, the CMZP should be reviewed to confirm.

2. Construction Impacts. The implementation of new air traffic procedures does not involve any construction activity or ground-based impacts.

3. Farmland. The Farmland Protection Policy Act (FPPA) (7 CFR Part 658) regulates federal actions having the potential to convert farmland to non-agricultural uses. Implementation of the Proposed Action does not involve the development of any land regardless of use, nor does it have the potential to convert any farmland to non-agricultural uses.

4. Biological Resources (habitat).

(a) Air traffic airspace and procedure changes do not involve ground disturbance activities. They will not destroy or modify critical habitat for any species.

(b) The Proposed Action would not affect habitat for non-avian animals, fish, or plants.

5. Floodplains. The Proposed Action would not result in the construction of facilities. Therefore, it would not encroach upon areas designated as a 100-year flood event area as described by the Federal Emergency Management Agency (FEMA), and no further analysis is required.

6. Hazardous Materials, Pollution Prevention, and Solid Waste. The Proposed Action would not result in any construction or development or any physical disturbances of the ground. Therefore, the potential for impact in relation to hazardous materials, pollution prevention, and solid waste is not anticipated, and no further analysis is required.

7. Historical, Architectural, Archeological, and Cultural Resources (*except Historical and Cultural*).

(a) Archeological. The Proposed Action would not result in any construction, development, or any physical disturbances of the ground. The Proposed Action would not involve excavation of archaeological resources on Federal and Indian lands, disposition of cultural items, or affect the physical integrity and access to American Indian sacred sites.

(b) Architectural. The Proposed Action would not result in any construction, development, or any physical disturbances of the ground. Therefore,

## Appendix 12. Evaluating Air Traffic Impacts for Wind Turbine Farm Proposals

### I. GENERAL

This appendix is for use by field Air Traffic facilities in analyzing Air Traffic operational impacts from items of concern identified by the FAA Obstruction Evaluation Group (OEG) package. The Air Traffic *Objection* or *No Objection* response will be used to issue an FAA Determination of Hazard to Air Navigation or an FAA Determination of No Hazard to Air Navigation back to the submitting proponent per 14 CFR Part 77.

### II. BACKGROUND

A National Wind Turbine Farm Safety Risk Management Document identified impacts wind turbine farms have on Air Traffic surveillance and navigation. One hazard was determined as a loss of air traffic control situational awareness from degradation and/or loss of primary radar services over wind turbine farms. Although wind turbines have great impacts on conventional Very-high-frequency Omni-directional Range (VOR) Navigational Aids (NAVAID), existing controls can be leveraged to eliminate this concern as a hazard.

### III. POLICIES

When air traffic facilities receive a proposed wind turbine farm package from the OEG, the air traffic manager and NATCA facility representative (or their designees) need to analyze the items of concern as it relates to their local flight paths and operations. The following three (3) phases describe the process and responsibilities for the analysis when a sponsor proposes to build a new wind turbine farm. Only Phase 1 is required; subsequent phases are only to be followed based on response decisions as described.

### IV. ACTIONS

**Phase 1:** (To be completed within 15 business days of receipt of OEG package.)

Air traffic facilities must analyze the effects contained in the OEG package for primary radar and NAVAID impacts along with their identified mitigations, and return a response based on the local operational impacts (*No Objection, Objection, or Has Concerns*).

**Contact your OEG Specialist with any comments, concerns or questions.**

The air traffic manager, with the Director of Operations (DO)/Terminal District Manager (TDM) concurrence, returns one of the following responses to OEG:

**1. No Objection:** Air Traffic review process will be complete.

**2. Objection:** Provide supporting data to OEG. Air Traffic review process will be complete.

*Note: Supporting data must include significant volume of activity per FAA Order JO 7400.2, Paragraph 6-3-4.*

**3. Has Concerns:** If package content doesn't provide enough data to determine impact, proceed to Phase 2.

*Note: This response will be used to determine issuing a Notice of Presumed Hazard (NPH) to the sponsor/proponent.*

**Phase 2:** (To be completed within 15 business days of receipt of Technical Operations (Tech Ops) In–depth Study.)

If the sponsor requests more information from the Notice of Presumed Hazard (NPH) issued by OEG, and an in–depth Tech Ops study is possible, OEG will notify the facility of expected date of completion. (*expect 3–6 months for study to be completed*).

Air Traffic facilities must analyze the in–depth Tech Ops study for primary radar impacts along with their identified mitigations.

**Contact your OEG Specialist with any comments, concerns, or questions.**

The air traffic manager, with the Director of Operations (DO)/Terminal District Manager’s (TDM) concurrence, returns one of the following responses to OEG:

**1. No Objection:** Air Traffic review process will be complete.

**2. Objection:** Provide supporting data to OEG. Air Traffic review process will be complete.

*Note: Supporting data must include significant volume of activity per FAA Order JO 7400.2, paragraph 6–3–4.*

**Phase 3:** (To be completed 90 calendar days from completion of Phase 1 or Phase 2 as necessary.)

If unable to determine a response in Phase 1 or Phase 2, the air traffic facility may initiate the Safety Risk Management (SRM) process in order to determine the operational impact of any risk mitigation activities; specifically, those mitigations prescribed in the Tech Ops study, air traffic procedural mitigations, or other potential mitigations.

**Contact your Service Center Quality Control Group (QCG) POC for guidance as necessary.**

*Note: Industry sponsors may present information for a limited time preceding the SRM Panel. They may not participate or observe the remainder of the panel.*

**1.** An SRM document with or without hazards is completed and signed. The air traffic manager, with the Director of Operations (DO)/Terminal District Manager (TDM) concurrence, returns either an *Objection* or *No Objection* response with supporting data to OEG.

**2.** If the result is an SRM document with a high hazard:

**a.** AJT–0 will forward a response to OEG per the OEG process.

**b.** AJT–0 will forward the SRM document with Hazard to AJV–0 for review and processing per the ATO Safety Management System Manual.