CHANGE

U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
Air Traffic Organization Policy

JO 7400.2R
CHG 1

Effective Date:
August 7, 2025

SUBJ: Procedures for Handling Airspace Matters

1. Purpose of This Change. This change transmits revised pages to Federal Aviation Administration Order JO 7400.2R, 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 https://www.faa.gov/air_traffic/publications and https://employees.faa.gov/tools_resources/orders_notices.

4. Explanation of Policy Change. See the Explanation of Changes attachment that has editorial corrections and changes submitted through normal procedures.

5. Distribution. This change is distributed electronically to all who subscribe to receive email notification through the FAA's website. All organizations are responsible for viewing, downloading, and subscribing to receive email notifications when changes occur to this order. Subscriptions to air traffic directives can be made through the Air Traffic Plans and Publications website at https://www.faa.gov/air_traffic/publications/ or directly via the following link: https://public.govdelivery.com/accounts/USAFAA/subscriber/new?topic_id=USAFAA_39.

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 Retain this transmittal until superseded by a new basic order.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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Explanation of Changes
Change 1

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

a. 1–3–2. POLICY
1–3–3. RESPONSIBILITIES
20–1–1. PURPOSE
20–5–2. RNAV ROUTE CRITERIA
32–1–5 RESPONSIBILITIES

This change identifies the updated air traffic office providing national oversight for the air traffic planning and analysis policy and moves the responsibilities of the national oversight office from paragraph 1–3–2 to a new paragraph 1–3–3, Responsibilities, also specifying Mission Support Services Executive Director of Service Centers (AJV–01) development of standard operating procedures (SOP) to be followed to comply with instrument flight procedure (IFP) policy and criteria. The change also specifies Mission Support Services Service Center Operations Support Group responsibilities regarding processing 14 CFR part 71 and part 73, and non–rulemaking SUA actions. Finally, the change specifies Headquarters, Air Traffic Services (AJT), development of SOPs providing air traffic facility responsibilities and actions for post–implementation monitoring of IFP actions. This change cancels and incorporates N JO 7400.38, which was effective December 1, 2024.

b. 8–1–3. RECEIPT OF COMPLETED FAA FORM 7460–2

This change updates outdated policies and procedures in Chapter 5 to ensure that the necessary business needs of the FAA are accurately identified, resulting in improved processing and internal and external collaboration with stakeholders and organizations. As a result, the guidelines in part supplement those contained in title 14 of the Code of Federal Regulations (14 CFR) part 77, Safe, Efficient Use, and Preservation of the Navigable Airspace. Additionally, revisions were made to FIG 5–2–1 through FIG 5–2–5, and new FIG 5–2–6 through 5–2–9 have been added.

c. 32–1–5. RESPONSIBILITIES
32–2–1. THE PROCESS

This change adds clarity by replacing the current text with language that does not refer to the template in Appendix 6 as a requirement; instead, it refers to FAA Order 1050.1 for guidance on categorical exclusion (CATEX) documentation.

d. Editorial Changes

Editorial changes include fixing a misspelling in subparagraph 10–4–3a; formally identifying FAA Form 7460–1 in paragraph 4–4–2; correcting several omissions from previous changes in paragraphs 5–2–2, 6–3–8, and 7–1–2; a universal change replacing all prior references to the term Gulf of Mexico with the term Gulf of America in accordance with Executive Order 14172; and a universal change updating the term Notice to Air Missions (NOTAM) to Notice to Airmen (NOTAM).

e. 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 7400.2R
Change 1
Page Control Chart
August 7, 2025

REMOVE PAGES	DATED	INSERT PAGES	DATED
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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
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	Airport Surveillance Radar
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

Abbreviation	Meaning
DNE	Does Not Exceed
DNH	Determination of No Hazard
DOD	Department of Defense
DOH	Determination of Hazard
EBO	Exceeds But Okay
EMI	Electromagnetic Interference
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

Abbreviation	Meaning
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
MPE	Maximum Permissible Exposure
MRAD	Milliradian
MRU	Military Radar Unit
MSA	Minimum Safe Altitude
MSL	Mean Sea Level
MSWLF	Municipal Solid Waste Landfill
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
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
NWS	National Weather Service
OE	Obstruction Evaluation

Abbreviation	Meaning
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
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
SID	Standard Instrument Departure
SMO	System Maintenance and Operations
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
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 Scope 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. Mission Support Services, Strategy Directorate, Airspace Modernization Group (AJV–S3) is designated as the air traffic office that will provide national oversight.

1–3–3. RESPONSIBILITIES

a. The Mission Support Services Executive Director of Service Centers (AJV–01) and Headquarters, Air Traffic Services (AJT) must develop Standard Operating Procedures (SOP)s that must be followed to ensure compliance with Instrument Flight Procedure (IFP) policy and criteria contained in regulations, advisory circulars, and orders (e.g., the FAA Order 8260 series, JO 7110.65, and this order).

1. Review the SOPs at least annually, assessing for practices and/or procedures no longer required or relevant content to ensure operational efficiency and flexibility to support customers.

2. Update SOPs as needed when new or revised IFP criteria and/or policy is published to ensure changes are implemented as required.

b. Mission Support Services, Strategy Directorate, Airspace Modernization Group (AJV–S3) must:

1. Formulate airspace efficiency policy in collaboration with Mission Support Services, Policy Directorate, Rules and Regulations Group (AJV–P2) that overseas 14 CFR part 71 and part 73, and non–rulemaking Special Use Airspaces (SUA) rules and regulations policy.

2. Establish guidelines for airspace architecture and structural changes.

3. Provide a high–level analysis of current and proposed operations for efficiency from a NAS–wide perspective.

c. Mission Support Services Service Center Operations Support Groups must:

1. Follow the rulemaking and non–rulemaking processes in this order for processing 14 CFR part 71 and part 73, and non–rulemaking SUA actions.

2. Develop and coordinate the IFP SOPs for developing and processing IFP actions in accordance with FAA Order 8260 series.

d. Headquarters, Air Traffic Services must develop SOPs specifying air traffic facility responsibilities, timelines, and processes for post–implementation monitoring of IFP actions.

Section 4. Non−Federal NAVAIDs

4−4−1. POLICY

For the purpose of this section, the term NAVAID is synonymous with Air Navigation Facility as defined in Title 49 of the United States Code (49 USC), Subtitle VII, Part A, Subpart I, Chapter 401, Section 40102, (a), (4). The FAA's role regarding non−federal systems is to assist sponsors proposing to establish, replace, or relocate such NAVAIDs by providing technical planning, minimum equipment and operational standards, and processing requirements for such proposals. This applies to system types identified in the Non−Federal Program, FAA Order 6700.20. The operation of non−federal facilities associated with the approval of Instrument Flight Rules (IFR) and air traffic control procedures must be in accordance with the minimum requirements set forth in Title 14 Code of Federal Regulations (CFR) Chapter I, Subchapter J, part 171, titled "Non−Federal Navigation Facilities" and in FAA Order 6700.20. Title 14 CFR part 171, outlines the minimum requirements non−federal facilities must meet in accordance with the authorities cited from Title 49 of the United States Code in part 171.

4−4−2. REQUEST FOR ESTABLISHMENT

The sponsor requesting the establishment, replacement, or relocation of a non−federal system, as defined in part 171 and FAA Order 6700.20, must submit a separate FAA Form 7460−1, Notice of Proposed Construction or Alteration, for each component of the system to ensure sufficient description. The following information should be provided:

a. The site of the system using geographical coordinates to the nearest hundredth second, to include all components of the system, such as shelters, antennas, and other sensors.

b. The facility ground elevation and height of the tallest part of the structure, to include obstruction lights or lightning rods.

c. Facility information:

1. Facility identification.

2. Facility name.

3. Facility type.

4. Facility subtype.

5. Equipment manufacturer, make and model.

d. Facility design drawings that show the proposed location. For systems located on an airfield, the sponsor must include: elevations of the entire airport property, annotations of support facilities (e.g., shelters, concrete pads, and structures), distances from the proposed system to the nearest point of the runway(s), and equipment profile.

e. Pictures of the proposed location.

f. Provide critical aircraft per AC 150/5000−17 that operates or will operate at the airport or runway end, as applicable.

g. Identify any known siting criteria deviations.

h. Any other pertinent information.

4−4−3. RESPONSIBILITY

Sponsors must submit requests for the establishment, replacement, or relocation of a non−federal system to the Non−Federal Program Implementation Manager (PIM) in the Service Center's Planning and Requirements

Group for initial processing. The Non−Federal PIM will review the proposal to ensure it includes all necessary information and is accurate, then disseminate it to the appropriate offices for review via the OE/AAA system. In order to determine the outcome of the proposal within the required notice period, each office should forward the results of its evaluation within 45 days to the Non−Federal PIM for further processing. Areas of responsibility are delegated as follows:

a. Service Center's Non−Federal PIM. The Service Center's Non−Federal PIM is responsible for the overall service area office coordination on behalf of the sponsor. The Non−Federal PIM will direct sponsors to the appropriate Advisory Circulars and Orders that provide information on the minimum equipment and operational performance standards, siting requirements, and the conditions prerequisite to use of the facility. Additionally, the Non−Federal PIM will:

1. Direct the sponsor to submit a frequency request, if applicable, to the Spectrum Engineering Services Group via FAA Frequency Coordination Request (FCR) Internet Portal at **https://webfcr.faa.gov/**.

2. Submit required aeronautical data to Aeronautical Information Services (AIS) using the appropriate AIS System Data Form (e.g., 7900−2 Navigational Aids, 7900−5 Weather, 7900−6 Instrument Landing Systems, etc.) via the Aeronautical Information Portal at **https://nfdc.faa.gov/nfdcApps/**.

3. Assist the sponsor on the process for submitting an aeronautical study request.

4. Coordinate with the sponsor to submit any additional information needed for the aeronautical study.

5. If applicable, direct the sponsor when to submit their request for an instrument flight procedure (IFP) via the Instrument Flight Procedures Information Gateway website at **https://www.faa.gov/air_traffic/flight_info/aeronav/procedures/ifp_form/**.

6. If applicable, advise the sponsor of the process for scheduling a commissioning flight and ground inspection.

7. Provide the appropriate air traffic and technical operations offices the results of the aeronautical study.

b. Air Traffic. The appropriate air traffic control facility will examine the proposal and provide comments regarding utilization of the airspace, aeronautical operations, and air traffic control procedures.

c. Airports Division. The appropriate Airport District Office (ADO)/Regional Office will evaluate the proposal for impacts to airports. The ADO/Regional Office will:

1. Evaluate the proposal in reference to existing and planned airport development on file with the agency.

2. Evaluate the proposal for compliance with applicable airport design surfaces and standards.

d. Flight Standards. The Flight Technologies and Procedures Division (FTPD) is the focal point for studying the effect of the proposed non−federal system with respect to the safe and efficient use of navigable airspace by aircraft and with respect to the safety of persons and property on the ground.

e. Flight Procedures Team (FPT). The appropriate service area is the focal point for studying the effect of the proposed non−federal system on existing or proposed IFR flight procedures. In developing IFR procedures, FPT personnel will:

1. Determine whether their respective requirements outlined in part 171 and Order 8260.3, United States Standard for Terminal Instrument Procedures (TERPS), have been satisfied.

2. Initiating development of required IFR procedures.

3. Identify new IFP development requirements and impacts to existing/proposed FAA instrument flight procedures in accordance with FAA Order 8260.43, Flight Procedures Management Program. Non−FAA service providers are responsible for their procedures.

f. Technical Operations Spectrum Engineering Group, Spectrum Assignment and Engineering Team. Evaluates the proposal to determine frequency availability, potential frequency interference effects on

Section 2. Notices

5–2–1. REQUIREMENTS

a. Requirements for notifying the FAA of proposed construction or alteration are contained in contained in 14 CFR § 77.9 (see FIG 5–2–1, FIG 5–2–2, FIG 5–2–3, FIG 5–2–4, and FIG 5–2–5).

b. No notice is required, as specified in 14 CFR § 77.9(e), for certain equipment installations "of a type approved by the Administrator" when the equipment is installed in accordance with the established FAA siting criteria. Equipment installed in compliance with the siting criteria without waivers and which do not affect other runways do not have to be considered under 14 CFR part 77 criteria.

c. Examples of equipment not requiring notice are:

1. Wind equipment (AWOS, ASOS, etc.). Supplemental wind cones, wind turbines, and meteorological towers are not exempt from notice.

2. Runway Visual Range (RVR) equipment.

3. Instrument Landing Systems (ILS). Includes localizer, glide slope, approach lighting system, distance measuring equipment, outer and inner marker beacons.

4. Visual Glide Slope Indicators (VGSI).

5. Runway and Taxiway Lights and Signs.

6. Runway End Identifier Lighting (REILS).

NOTE–
Construction related equipment (for example, cranes) and activities are not exempt from notice.

5–2–2. PROCESSING

a. OEG personnel must administer aeronautical studies with the coordinated assistance of Airports, Technical Operations, Spectrum Engineering Services–Frequency Management (FM), Flight Standards, IFP Service Providers, DoD, and Department of Homeland Security representatives.

b. The OEG must process notices received under the provisions of of § 44718 and 14 CFR part 77 as OE cases. The exception to this is notices received under those provisions that pertain to structures located on a public–use airport which must be processed by the Airports Division as a nonrulemaking airport (NRA) case (defined in Part 3, Airport Airspace Analysis, of this order).

c. If notice is required by any other FAA regulation, the appropriate division must process the notice under that regulation.

5–2–3. FAA FORMS

Electronic FAA forms are established for use in conducting aeronautical studies. These forms include:

a. FAA Form 7460–1, Notice of Proposed Construction or Alteration (OE notice).

b. FAA Form 7460–2, Notice of Actual Construction or Alteration (Supplemental Notice).

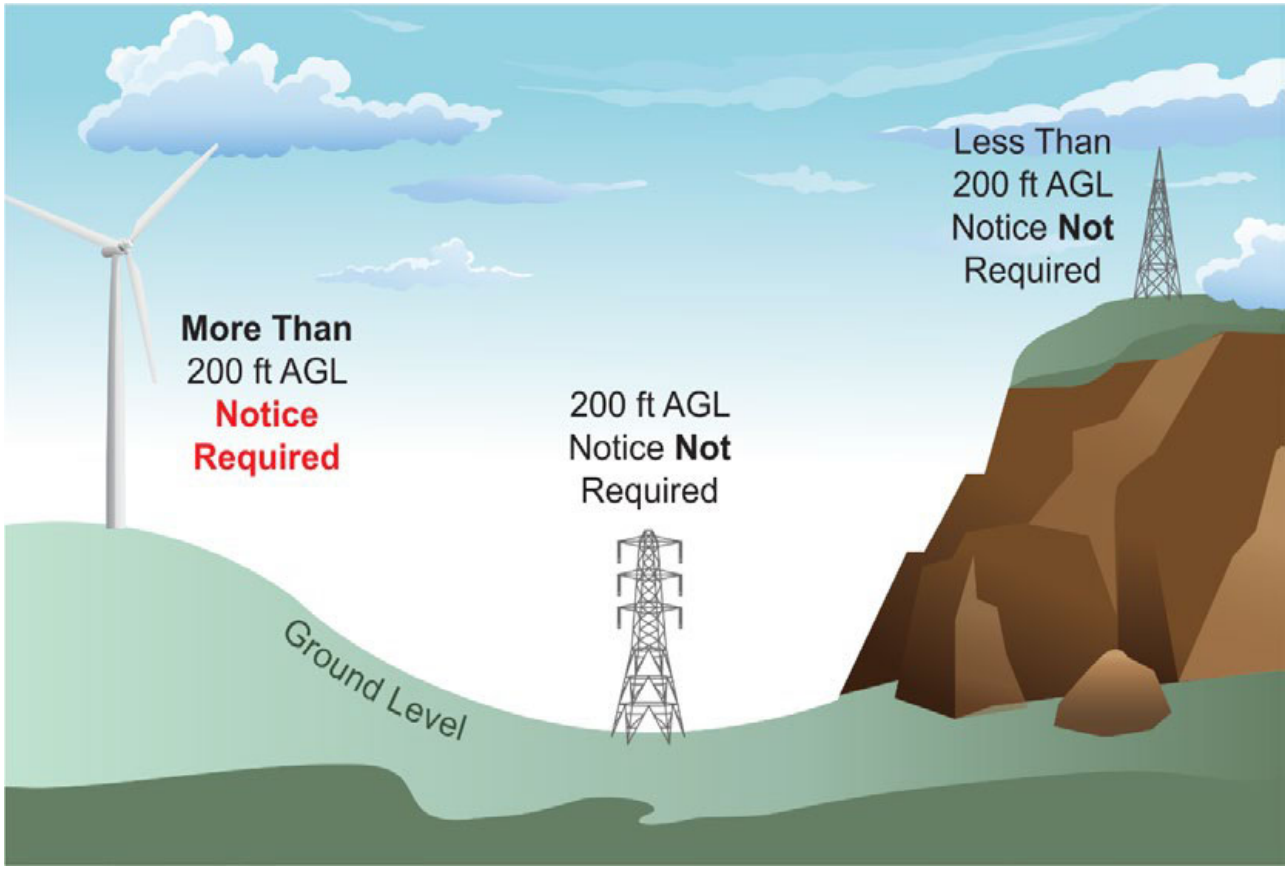
NOTE–
The electronic system to collect notice(s) of proposed construction or alteration and actual construction is available online at https://oeaaa.faa.gov.

FIG 5–2–1

NOTICE REQUIREMENT RELATED TO 200 FEET IN HEIGHT

Notice of Construction or Alteration

§ 77.9(a) – Any construction or alteration that is more than 200 feet AGL at its site.



d. AIRPORT AREAS – Consider the following when determining the effect of structures on VFR operations near airports:

1. Traffic Pattern Airspace – There are many variables that influence the establishment of airport arrival and departure traffic flows. Structures in the traffic pattern airspace may adversely affect air navigation by being a physical obstruction to air navigation or by distracting a pilot's attention during a critical phase of flight. The categories of aircraft using the airport determine airport traffic pattern airspace dimensions.

NOTE–
Traffic Pattern Airspace is for both arrivals and departures. The considerations and calculations must account for both. Although called "approach" slope or surface, the intent is to ensure adequate airspace is provided, including additional safety margins, for aircraft operations both during landing and taking off. Consequently, this could be thought of as approach and departure slope/surface. This is not the same and should not be confused with the IFR Departure Surface.

(a) Traffic Pattern Airspace dimensions (See FIG 6–3–9).

NOTE–
Airspace dimensions are defined in both lateral and vertical terms. Traffic pattern airspace, however, has no vertical component i.e. no altitude. Therefore, any structure, terrain, nature growth, etc. within the lateral dimensions shown in FIG 6–3–9 is within this airspace, no matter the height.

(b) Within Traffic Pattern Airspace – A structure that exceeds a 14 CFR, part 77 obstruction standard and that exceeds any of the following heights is considered to have an adverse effect and would have a substantial adverse effect if a significant volume of VFR aeronautical operations are affected except as noted in paragraph 6–3–8 d.1.(f) and (g) (see FIG 6–3–10).

(c) The height of the transition surface (other than abeam the runway), the approach slope (up to the height of the horizontal surface), the horizontal surface, and the conical surface (as applied to visual approach runways, § 77.19).

(d) Beyond the lateral limits of the conical surface and in the climb/descent area – 350 feet above airport elevation or the height of 14 CFR § 77.17(a)(2), whichever is greater not to exceed 499 feet above ground level (AGL). The climb/descent area begins abeam the runway threshold being used and is the area where the pilot is either descending to land on the runway or climbing to pattern altitude after departure. (The area extending outward from a line perpendicular to the runway at the threshold, see FIG 6–3–11).

(e) Beyond the lateral limits of the conical surface and not in the climb/descent area of any runway – 499 feet above airport elevation (AE) not to exceed 499 feet AGL.

(f) An existing structure (that has been previously studied by the FAA), terrain, or a proposed structure (that would be shielded by existing structures) may not be considered to have a substantial adverse effect. In such instances, the traffic pattern may be adjusted as needed on a case–by–case basis.

(g) Exceptions may be made on a case–by–case basis when the surrounding terrain is significantly higher than the airport elevation, the established traffic pattern altitude is less than 800 feet above airport elevation or "density altitude" is a consideration.

2. Terminal Transition Routes – A structure would have an adverse effect upon VFR air navigation if it:

(a) Exceeds a height of 499 feet above the surface at its site; and

(b) Is located within 2 statute miles of the centerline of any regularly used VFR route (see FIG 6–3–8).

3. VFR Approach/Departure Surface Slope Ratios – A structure would have an adverse effect upon VFR air navigation if it penetrates the surface slope of any runway. The following slope ratios are applied to the end of the primary surface:

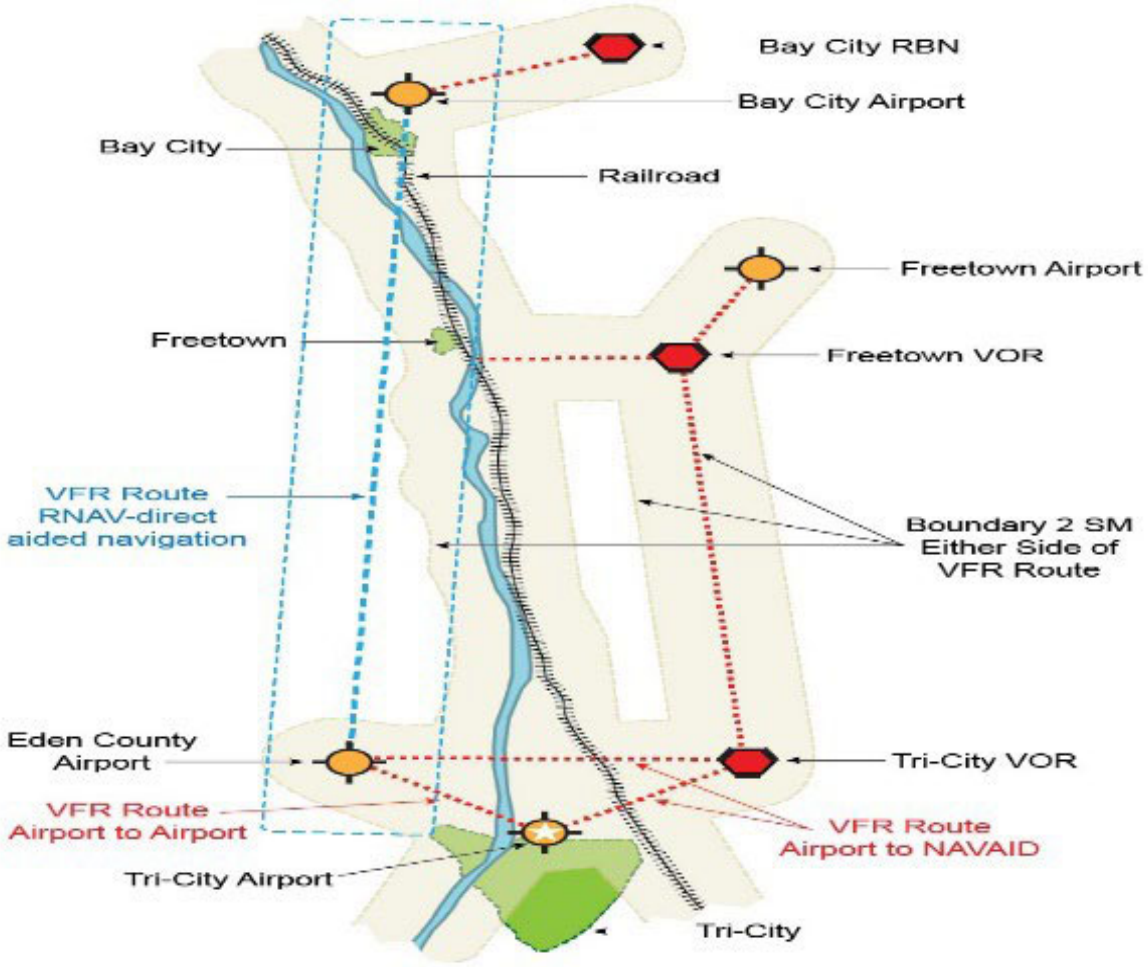
(a) 20:1 for civil visual.

(b) 50:1 for DoD runways.

(c) 8:1 for civil helicopter surfaces.

(d) 10:1 for DoD helicopter surfaces.

FIG 6–3–8
VFR ROUTES



Chapter 7. Determinations

Section 1. Issuing Determinations

7–1–1. POLICY

All known aeronautical facts related to existing or proposed airports, runways, taxiways, landing areas, movement areas, or procedures revealed during the obstruction evaluation must be considered when issuing an official FAA determination. The determination must be a composite of all comments and findings received from division responders as listed in paragraph 5–2–2 and interested FAA offices. Should there be a disagreement in the findings, the disagreement must be resolved before issuance of a determination. All determinations must be based on the aeronautical study findings as to the extent of adverse physical or electromagnetic interference effect upon navigable airspace or air navigation facilities. Evidence of adverse effect alone, either physical or electromagnetic, is not sufficient justification for a determination of hazard. However, a finding of a substantial physical or electromagnetic adverse effect normally requires issuance of a determination of hazard

7–1–2. RESPONSIBILITY

a. OEG is responsible for issuing OE determinations. Airports is responsible for issuing Nonrulemaking Airport (NRA) aeronautical studies.

b. If any division objects to a structure that does not exceed part 77, and/or is not found to have a physical or electromagnetic radiation effect on the operation of air navigation facilities, an advisory statement may be submitted to OEG for inclusion in the determination. Examples would be:

1. Objections identifying potential airport hazards based on airport design criteria such as a structure within the runway protection zone (RPZ).

2. Objections identifying potential airport hazards such as structures which may not be above ground level (for example, landfills, retention ponds, and waste recycling areas) but may create an environment that attracts birds and other wildlife.

3. When the Airports Division or the Airports District Office (ADO) determines a Wildlife Hazard Assessment is required per Advisory Circular 150/5200–33, the Airports Division or ADO will provide the contact information for the appropriate US Department of Agriculture (USDA) or private biologist meeting the education and experience requirements set forth in the current Advisory Circular 150/5200–36 in the divisional response in the aeronautical study. This information will be incorporated by the OEG in the Notice of Preliminary Findings letter to the proponent.

7–1–3. DETERMINATIONS

Determinations issued by the FAA are available for review by the public. Therefore, it is essential that each determination issued is consistent in form and content to the extent practicable. To facilitate this and to achieve economy in clerical handling, automated correspondence through the OE/AAA automation program must be used in lieu of previously approved FAA forms. Determinations must be issued as follows:

a. Issue a “Does Not Exceed” (automated DNE letter) determination if the structure does not exceed obstruction standards, does not have substantial adverse physical or electromagnetic interference effect upon navigable airspace or air navigation or radar/surveillance facilities, and would not be a hazard to air navigation.

b. Issue an “Exceeds But Okay” (automated EBO letter) determination if the structure exceeds obstruction standards but does not result in a substantial adverse effect, circularization was not necessary, and meets one of the following conditions:

1. The structure is temporary;

2. The structure is existing;

3. The structure involves an alteration with no physical increase in height or change of location such as a proposed decrease in height or proposed side mount; or

4. The structure is existing, but the sponsor is updating coordinates or heights and no additional substantive impacts occurred.

NOTE–
The significant difference between an EBO determination and a "Determination of No Hazard to Air Navigation" (DNH) is that the EBO determination does not allow for petition rights.

c. Issue a "Notice of Preliminary Findings" (automated NPF letter) if the structure exceeds obstruction standards and/or has an adverse effect upon navigable airspace or air navigation or radar/surveillance facilities and resolution or further study is necessary to fully determine the extent of the adverse effect. The NPF facilitates negotiation and is useful in preserving navigable airspace. Normally, the FAA should not automatically initiate further study (including circularization) without a request to do so by the sponsor. The intent of the NPF is to inform the sponsor of the initial findings and to attempt resolution. If the sponsor fails to contact the FAA after receiving the notice, terminate the case. No further action by the FAA is required unless the sponsor refiles. If negotiation is successful, and resolution is achieved, or further study is completed, an appropriate subsequent determination should be issued.

d. Issue a "Determination of No Hazard" (DNH) if the structure exceeds obstruction standards but does not result in a substantial adverse effect.

e. Issue a "Determination of Hazard" (DOH) if the structure would have or has a substantial adverse effect; negotiations with the sponsor have been unsuccessful in eliminating the substantial adverse effect; and the affected aeronautical operations and/or procedures cannot be adjusted to accommodate the structure without resulting in a substantial adverse effect. The obstruction evaluation may or may not have been circularized.

7–1–4. DETERMINATION CONTENT AND OPTIONS

Use the following items, as appropriate, to ensure that the necessary information is included in each determination:

a. All no hazard determinations must address or include:

1. FULL DESCRIPTION. A full description of the structure, project, etc., including all submitted frequencies and ERP must be included. Use exact information to clearly identify the nature of the project (for example, microwave antenna tower; FM, AM, or TV antenna tower; suspension bridge; four–stack power plant; etc.).

2. LATITUDE, LONGITUDE, AND HEIGHT. Specify the latitude, longitude, and height(s) of each structure. When an obstruction evaluation study concerns an array of antennas or other multiple–type structures, specific information on each structure should be included.

3. MARKING AND/OR LIGHTING. A marking and/or lighting recommendation must be a condition of the determination when aeronautical study discloses that the marking and/or lighting are necessary for aviation safety.

(a) If the OE notice was for an existing structure with no physical alteration to height or location (for example, a side mount or an editorial correction to coordinates and/or elevations due to more accurate data), and the structure was previously studied, the recommended marking and/or lighting may be in accordance with the prior study.

(b) If the notice is for a new structure, a physical alteration (height/location) to an existing structure, or an existing structure that did not involve a physical alteration but was not previously studied, the recommended

marking and/or lighting must be in accordance with appropriate chapters of the current AC 70/7460−1, Obstruction Marking and Lighting.

(c) If the OE notice was for a change in marking and/or lighting of a prior study whether the structure exists or not yet built, the recommended marking and/or lighting must be in accordance with appropriate chapters of the current AC 70/7460−1.

(1) If it is an existing FCC−licensed structure, and the requested marking and/or lighting change is recommended, notify the sponsor to apply to the FCC for permission to make the change. Use the following specific language: "If the structure is subject to the authority of the Federal Communications Commission, a copy of this letter must be forwarded to them and application should be made to the FCC for permission to change the marking and/or lighting as requested." This language is available in the automated letters.

(2) If the marking and/or lighting change involves high intensity white obstruction lights on an FCC−licensed structure, the sponsor must be notified that the FCC requires an environmental assessment. Use the following specific language: "FCC licensees are required to file an environmental assessment with the Commission when seeking authorization for the use of the high intensity flashing white lighting system on structures located in residential neighborhoods, as defined by the applicable zoning law."

(3) If it is an existing structure and the requested marking and/or lighting change is recommended, the sponsor must be required to notify Aeronautical Information Services (AJV−A) directly when the change has been accomplished. Use the following specific language: "So that aeronautical charts and records can be updated, please notify Aeronautical Information Services in writing when the new system is installed and operational. Notification should be addressed to: Aeronautical Information Services, AJV−A, 6500 South MacArthur Blvd, Oklahoma City, Oklahoma 73169. The sponsor may also indicate marking and/or lighting change with a Supplemental Notice, 7460−2 Actual Construction Notice, submitted electronically using the OE/AAA website.

(d) If it is determined that marking and/or lighting are not necessary for aviation safety, marking and/or lighting may be accomplished on a voluntary basis. However, marking and/or lighting should not be a condition of the determination. Instead, it must be recommended that voluntary marking and/or lighting be installed and maintained in accordance with AC 70/7460−1. Use specific language as follows: "Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking and/or lighting are accomplished on a voluntary basis, we recommend it be installed and maintained in accordance with FAA Advisory Circular 70/7460−1."

4. SUPPLEMENTAL NOTICE. FAA Form 7460−2, Notice of Actual Construction or Alteration, Part 2, is the authorized form for sponsors to report the start, completion, or abandonment of construction, and the dismantlement of structures. Inform the sponsor and/or representative on how to file supplemental notice.

(a) When deemed necessary, request sponsors to complete sponsors to complete and electronically file FAA Form 7460–2 Part 1 at least 10 days before the start of construction or alteration, when:

NOTE−
An electronic system to collect notice(s) of proposed construction or alteration and actual construction is available online at ***https://oeaaa.faa.gov****.*

(1) An aeronautical procedure or minimum flight altitude will be affected (supplemental notice earlier than 10 days may be requested to permit adjustments).

(2) Construction has begun and the determination is approaching expiration. The Part 1 notification may be filed in lieu of an extension request.

(3) The structure will exceed 500 feet AGL and will be erected within a relatively short period of time, as in the case of a TV tower.

(b) In addition, submission by the sponsor of FAA Form 7460−2, must be required when the structure is a new construction or involves a proposed physical alteration, and:

(1) Is more than 200 feet above ground level (AGL).

(2) Is less than 200 feet AGL but exceeds obstruction standards, requires a change to an established FAA procedure or flight minimum, requires certified accuracy so as not to exceed minimums, is inside the airport Assumed Adverse Obstacle (AAO) exempt area, or is requested by a division responder.

(3) The FAA deems it necessary for any other reason.

(c) The information submitted on FAA Form 7460–2 is used for:

(1) Charting obstructions to air navigation on aeronautical charts.

(2) Issue a Notice to Airmen (NOTAM), when applicable, of the construction of obstructions.

(3) Changing affected aeronautical procedures and operations.

(4) Revising minimum flight altitudes.

(5) Updating the Obstacle Data Team (ODT) Digital Obstacle File.

(d) Do not require supplemental notice for existing structures that do not involve a proposed physical alteration. Instead, directly communicate the known information to ODT.

5. EXPIRATION DATE. Include an expiration date, if applicable.

(a) Assign an expiration date to all determinations that involve new construction or alterations, except side mount antennas with no change to the physical structure.

(1) Normally all determinations, whether FCC construction permit related or not, must be assigned an expiration date 18 months from the effective/issued date. In the case of determinations involving petition rights, the expiration must be 18 months from the final date of the determination.

(2) If circumstances warrant, an expiration date of less than 18 months may be issued.

(b) The determination expires on the date prescribed unless:

(1) Extended, revised, or terminated by the issuing office.

(2) The construction is subject to the licensing authority of the FCC and an application for a construction permit has been filed as required by the FCC within six months of the date of the determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application. A request for extension must be electronically filed through the OE/AAA website at least 15 days prior to expiration.

(c) If the date of a final determination is changed because of a petition or review, a new expiration date will be specified as appropriate.

(d) Determinations involving existing structures that do not involve a proposed physical alteration must not contain an expiration date.

6. SPECIAL CONDITIONS. Any condition upon which a no hazard determination is based must be specified in the determination. When FAA Form 7460–2 is requested, the sponsor will be required to keep the FAA informed of the project's status as a condition of the determination. Use the following specific language: "As a result of this structure being critical to flight safety, it is required that the FAA be kept informed as to the status of the project. Failure to respond to periodic FAA inquiries could invalidate this determination."

7. SPECIAL STATEMENTS. To help prevent potential problems, all determinations must include the following statements:

(a) "This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any change in coordinates, heights, frequency(ies) or use of greater power may void this determination and/or require a new FAA Form 7460–1 electronic filing. Any future construction or alteration, including increase in heights, power, or the addition of other transmitters, requires separate notice to the FAA."

Chapter 8. Post Determination Action

Section 1. Action

8–1–1. FOLLOW–UP ACTION

If a determination requires supplemental notice (FAA Form 7460–2) and the expiration date has passed without its receipt, action must be taken to determine construction status. To assist in this process, the automated Follow-up Report is available to identify those cases that require action. To determine construction status, the Obstruction Evaluation Group (OEG) must forward an automated Project Status Request (PSR) letter to the sponsor. If the sponsor fails to respond to the PSR within 37 days, the OEG may send an automated Termination Project Status Request (TERPSR) letter to terminate the case.

NOTE–
If a previous PSR has been received for the case indicating an FCC application has been made for a construction permit, the case must not be terminated. Consequently, additional attempts must be made to determine construction status.

8–1–2. RECEIPT OF COMPLETED PSR

When a completed PSR is received, the OEG must:

a. Ensure that a copy of the Construction Permit (CP) documentation is attached (if the completed PSR indicates "Subject to CP").

1. If improper documentation or no documentation is attached, the case may be terminated. Distribute the termination letter as appropriate including a copy to the FCC.

2. If proper documentation is attached:

(a) Retain the completed PSR.

(b) Make a manual update to the automated OE case file to reflect a follow–up date consistent with the expiration of the CP. If a CP has been applied for but has not been issued, indicate one year later for the new follow–up date.

b. If the completed PSR indicates "Not Subject to a CP":

1. Retain the completed PSR.

2. Terminate the case (send automated TEREXP letter).

3. Distribute the termination letter as appropriate including a copy to the FCC.

c. If the completed PSR indicates "Project Abandoned," refer to paragraph 8–1–4.

d. If the completed PSR indicates "Project Complete," take action that is consistent with receipt of a completed FAA Form 7460–2.

8–1–3. RECEIPT OF COMPLETED FAA FORM 7460–2

When a completed FAA Form 7460–2 is received, the OEG must immediately:

a. Review the form.

1. If the form indicates "Project Abandoned," follow procedures outlined in paragraph 8–1–4.

2. If the form indicates "Construction Dismantled," follow procedures outlined in paragraph 8–1–5.

b. Compare the information on the form with the study file.

1. If information on the form differs from the study file, take appropriate action to verify and/or resolve any differences.

2. If the submitted information differs from the original evaluation and there is a change in coordinates, heights, frequency(ies), or use of greater transmitting power, the OE automated system may require a new FAA Form 7460−1 electronic filing.

c. Upon receipt of a completed FAA Form 7460−2, Part 1, if minimum flight altitudes require change or the potential for EMI exists, the OEG will request NOTAM consideration as required and/or notify any of the following entities as identified in the FAA aeronautical study:

1. Flight Procedures Team (FPT)

2. Obstacle Impact Team (OIT)

3. Flight Standards (FS)

4. Technical Operations

5. Frequency Management (FM)

6. Air Traffic Control Facilities.

d. To distribute the completed FAA Form 7460−2, Part 2, send one copy to the Obstacle Data Team (ODT) along with a copy of a map and survey (if applicable).

e. Make the necessary manual updates to the automated OE case file.

8−1−4. PROCESSING PROJECT ABANDONED NOTIFICATION

When notification of an abandonment is received, the OEG must:

a. Retain the correspondence or record of conversation notifying that the project has been abandoned.

b. Terminate the case (send an automated TERABA letter).

c. Distribute the termination letter, as appropriate. If the termination is for an FCC involved structure, send a copy to the FCC.

8−1−5. PROCESSING DISMANTLEMENT NOTIFICATION

When notification of a dismantled structure is received, the OEG must:

a. Retain the correspondence notifying that the project has been dismantled.

b. Make a manual update to the automated OE case file if available.

c. Notify ODT and FCC (if it is involved), and FPT of the dismantled structure by sending a copy of the received correspondence.

Section 4. Airport Charting and Publication of Airport Data

10–4–1. POLICY

a. All landing facilities which have received airspace determinations or those not analyzed, must be properly documented and processed in accordance with procedures contained in FAA Order 5010.4, Airport Safety Data Program.

b. Landing facilities that have received objectionable airspace determinations must be published in the NFDD as "objectionable." They must be depicted on VFR aeronautical charts only and without identifying text other than to designate objectionable status. They must not be published in the Chart Supplement.

10–4–2. RESPONSIBILITY

As part of Mission Support, Aeronautical Information Services (AIS) AJV–A is responsible for the collection, validation, and dissemination of aeronautical information. This office is designated as the focal point for providing aeronautical information/requirements to the aviation industry, the producers of aeronautical charts and publications, and other government agencies and users.

10–4–3. AIRPORT CHARTING

a. Airports meeting the criteria below may be charted, provided the data has been processed in accordance with the policy set forth in paragraph 10–4–1.

1. Public use airports (including stolports and gliderports.)

2. Military airports without charting restrictions.

3. Abandoned airports having landmark value.

4. Private–use airports having emergency landing or landmark values.

5. Public use heliports not associated with an existing airport, private use heliports that have controlled airspace predicated on them, and selected U.S. Forest Service Heliports.

6. Ultralight flightparks when of landmark value.

NOTE–
Airports of lesser aeronautical importance may be omitted in congested areas where other airports with adequate and better facilities are available nearby.

7. Seaplane bases.

b. Airports will be plotted to true geographic positions on charts unless they are in conflict with a navigation aid at the same location. In such cases, the airport will be displaced from, or superimposed upon the navigation aid. However, in displacing for cartographic purposes, the relationship between the airport and navigation aid must be retained.

c. Airports will be depicted on aeronautical charts by using the symbols located in the chart's legend. Airports having an ATCT are shown in blue, and all other airports are shown in magenta. Airport names and associated data must be shown in the same color as the airport symbol.

Chapter 13. Military, NASA, and Other Agency Airport Proposals

Section 1. General DoD

13–1–1. PRIOR NOTICE TO FAA

49 U.S.C. § 44718 provides, in part, that the Department of Defense (DoD), the National Aeronautics and Space Administration (NASA), or other agencies must not acquire, establish, or construct any military airport, missile or rocket site, or substantially alter any runway layout unless reasonable prior notice is given to the FAA Administrator so that the appropriate committees of Congress, and other interested agencies, may be advised as to the effects of such projects upon the use of airspace by aircraft.

13–1–2. FORM OF NOTICE

The DoD forwards military airport or missile site projects to FAA Washington Headquarters in the form of an annual Military Construction Program (MCP). Military projects not involved in the annual program are submitted to the FAA regional office by the individual services or commands through the regional military representatives (see paragraph 13–1–5). NASA and other agencies submit their projects directly to FAA Washington Headquarters.

13–1–3. FAA HEADQUARTERS REVIEWS

Annual MCPs and proposals submitted by NASA or other agencies are forwarded to Rules and Regulations Group for review and processing. Rules and Regulations Group must coordinate with appropriate headquarters ATP, Flight Technologies and Procedures, and Technical Operations Spectrum Engineering Services Group/Spectrum Assignment and Engineering Team Offices prior to forwarding the proposal to the regional/service area office for study. Any problems with the proposal at the headquarters level should be resolved prior to requesting regional/service area input.

13–1–4. REGIONAL/SERVICE AREA OFFICE REVIEW

Rules and Regulations Group will then forward the projects to the appropriate regional office for processing in the same manner as civil airport proposals, except that service area offices are responsible for the study. The determination and recommendation on the proposal, plus all pertinent comments and related material, must be forwarded to Rules and Regulations Group by the service area office. The official FAA determination must be formulated by Rules and Regulations Group after review and any required inter–services coordination and forwarded to DoD, NASA, or other agencies as appropriate. A copy of the determination must be forwarded to the affected regional/service area office.

13–1–5. MILITARY PROPOSALS OTHER THAN MCP

Other military airport proposals may be submitted by individual services through the appropriate regional military representatives to the regional/service area office. These proposals must be processed in the same manner as civil airport proposals except as indicated below. This exception does not apply to notices on joint–use airports received under part 157 or AIP projects. ■

a. The regional Airports Division must coordinate with the service area office, Flight Standards Division, technical operations services area office, FPT, and other offices as required for formulation of the official FAA

determination. The determination must be issued to the appropriate regional military representative with a copy to Rules and Regulations Group.

b. When a controversial proposal is referred to Washington Headquarters for resolution, the airspace finding and official agency determination must be formulated by the AAS–100 in coordination with Rules and Regulations Group and other offices, as required, and forwarded to the appropriate regional military representatives through the regional/service area office.

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.

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.

c. The Service Center must request a staff study to evaluate whether or not to revoke a primary airport's Class C airspace when that airport has not met the Class C airspace criteria for at least a 5–year period and is projected to remain below those criteria for the next 5 years (see paragraph 16–3–6).

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 AIS for publication in the appropriate Chart Supplement.

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 7930.2, Notice to Airmen (NOTAM), describing the ATC service available and duration. No airspace NOTAM is issued.

d. Notice 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.

Chapter 17. Class D Airspace

Section 1. General

17–1–1. PURPOSE

Class D airspace areas are terminal airspace that consist of specified airspace (i.e., Surface Areas) within which all aircraft operators are subject to operating rules and equipment requirements. Service area offices are responsible for the coordination and implementation of Class D airspace designations.

a. Generally, a surface area is designated Class D airspace to provide controlled airspace for terminal VFR or IFR operations at airports having a control tower.

b. For non–towered airports requiring a surface area, the airspace will be designated Class E, see FAA Order JO 7400.11, Airspace Designations and Reporting Points.

c. The designation of navigable airspace outside of the United States is the responsibility of the Rules and Regulations Group (for example, U.S. territories).

17–1–2. REGIONAL/SERVICE AREA OFFICE EVALUATION

a. Service area offices must biennially evaluate existing and candidate Class D airspace areas using the information contained in this chapter as a guideline.

b. If the conclusion of an evaluation indicates that airspace modifications should be made, regions/service area offices must follow the applicable procedures in this order.

17–1–3. DESIGNATION

If the communications and weather observation reporting requirements of paragraphs 17–2–9 and 17–2–10 are met, a surface area:

a. Must be designated where a FAA control tower is in operation. Final rules will not be published in the Federal Register prior to a control tower becoming operational at the primary airport.

b. May be designated where a non–FAA control tower is in operation.

c. Must be designated to accommodate instrument procedures (planned, published, special, arrival, and departure) if such action is justified and/or in the public interest. The following factors should be considered:

1. Type of procedure, including decision height or minimum descent altitude.

2. The actual use to be made of the procedure, including whether a certificated air carrier or an air taxi/commuter operator providing service to the general public uses it.

NOTE–
For special instrument procedures, consideration should be given to availability to other users.

3. The operational and economic advantage offered by the procedure, including the importance and interest to the commerce and welfare of the community.

4. Any other factors considered appropriate.

17–1–4. TIME OF DESIGNATION

Class D or surface areas may be designated full–time or part–time. If part–time, the effective time must be stated in Coordinated Universal Time (UTC). Service area offices must ensure effective times are forwarded to AIS to be published in the NFDD.

17–1–5. PART TIME SURFACE AREAS

a. A provision may be incorporated in part–time Class D surface area designations (rules) to allow, by Notices to Airmen, for changes when minor variations in time of designation are anticipated. To apply this provision a Notice of Proposed Rulemaking and final rule must be issued which provides the following statement in the specific airspace designation: "This surface area is effective during the specific dates and times established, in advance, by a Notice to Airmen."

b. The effective date and time will thereafter be continuously published. Information concerning these surface areas must be carried in the following publications as applicable:

1. The Chart Supplement U.S. for the contiguous United States, Puerto Rico, and Virgin Islands.

2. The Chart Supplement Alaska.

3. The Chart Supplement Pacific

c. 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 regional/service area office The service area office must assure that such action is justified and in the public interest.

NOTE–

1. *At ATC sites where non–Federal employees perform weather duties, the appropriate FAA office must ensure that the reporting and dissemination requirements applicable to National Weather Service and FAA publication standards are followed.*

2. *In facilities where direct access to automated weather observing systems is not available, controllers will apply the provisions of FAA Order JO 7110.65, Air Traffic Control.*

17–2–11. LOSS OF COMMUNICATION OR WEATHER REPORTING CAPABILITY

a. If the capabilities outlined in paragraph 17–2–9 and/or paragraph 17–2–10 are temporarily out of service for an active Class D Surface Area, a Notice to Airmen must be issued stating the temporary loss of the affected service.

b. However, if it is determined that the capabilities are consistently unavailable, a Notice to Airmen must be issued, as described above, and rulemaking action initiated to revoke the Surface Area, as appropriate.

c. The FPT needs to be kept informed of any planned action, especially when IAP are involved, so as to assess the impact on published approaches. The Standards Specialist may decide changes are needed in the IAP, dependent on possible new altimeter source and other considerations. These changes will have an effect on the airspace action required; for example, minimums may be raised, or procedure may be canceled.

FIG 17–2–1
CLASS D AREA RADIUS FORMULA

Class D AREA RADIUS FORMULA
RADIUS
ARP/GP = AIRPORT REFERENCE POINT AND/OR GEOGRAPHIC POSITION
EOR = END OF OUTERMOST RUNWAY
6076 = ONE NAUTICAL MILE IN FEET
200 FEET PER NAUTICAL MILE = STANDARD CLIMB GRADIENT
D = DISTANCE IN FEET FROM ARP/GP TO EOR 3.5 MILES = DISTANCE REQUIRED FOR DEPARTURE TO REACH 700–FOOT CLASS E AIRSPACE USING STANDARD CLIMB GRADIENT
(700/200)
2.5 MILES = DISTANCE REQUIRED FOR DEPARTURE TO REACH 1200–FOOT CLASS E AIRSPACE USING STANDARD CLIMB GRADIENT
((1200 − 700)/200)
THE FORMULA CAN BE EXPRESSED AS: R = D/6076 + 3.5

Example:

At Airport A, the distance from the geographic position to the end of the outermost runway is 4,023 feet; therefore, assuming flat terrain, the radius is calculated as:

R = 4023/6076 + 3.5 = .662 + 3.5 = 4.162 = 4.2
The radius for the 700–foot Class E airspace becomes: 4.2 + 2.5 = 6.7

RISING TERRAIN

In the above example, an aircraft departing to the west would reach the lateral boundary of the surface area without reaching 700 feet AGL and, in effect, leave controlled airspace. To ensure that the lateral boundary of the Class D area is congruent with the beginning of the 700–foot Class E airspace, the specialist must:

a. Search the Class D area's radius circle for the highest terrain.

b. Calculate the MSL height of the aircraft by adding 700 feet to the airport elevation.

c. Compare MSL altitudes of the aircraft versus the highest terrain to determine if the aircraft has reached the overlying or adjacent controlled airspace. If not, increase the size of the Class D area, as necessary, to contain the departure.

NOTE–
When terrain, obstacles, or procedures prohibit departures in portions of the basic surface area, a terrain search is not necessary in that area and that height is not used in the computations.

Chapter 20. Air Traffic Service Routes

Section 1. General

20–1–1. PURPOSE

a. This chapter prescribes general guidance for the designation of Air Traffic Service (ATS) routes.

b. An ATS route is a specified route designed for channeling the flow of air traffic as necessary for the management of air traffic operations.

c. This chapter applies only to those U.S. domestic ATS routes that are listed in 14 CFR section 71.13, Classification of Air Traffic Service (ATS) Routes; specifically: jet routes, VOR Federal airways, L/MF (Colored) Federal airways, and area navigation routes.

NOTE–
This chapter does not apply to the designation of nonregulatory oceanic ATS routes (e.g., AR11, B760, etc.) that are established primarily outside of U.S. domestic airspace. Those routes are not designated in 14 CFR part 71.

d. Unless otherwise specified, the criteria and procedures for the development of ATS routes are contained in FAA Orders: 8260.3, United States Standard for Terminal Instrument Procedures (TERPS); 8260.19, Flight Procedures and Airspace; 8260.43, Flight Procedures Management Program; and 8260.58, United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design.

20–1–2. CONTROLLED AIRSPACE

ATS routes are designated as either Class A airspace (§ 71.31) or Class E airspace (§ 71.71) corresponding to the altitude structure of the route.

20–1–3. DESIGNATION OF ATS ROUTES

a. ATS routes are designated through rulemaking action under 14 CFR part 71. The designation of ATS routes is based on air traffic and user requirements.

b. ATS routes must be predicated upon NAVAIDs that are suitable for inclusion in the NAS or area navigation (RNAV) references, as applicable to the type of route.

c. The benefits of the designation should outweigh any adverse effects to the NAS and provide airspace users with charted information pertaining to navigational guidance, minimum en route altitudes, changeover points, etc.

20–1–4. RESPONSIBILITIES

a. The Rules and Regulations Group is responsible for part 71 rulemaking to establish, amend, or remove ATS routes.

b. Service Center OSGs must:

1. Coordinate ATS routes with appropriate offices (e.g., ATC facilities, adjacent Service Center offices, AIS, Technical Operations, and regional Frequency Management Offices) to determine if operational requirements and air traffic warrant a rulemaking action.

NOTE–
ATS route actions must be coordinated with and have concurrence from affected ATC facilities.

2. Ensure that the FPT and the Rules and Regulations Group coordinate the details of proposed new and amended ATS routes to facilitate part 71 rulemaking action.

3. Conduct periodic reviews of ATS routes in their area of responsibility in accordance with FAA Order 8260.19, Flight Procedures and Airspace, Chapter 2, and initiate part 71 rulemaking action as necessary.

20–1–5. ROUTE IDENTIFICATION

All alpha–numeric ATS route identifiers are assigned by the Rules and Regulations Group as follows:

a. L/MF (Colored) Federal airways are identified by color names (Amber, Blue, Green, or Red). The identifier consists of the first letter of the color followed by a number (e.g., R–50, G–13, A–1, etc.).

1. Identify L/MF (Colored) airways oriented mainly west and east as Green or Red.

2. Identify L/MF (Colored) airways oriented mainly south and north as Amber or Blue.

b. VOR Federal airways (below FL 180) are identified by the letter "V" prefix followed by a number (e.g., V–104).

c. Jet routes (FL 180 through FL 450) are identified by the letter "J" prefix followed by a number (e.g., J–75).

d. RNAV routes are identified as follows:

1. Low altitude (below FL 180) RNAV routes are identified by a "T" prefix followed by a number (e.g., T–245).

2. High altitude (FL 180 through FL 450) RNAV routes are identified by a "Q" prefix followed by a number (e.g., Q–120).

3. Helicopter RNAV routes are identified by a "TK" prefix followed by a number (e.g., TK–502).

e. ATS route numbers are assigned as follows:

1. Even numbers for ATS routes oriented mainly west and east.

2. Odd numbers for ATS routes oriented mainly south and north.

f. ICAO has allocated the following number sets for U.S. RNAV routes:

1. Q routes: 1 through 499.

2. T routes: 200 through 500.

3. TK routes: 501 through 650.

g. Points in route descriptions must be listed from west to east for even numbered ATS routes and south to north for odd numbered ATS routes.

h. Points listed in 14 CFR part 71 route descriptions consist of:

1. The beginning and end points of the route;

2. Points where a route changes direction;

3. Holding fixes; and

4. Points required due to the maximum distance allowed between NAVAIDs (see service volume limitations in FAA Order 9840.1, U.S. National Aviation Handbook for the VOR/DME/TACAN Systems).

i. When radials or bearings from a navigation aid are used to define intersections in an ATS route description, both True and Magnetic degrees must be stated in the NPRM. Only True degrees are stated in the final rule.

20–1–6. BASE ALTITUDES

a. The base of an ATS route must be at least 1,200 feet above the surface and at least 500 feet below the minimum en route altitude (MEA) except that route floors may be established no less than 300 feet below the MEA when:

Section 5. Area Navigation (RNAV) Routes

20–5–1. PURPOSE

Area navigation (RNAV) is a method of navigation that permits aircraft operation on any desired flight path within the coverage of ground– or space–based navigation aids, or within the limits of the capability of self–contained aids, or a combination of these. The potential advantages of RNAV routes include:

a. Time and fuel savings;

b. Reduced dependence on radar vectoring, and speed assignments allowing a reduction in required ATC transmissions; and

c. More efficient use of airspace.

20–5–2. RNAV ROUTE CRITERIA

a. Refer to FAA Orders 8260.3, United States Standard for Terminal Instrument Procedures (TERPS); 8260.19, Flight Procedures and Airspace; and 8260.58, United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design, for criteria and procedures applicable to RNAV route development.

b. The basic width of an RNAV route is 8 NM (4 NM each side of the route centerline).

c. Operational and airworthiness guidance regarding operation on U.S. Area Navigation routes may be found in AC 90–100, U.S. Terminal and En Route Area Navigation (RNAV) Operations.

20–5–3. WAYPOINTS

a. A waypoint is a predetermined geographical position defined in terms of latitude/longitude coordinates, using a degrees, minutes, seconds, and hundredths of a second format.

b. RNAV waypoints are used not only for navigation references, but also for ATC operational fixes. Waypoints are to be established along RNAV routes at:

1. The beginning and end points of the route;

2. Points where a route changes direction;

3. Holding fixes; and

4. Points required due to the maximum distance allowed between NAVAIDs, fixes or waypoints.

c. Waypoint names must consist of a single, five–letter pronounceable name. Five–letter names are assigned by AIS (see paragraph 3–3–4 in this order).

20–5–4. LATERAL PROTECTED AIRSPACE CRITERIA FOR RNAV EN ROUTE SEGMENTS

The primary en route obstacle clearance area has a width of 8 NM; 4 NM on each side of the centerline of the route. Primary, secondary, and turning area criteria are found in FAA Orders 8260.3, United States Standard for Terminal Instrument Procedures (TERPS); 8260.19, Flight Procedures and Airspace; and/or 8260.58, United States Standard for Performance Based Navigation (PBN) Instrument Procedure Design, as applicable.

20–5–5. RNAV ROUTE DESCRIPTIONS

a. RNAV route descriptions are published in Order JO7400.11. RNAV routes consist of points that may be defined as waypoints, fixes, and/or ground–based navigation aids.

b. RNAV route descriptions must be formatted as follows:

1. On line one:

(a) The route number; and

(b) The route start/end points (i.e., point name, state, and NAVAID ID as required);

2. On subsequent lines for each point that makes up the route:

(a) The point name, state, and NAVAID ID as required;

(b) The type of point (i.e., WP, Fix, or NAVAID type); and

(c) The geographic coordinates of each point expressed in degrees, minutes, seconds, and hundredths of a second.

3. On the last line, if applicable: Any exclusions from the route (e.g., "Excluding the airspace within Canada").

c. See Section 1 of this chapter for information on route numbering.

d. Examples of RNAV route descriptions:

EXAMPLE–

1. ***Q–71 BOBBD, TN to Philipsburg, PA (PSB)***

BOBBD, TN WP (lat. 35 °47'57.59"N., long. 083 °51'33.90"W.)

ATUME, KY WP (lat. 36 °57'13.65"N., long. 083 °03'24.36"W.)

HAPKI, KY WP (lat. 37 °04'55.73"N., long. 082 °51'02.62"W.)

KONGO, KY FIX (lat. 37 °30'19.46"N., long. 082 °08'12.56"W.)

WISTA, WV WP (lat. 38 °17'00.52"N., long. 081 °27'46.55"W.)

GEFFS, WV FIX (lat. 39 °00'49.86"N., long. 080 °48'49.85"W.)

EMNEM, WV WP (lat. 39 °31'27.12"N., long. 080 °04'28.21"W.)

PSYKO, PA WP (lat. 40 °08'37.00"N., long. 079 °09'13.00"W.)

Philipsburg, PA (PSB) VORTAC (lat. 40 °54'58.53"N., long. 077 °59'33.78"W.)

2. ***T–329 Morro Bay, CA (MQO) to NACKI, CA***

Morro Bay, CA (MQO) VORTAC (lat. 35 °15'08.12"N., long. 120 °45'34.44"W.)

Paso Robles, CA (PRB) VORTAC (lat. 35 °40'20.87"N., long. 120 °37'37.59"W.)

LKHRN, CA WP (lat. 36 °05'59.82"N., long. 120 °45'22.53"W.)

Panoche, CA (PXN) VORTAC (lat. 36 °42'55.65"N., long. 120 °46'43.26"W.)

MKNNA, CA WP (lat. 37 °04'23.41"N., long. 120 °50'22.26"W.)

Section 2. Criteria

26–2–1. ESTABLISHMENT

a. Alert areas may established for either military or civil aviation activities.

NOTE–
Before proposing an alert area, consider whether the publication of an advisory note on aeronautical charts near the affected location would provide satisfactory notice of the activity to nonparticipating pilots.

b. Establish of an alert area is not a prerequisite to conduct any type of flight activity and does not restrict IFR or VFR traffic.

c. Alert areas do not impose any flight restrictions or communications or ATC clearance requirements on pilots either operating within, or transiting the area.

26–2–2. TYPES OF OPERATIONS

Limit the establishment of alert areas to the following types of operations:

a. Concentrated Student Pilot Training.

1. A high volume of flight training operations at one or more airports in a given area. The volume of activity should exceed 250,000 local operations (as defined in FAA Order JO 7210.3, Chapter 13, Facility Statistical Data, Reports, and Forms) annually and be generated primarily by student pilot training in fixed–wing and/or rotary–wing aircraft.

2. A student pilot training area beyond a 20 NM radius of the airport that contains unusually intensive training operations.

b. Unusual Aeronautical Activity. There are no specific criteria established for this category. Alert areas should not be established in lieu of other special use airspace expressly defined and established for nonhazardous activities (e.g., MOAs). Each proposal will be evaluated on a case–by–case basis to determine its significance to the flying public and aviation safety.

NOTE–
One example of an alert area fitting this category is A–381, designated to identify the unusual concentration and volume of aviation activity in the U.S. Gulf Coast/Gulf of America area.

Section 4. Notices to Airmen

29–4–1. ISSUANCE OF NOTICES TO AIRMEN (NOTAM)

a. To enhance safety of flight, the appropriate Service Center OSG must prepare the NOTAM, for visible lasers or if requested by the facility having jurisdiction over that airspace, and submit the NOTAM via the NOTAM Entry System (NES) no earlier than seven days prior to the start of the proposed laser activity.

b. The NOTAM will emphasize the potential hazardous effects and other related phenomena that may be encountered by laser light emissions. Include facility to notify, and any other information deemed appropriate.

c. The Service Center OSG may further delegate notification responsibility to the Air Traffic facility.

d. When deemed appropriate, the Service Center OSG may direct the proponent to activate or cancel the FDC NOTAM, specific to the laser activity. The Service Center OSG must explain the responsibility of the proponent concerning appropriate NOTAM actions.

e. The Service Center OSG is responsible for canceling the NOTAM except as noted above in paragraph 29–4–1c and d.

Chapter 31. Amateur Rocket and Commercial Space Operations

Section 1. General

31–1–1. PURPOSE

This chapter provides guidance, policies, and procedures for processing requests for amateur rocket, commercial launch and reentry vehicle, and commercial launch and reentry site operations in the NAS.

31–1–2. AUTHORITY

a. Title 51 of the United States Code (51 U.S.C.), National and Commercial Space Programs, is the compilation of the general laws regarding space programs. 51 U.S.C. was issued December 18, 2010, when signed ("H.R. 3237".) into law under PL 111–314.

b. Title 14 of the Code of Federal Regulations (14 CFR) Aeronautics and Space:

1. Chapter I, Subchapter F, part 91, Air Traffic and General Operating Rules;

2. Chapter I, part 101, Moored Balloons, Kites, Amateur Rockets, Unmanned Free Balloons, and Certain Model Aircraft;

3. Chapter III, Commercial Space Transportation, Federal Aviation Administration, Department of Transportation, parts 400–460.

31–1–3. POLICY

a. ATO service area forwards all requests for Class II amateur rockets that will enter Class A airspace and all Class III requests to the Office of Commercial Space Transportation (AST) for additional safety analysis.

b. All proposals for development of launch or reentry sites, and the conducting of commercial space launches and reentry operations, must be immediately forwarded to AST.

c. The Federal Aviation Administration's policy is to use an interdisciplinary approach to ensure compliance with all laws and regulations. This policy requires all projects be reviewed in a timely manner by all necessary stakeholders to determine the impact to the NAS.

31–1–4. CONTROLLING FACILITY

The FAA or DoD facility having control jurisdiction over the affected airspace where the amateur rocket, launch vehicle, or reentry vehicle is projected to operate must be designated as the controlling facility. When multiple facilities may be impacted by an operation, one facility will be designated as the lead and be designated as the controlling agency. The controlling facility will be responsible for the execution of the appropriate airspace management.

31–1–5. DEFINITIONS

a. Aircraft hazard area – the predicted location and extent of the airspace potentially containing falling debris generated by an amateur rocket, launch vehicle, reentry vehicle failure, or from the planned jettison of stages or other hardware.

b. Amateur rocket – an unmanned rocket that is propelled by a motor or motors having a combined total impulse of 889,600 Newton–seconds (200,000 pound–seconds) or less; and cannot reach an altitude greater than 150 kilometers (93.2 statute miles) above the Earth's surface.

c. Amateur rocket classes:

1. Class 1 – a model rocket that uses no more than 125 grams (4.4 ounces) of propellant; uses a slow–burning propellant; is made of paper, wood, or breakable plastic; contains no substantial metal parts; and weighs no more than 1,500 grams (53 ounces) including the propellant.

2. Class 2 – a high power rocket, other than a model rocket, that is propelled by a motor or motors having a combined total impulse of 40,960 Newton–seconds (9,208 pound–seconds) or less.

3. Class 3 – an advanced high power rocket, other than a model rocket or high–power rocket.

d. Applicant – an entity that has submitted a request for waiver/authorization to part 101 for the launch of an amateur rocket, or an entity that has submitted an application to AST for a license or permit to operate a launch vehicle, reentry vehicle, launch site, or reentry site.

e. Ground hazard area – the required separation distance between the launch point and nearest people or property that are not associated with the operation.

f. Launch vehicle – a vehicle built to operate in, or place a payload in, outer space or a suborbital rocket. Chapter III requires that launch vehicle operations be licensed by AST.

g. Operator – an amateur rocket operator or an entity that has received a license or permit from AST to conduct a launch or reentry operation.

h. Reentry vehicle – a reusable launch vehicle designed to return from Earth's orbit or outer space to Earth substantially intact. The performance and maneuverability of reentry vehicles may vary depending upon the design of the vehicle, including those that descend via parachute, those that glide to a landing, and those that use rocket or jet power to land.

31–1–6. RESOURCES

a. Current regulations can be viewed at ecfr.gov.

1. Commercial space regulations can be found at 14 CFR Chapter III, parts 400–460.

2. Amateur rocket regulations can be found at 14 CFR, part 101.

b. The FAA's Commercial Space Transportation organization website contains information about current and planned launches, issued licenses, industry news, and announcements.

c. Additional amateur rocketry information can be found at the National Association of Rocketry (NAR) website at www.NAR.org.

d. FAA Order JO 7210.3, Facility Operation and Administration, contains guidance and policy for processing waiver/authorizations applicable to amateur rocket operations as well as commercial space letter of agreement facilitation and coordination.

e. FAA Order 7930.2, Notice to Airmen (NOTAM), contains procedures for issuance of "Airspace," "Temporary Flight Restriction," and "ALTRV" NOTAMs.

f. FAA Order JO 7610.14, Non–Sensitive Procedures and Requirements for Special Operations, contains authority, responsibility, and general operating procedures under the ALTRV concept for Central Altitude Reservation Function (CARF) and other concerned ATC facilities.

Section 3. Launch and Reentry Vehicle Operations

31−3−1. RESPONSIBILITIES

a. Operator. Prior to conducting a launch or reentry, the operator must obtain a license or permit from the Office of Commercial Space Transportation (AST). With regard to airspace management, the 14 CFR parts 400−460 regulations for both a license and a permit require an applicant to engage AST in the pre−application consultation and to complete a letter of agreement (LOA) with the ATC facility having jurisdiction of the airspace where the launch or reentry will take place.

NOTE−
Commercial space LOAs are required for each launch site and launch and/or reentry operator for license and permit purposes in accordance with 14 CFR parts 400−460. The FAA has 180 days to evaluate a complete license application and 120 days to evaluate a complete permit application. AST requires a draft LOA to accompany the submission of a license or permit application to ensure ATO is included in the coordination. The draft LOA submitted with the license or permit application must be acceptable to all signatories and be completed prior to the end of the application process. Each commercial space applicant must have a signed LOA prior to operation in the NAS.

b. Air Traffic. ATO Space Operations (AJR−1800) and ATC facilities have the following responsibilities:

1. ATO Space Operations is the ATO Office of Primary Responsibility for launch and reentry operations and any other activity relevant to tactical space operations in the NAS. ATO Space Operations is responsible for:

(a) Ensuring that launch and reentry operations are safely and efficiently integrated into the NAS;

(b) Working with ATC facilities to develop a memorandum of assessment of potential impacts on the NAS from the proposed site/operation and the identification of any issues or constraints. As the ATO's POC for commercial space operations, ATO Space Operations must provide a memorandum of assessment of potential impacts on the NAS to AST (see Appendix 13).

(c) Coordinating with AST, the operator, and the affected air traffic facilities as necessary;

(d) Analyzing and evaluating data to produce and distribute an airspace management plan;

(e) Serving as the focal point for the coordination and distribution of any hazard mitigation requirements, and information relevant to launch or reentry vehicle operations to affected air traffic facilities;

(f) Monitoring, evaluating, and disseminating information in real−time regarding the status of launch and reentry vehicle operations and providing operational support as required;

(g) Hosting a mission real−time hotline when required in accordance with an LOA;

(h) Performing post launch or reentry analysis of each operation to improve future operations;

(i) Archiving captured launch and reentry data and analysis;

(j) ATO Space Operations will supply the space launch/re−entry course (expressed in magnetic degrees) to the ATC facility.

2. ATC facilities are responsible for:

(a) Working with ATO Space Operations to develop a memorandum of assessment of potential impacts on the NAS from the proposed site/operation and the identification of any issues or constraints;

(b) Determining and notifying ATO Space Operations of potential effects the launch or reentry operation may have on traffic flows and sector loading;

(c) Determining the type and level of assistance needed to support the launch or reentry operation;

(d) Developing and executing an airspace management plan in collaboration with ATO Space Operations;

(e) Working with ATO Space Operations and other affected facilities during the execution of the launch or reentry. This includes the following duties:

(1) Participating on a real−time communications hotline during the launch or reentry operation when required in accordance with an LOA;

(2) Execution of any safety hazard mitigation efforts.

c. AST. AST is responsible for:

1. Validating AHAs, THAs, and other safety and mission information to ATO Space Operations when necessary;

2. Operating as part of the Joint Space Operations Group (JSpOG), to include onsite computation of AHAs and THAs during operations and other support;

3. Evaluating all commercial space LOAs against 14 CFR parts 400−460 requirements.

d. Federal range. The process for launches or reentries conducted at Federal ranges is similar to the process at non−Federal launch and reentry sites. Additional opportunities exist in the collaboration between the Federal range and the operator for ATO and AST to obtain necessary information to support the launch and reentry process. Further, the range generally conducts some activities necessary for the operation on behalf of the operator, including safety analyses. Federal ranges also typically have existing letters of agreements with ATC facilities.

31−3−2. NOTICE TO AIRMEN (NOTAM)

a. NOTAMs issued for space launch and reentry operations will be processed in accordance with current FAA directives.

b. The NOTAM must include the key words “airspace,” “space launch,” or “space reentry;” the launch or reentry site description, effective dates and times, and a chart depicting the area boundaries. It should also include a brief narrative describing the launch or reentry scenario, activities, types of launch or reentry vehicle involved, and the availability of inflight activity status information for nonparticipating pilots.

c. Information regarding the methods of airspace management may also be addressed.

31−3−3. LAUNCH AND REENTRY PROCESS

a. The operator/range or designee submits a request to conduct a launch or reentry operation to ATO Space Operations, facilities and other organizations in accordance with the LOA.

b. The operator/range or designee must distribute AHAs to affected parties, per LOA.

c. Unless otherwise specified in a LOA, the operator coordinates use of airspace outside the U.S. FIR.

d. Unless otherwise specified in a LOA, the operator coordinates use of any special use airspace with the Using Agency.

e. ATO Space Operations must work with affected ATC facilities to conduct a NAS impact analysis of the proposed operation.

f. ATO Space Operations and ATC facility(ies) develop a proposed plan of operation based on the NAS impact analysis and/or any local or national constraints.

g. When necessary, AST verifies the accuracy of the mission AHAs and THAs and coordinates the results with ATO Space Operations.

h. Prior to each launch or reentry, ATO Space Operations shares AHAs and THAs with affected ATC facilities.

e. OSG Flight Procedures and Airspace Specialist (FPT/AT)

1. The responsibility to coordinate and consult with the Service Centers' EPSs for environmental analysis and documentation rests with the following flight procedures and airspace specialists as applicable and defined in FAA Order 8260.19.

(a) The OSG Flight Procedures Team is responsible for IFP establishment, change and cancellation requests to IFPs.

(b) The OSG Airspace Teams are responsible for the establishment, change or cancellation requests to airway routes (as applicable) and assisting with IERs.

(c) AJV−A is responsible for IFP establishment or change requests to AFS assigned special procedures and AJV−A initiated maintenance actions.

(d) AFS−400 is responsible for IFP Non−FAA Service Provider procedures (also referred to as "third−party developed flight procedures").

2. The respective flight procedure or airspace specialist must provide the Environmental Specialist information and data concerning the flight procedure being analyzed by the EPS for potential environmental impacts, and that will support the EPS' preparation of a CATEX and other related environmental documentation as necessary. When the results of the Pre−Screening Filter indicate that additional environmental review is needed, the Service Center Environmental Specialist is responsible for completing that additional review and preparing the appropriate environmental compliance documentation. If additional information about the flight procedure is necessary to complete a sufficient environmental analysis, the EPS and flight procedure designer(s) are responsible to determine what additional information is necessary to complete the environmental document.

f. Air Route Traffic Control Center (ARTCC), Terminal Radar Approach Control (TRACON), and Airport Traffic Control Tower (ATCT) facility managers.

1. ARTCC, TRACON, and ATCT facility managers are responsible for coordinating and consulting with the Service Center Environment Specialist to ensure that all appropriate environmental documentation for proposed air traffic actions within their jurisdiction is prepared accurately and completely. For procedures reviewed through the IFP Environmental Pre−Screening Filter, these managers must ensure that the results of the Filter are reviewed by appropriate FAA personnel, and with the Service Center Environmental Specialist, as appropriate and necessary.

(a) For actions that require additional environmental review, these managers are responsible for consulting with the Service Center Environmental Specialist who recommends the appropriate level of environmental review.

(b) For actions other than Advisory or Emergency Actions (as defined in FAA Order 1050.1), and actions that require additional environmental review beyond the IFP Environmental Pre−Screening Filter, the facility manager must ensure that, at a minimum, an Air Traffic Initial Environmental Review (IER) (see Appendix 5) is prepared and submitted, with supporting information, to the Service Center Environmental Specialist along with a description of the proposed action (see Paragraph NO TAGa, Determination of Appropriate Environmental Documentation). Under some limited circumstances, the Service Center Environmental Specialist may waive the need for completion of the IER by substituting an appropriate level of documentation, such as a memorandum to the file.

(c) For IFP actions reviewed through the IFP Environmental Pre−Screening Filter, the OSG FPT must assist the Service Center Environmental Specialist in determining the appropriate level of environmental documentation after reviewing the results from the Filter. When a Categorical Exclusion is appropriate, the Environmental Specialist must document the analysis that supports the application of a Categorical Exclusion in accordance with FAA Order 1050.1, Chapter 5. This document must be signed by the Service Center OSG Manager, or their designee. Appendix 6 is recommended for use in documenting this analysis. If preparation of an EA or EIS requires the use of a contractor, the field facility must forward that recommendation to the Service Center Director for approval and action.

2. The ATCT facility manager should be involved early in the design phase of a proposed IFP action, and any other applicable air traffic action, to ensure that a full understanding of tower/airport operations is included in the alternatives development for the description of the proposed action. The facility manager is responsible for ensuring that information provided to the ARTCC and/or TRACON is complete and accurate.

3. Facility managers are also responsible for designating at least one facility staff specialist within their scope of operations to address environmental issues, and for coordinating with the Service Center Environmental Specialist.

(a) The facility specialist may be required to perform his/her environmental duties on a full−time or collateral basis. The decision about the need for a full−time Environmental Specialist at a field facility must be made by the facility manager.

(b) Facility managers must ensure that the specialist who performs environmental duties on a full−time basis attends the training specified in paragraph 32−1−5b. above, as soon as practical.

(c) The environmental screening and modeling tools training is also recommended, but is not mandatory. Additionally, where other facilities have, or are authorized to have, an operations specialist (for example, Plans and Programs Specialist or Procedure Specialist) to conduct environmental activities as a collateral duty, it is recommended that these specialists attend the above−referenced training.

4. Facility managers must ensure that their facility is represented at meetings of the Office of Airports and other lines of business, such as environmental compliance and part 150 process meetings, where decisions rendered could affect air traffic operations in their area of responsibility.

(a) Facility managers are responsible for working with operating divisions, airport sponsors, and contract support personnel in the environmental review processes. Air traffic attendance at these meetings does not necessarily constitute air traffic endorsement or sanction of the proposed action.

(b) Environmental compliance and part 150 studies must receive thorough review at the facility level. Review and comments on Office of Airports documents must be directed to those matters that affect the operation of the air traffic program. Facility comments must be forwarded to the Service Center Environmental Specialist, not more than 15 days after receipt of the document or study. (Requests for longer periods of review must be coordinated with the Service Center Environmental Specialist on an as needed basis.) Prior to a facility submitting comments directly to other operating divisions, or airport sponsors, the facility point of contact must discuss relevant and applicable airspace and/or air traffic issues with the Service Center Environmental Specialist.

5. Facility managers (or their designees) must not make or recommend a proposed flight track, route, or air traffic flow as a preferred action for the sole purpose of noise abatement. They may, however, indicate if the proposed action is operationally feasible or safe (within the context of aircraft separation standards). The airport sponsor (operator) is solely responsible for the recommendation of noise abatement procedures.

(b) Documentation from the responsible FAA facility to the proponent indicating concurrence with the proposed procedure(s).

7. The Service Center Environmental Specialist will review the proposed action to determine if a categorical exclusion is applicable. If the proposed action qualifies for a categorical exclusion, the Environmental Specialist will prepare a CATEX declaration in accordance with the requirements of FAA Order 1050.1, Chapter 5. Use of the Categorical Exclusion Declaration in Appendix 6 is recommended.

(a) If necessary, the Service Center Environmental Specialist must use the MITRE Screening Guidance Document referenced in paragraph 32−3−3, below, to assist in determining if the CATEX is applicable.

(b) The Service Center Environmental Specialist must contact the proponent if any additional information is needed to support the CATEX.

8. If the Guidance for Noise Screening of Air Traffic Actions indicates that additional review is required, the Service Center Environmental Specialist will use one of the following tools, as appropriate, to perform the next level of screening to determine if the CATEX is applicable:

(a) Terminal Area Route Generation Evaluation and Traffic Simulation (TARGETS) tool with the Environmental "Plug−in," or other FAA approved noise screening tool.

(b) If that level of screening indicates that a CATEX is applicable, the Environmental Specialist will prepare a CATEX declaration (Appendix 6 of this order) with results from the above screening tool(s) attached.

(c) If screening of a flight procedure(s) indicates that a CATEX is not applicable, then an Environmental Assessment (EA) should be completed. Flight procedures requiring an EA will be returned to the proponent for additional information that will enable the Service Center Environmental Specialist to conduct an EA level of environmental impact analysis and documentation.

(1) A "focused" EA with required noise analysis may be appropriate in this situation. In coordination and consultation with the Service Center Environmental Specialist, preparation of the EA and any related environmental analysis will be the responsibility of the proponent, and must be completed in accordance with all applicable environmental regulations and requirements.

(2) The Service Center Environmental Specialist is responsible for providing advice and assistance to the proponent during the EA preparation; independent review and EA completion; and preparation and completion of a FONSI or decision that an EIS is required.

9. Categorical Exclusions. If someone other than an EPS completes an IER (when applicable), the completed IER form, and any other documentation describing the proposed action, must be forwarded to the Service Center Environmental Specialist for review and incorporation into the NEPA document.

(a) The Service Center Environmental Specialist must then document the analysis that supports the application of a CATEX in accordance with FAA Order 1050.1, Chapter 5. Appendix 6 is recommended for use in documenting this analysis. If the IFP Environmental Pre−Screening Filter is used, then the environmental data is gathered electronically instead of through the IER and is forwarded to the appropriate next step in the IFP process.

(b) A CATEX does not apply to a proposal if extraordinary circumstances, as described in FAA Order 1050.1, paragraph 5-2, Extraordinary Circumstances, exist.

10. Environmental Assessments. Although the facility manager must make a recommendation on the level of environmental review, the Service Center Environmental Specialist must make the final determination as to whether the proposed action warrants preparation of an EA or an EIS. For proposed actions that warrant an EA level of review, the Service Center Environmental Specialist may need to request additional resources, funding, and information to support the proposal.

(a) Consultation with the Rules and Regulations Group regarding projects at this stage is recommended.

(b) If an independent contractor is to prepare the EA, the Service Center Environmental Specialist must oversee the preparation to ensure compliance with FAA Order 1050.1, Chapter 6, Environmental Assessments and Findings of No Significant Impact.

(c) Chapter 6 of FAA Order 1050.1 summarizes and supplements requirements of the Council on Environmental Quality (CEQ) regulations for EAs. The CEQ regulations do not specify a required format for an EA; however, FAA Order 1050.1, paragraph 6-2.1, contains a sample format that will facilitate preparation of an EA, and integrate compliance with other environmental laws, regulations, and Executive Orders with NEPA review.

(d) All EAs must be focused and concise in accordance with CEQ and AEE guidance. As defined in the CEQ regulations implementing NEPA, an EA is a "concise public document" that "briefly provides sufficient evidence and analysis for determining whether to prepare an environmental impact statement or a finding of no significant impact."

(1) 40 CFR §1508.9(a). An EA must include "brief discussions" of the need for the proposed action, alternatives to the proposed action, and the potential environmental impacts of the proposed action and alternatives.

(2) 40 CFR §1508.9(b). In addition to these specific directions for EAs, the CEQ regulations also contain guidelines regarding the importance of reducing paperwork (for example, by "discussing only briefly issues other than significant ones") and reducing delay (for example, by setting time limits for deciding whether to prepare an EIS.) (See 40 C.F.R. §§ 1500.4(c), 1500.5, 1501.8(b)(2)(i)).

11. These concepts are also emphasized in other CEQ guidance, as well as in DOT and FAA orders, and guidance for implementing NEPA actions. To achieve a focused and concise EA, the following must be considered:

(a) Where there are anticipated effects to a resource, but those effects are clearly below thresholds of significance as defined in FAA Order 1050.1, briefly document that fact with an explanation that thresholds would not be reached or exceeded.

(b) Do not address impact categories that the action has no potential to impact, such as construction, farmland, and water quality.

(c) Scale the NEPA review process to the nature and level of the expected environmental impact. Include only what is absolutely necessary in the document and include any additional required supporting data in an appendix.

(d) Do not include information in the document (not even in an appendix) that can be incorporated by reference to a related proposed action analyzed in a previous NEPA document, and made available on a publicly accessible website.

12. Findings of No Significant Impact. If an EA reveals that a proposed air traffic action would not cause significant adverse impacts, the Service Center Environmental Specialist must prepare a FONSI.

(a) FAA Order 1050.1, paragraph 6-3, Finding of No Significant Impact, summarizes and supplements CEQ requirements for FONSIs. The CEQ regulations do not specify a format for FONSIs, but FONSIs must contain the information discussed in 40 CFR 1508.13. The FONSI may be attached to an EA, may be combined with the EA in a single document, or may be a stand−alone document.

(b) Paragraph 6-3 should be reviewed in detail prior to completion of a FONSI to assist in determining the type of document to prepare.

(1) If the FONSI is not combined with, or attached to an EA, it must include a summary of the EA and note any other environmental documentation related to it.

(2) If the FONSI is attached or included with the EA, the FONSI does not need to repeat any of the discussions in the EA but may incorporate them by reference.

(3) All documentation relied upon must be made available to the public upon completion of the environmental process.

(c) If mitigation of potential impacts is included as a requirement in the FONSI, the appropriate follow−up actions must be taken to ensure that the required mitigation is implemented. The Service Center preparing the FONSI is responsible for ensuring that the required mitigation actions are implemented.