U.S. Department
of Transportation

**Federal Aviation
Administration**

7400.2E
Procedures for Handling Airspace Matters

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Initiated by ATA-400

RECORD OF CHANGES

DIRECTIVE NO. 7400.2E

CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL	CHANGE TO BASIC	SUPPLEMENTS			OPTIONAL

FAA Form 1320-5 (6-80) USE PREVIOUS EDITION

FAA ORDER 7400.2E

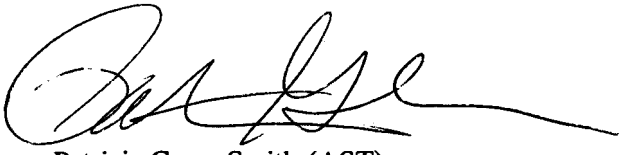
PROCEDURES FOR HANDLING AIRSPACE MATTERS

FOREWORD

This order specifies procedures for use by all personnel in the joint administration of the airspace program. The guidance and procedures herein incorporate into one publication as many orders, notices, and directives of the affected services as possible. Although every effort has been made to prescribe complete procedures for the management of the different airspace programs, it is impossible to cover every circumstance. Therefore, when a situation arises for which there is no specific procedure covered in this order, personnel shall exercise their best judgement.

The order consists of six parts. Part 1 addresses general procedures applicable to airspace management. Part 2 addresses policy and procedures unique to Obstruction Evaluation. Part 3 addresses policy and procedures unique to Airport Airspace Analysis. Part 4 addresses policy and procedures unique to Terminal and En Route Airspace. Part 5 addresses policy and procedures unique to Special Use Airspace. Part 6 addresses policy and procedures regarding the integration of Outdoor Laser Operations, High Intensity Light Operations, and integration of Rockets and Space-Vehicle Operations into the National Airspace System.

Steven J. Brown (ATS)
Acting Associate Administrator
for Air Traffic Services



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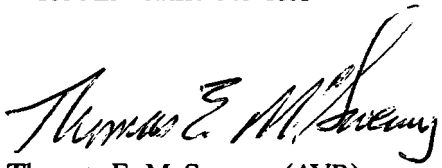

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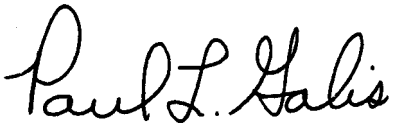

for: Woodie Woodward (ARP)
Acting Associate Administrator
for Airports

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PART 1
GENERAL PROCEDURES
FOR
AIRSPACE MANAGEMENT

Part 1. GENERAL PROCEDURES FOR AIRSPACE MANAGEMENT

Chapter 1. BASIC

Section 1. INTRODUCTION

1-1-1. PURPOSE

a. This order prescribes policy, criteria, guidelines, and procedures applicable to the Air Traffic Airspace Management Program, ATA; Spectrum Policy and Management, ASR; Office of Airport Planning and Programming, APP; Office of Airport Safety and Standards, AAS; Aviation System Standards, AVN; and Flight Standards Service, AFS.

b. This order also applies to all regional 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.

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

1-1-2. DISTRIBUTION

This order is distributed to select offices in Washington headquarters, the Office of Commercial Space Transportation, regional Air Traffic, Airway Facilities, Flight Standards, Airports Divisions, the William J. Hughes Technicial Center, the Mike Monroney Aeronautical Center, Aviation System Standards, all field facilities, international aviation field offices, and interested aviation public.

1-1-3. CANCELLATION

a. This order cancels FAA Order (FAAO) 7400.2D, Procedures for Handling Airspace Matters, dated September 16, 1993.

b. The following Policy Memorandums are also cancelled:

1. 89-001, FCC Marking and Lighting Coordination, dated February 23, 1989;

2. 89-002, Airspace Determinations on Seaplane Bases Under Part 157, dated April 19, 1989;

3. 89-005, Evaluating Aeronautical Effect, dated November 9, 1989;

4. 90-001, Evaluating Aeronautical Effect, dated January 9, 1990; and

5. 90-002, Aeronautical Studies, dated March 21, 1990.

1-1-4. EFFECTIVE DATE

This Order is effective on December 7, 2000.

1-1-5. EXPLANATION OF CHANGES

a. This order has been revised to incorporate previously issued Policy Memorandums and has been divided into six parts for ease of use and references. Further, several editorial changes have been made to reflect organizational changes, as well as policy and procedural changes.

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

1-1-6. CHANGE AUTHORITY

The Program Director, Air Traffic Airspace Management, ATA-1, will issue changes to this directive after obtaining concurrence from the affected headquarters offices/services listed in the foreword.

Section 2. AUTHORITY AND ORDER USE

1-2-1. POLICY

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

1-2-2. AUTHORITY AND APPLICABILITY

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

a. Section 40101, Policy;

b. Section 40102, Definitions;

c. Section 40103, Sovereignty and Use of Airspace, and the Public Right of Transit;

d. Section 40106(a), Deviations From Regulations;

e. Section 40109, Authority to Exempt;

f. Section 40113, Administrative;

g. Section 44501(a), Long Range Plans and Policy Requirements;

h. Section 44502, General Facilities and Personnel Authority;

i. Section 44502(c), Military Construction, Rockets, and Missiles;

j. Section 44718, Structures Interfering with Air Commerce;

k. Section 44719, Standards for Navigational Aids;

l. Section 44720, Meteorological Services;

m. Section 44721, Aeronautical Maps and Charts;

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

o. Section 46301, Civil Penalties;

p. Section 46308, Interference with Air Navigation;

q. Chapter 471, Airport Development - All of Subchapters I and II; and

r. Chapter 475, Noise - All of Subchapters I and II.

1-2-3. TITLE 14 CODE OF FEDERAL REGULATIONS (CFR) REFERENCES

a. Part 11, General Rulemaking Procedures.

b. Part 71, Designation of Class A, Class B, Class C, Class D, and Class E airspace areas; airways; routes; and reporting points.

c. Part 73, Special Use Airspace.

d. Part 77, Objects Affecting Navigable Airspace.

e. Part 91, General Operating and Flight Rules.

f. Part 93, Special Air Traffic Rules and Airport Traffic Patterns.

g. Part 95, IFR Altitudes.

h. Part 97, Standard Instrument Approach Procedures.

i. Part 101, Moored Balloons, Kites, Rockets and Free Balloons.

j. Part 152, Airport Aid Program.

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

l. Chapter III, Commercial Space Transportation.

m. Chapter V, National Aeronautics and Space Administration.

1-2-4. FUNCTIONAL RESPONSIBILITIES

Functional responsibilities of headquarters and regional organizations referred to in this order are detailed in Orders 1100.1, FAA Organization -

Policies and Standards, 1100.2, Organization - FAA Headquarters, and 1100.5, FAA Organization - Field.

1-2-5. WORD USAGE

The concept of word usage and intended meaning as used in this order is set forth below:

a. "Shall" or a command verb is used when application is mandatory.

b. "Shall not" is used when an action is prohibited.

c. "Should" is used when application is recommended.

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

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

f. "Navigable airspace" means airspace at or above the minimum altitudes of flight prescribed by the Code of Federal Regulations and shall include airspace needed to ensure safety in the takeoff and landing of aircraft. By policy, the term "airspace above minimum altitudes of flight" is interpreted for application to mean "airspace at or above minimum flight altitudes."

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

1-2-6. ABBREVIATIONS

As used in this manual the following abbreviations have the meanings indicated (see TBL 1-1-1).

1-2-7. ORDER CHANGES

a. This order will be updated semiannually.

b. The responsibility associated with the processing and coordinating revisions to this order is delegated to the Manager, Airspace and Rules Division, ATA-400.

c. Proposed changes or recommended revisions should be submitted directly to ATA-400.

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

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

2. Bold vertical lines in the margin of the text will mark the location of substantive procedural, operational, or policy changes; e.g., when material that affects the performance of duty is added, revised, or deleted.

FAA Order Abbreviations.

A/FD	Airport/Facility Directory
AAS	Office of Airport Safety and Standards
AAT	Air Traffic
ADO	Airport District Office
AE	Airport Elevation
AF	Airway Facilities
AFS	Flight Standards Service
AFSS	Automated Flight Service Station
AGC	Office of the Chief Counsel, Rules Docket
AGL	Above Ground Level
ALP	Airport Layout Plan
ANI	National Airspace System Implementation Program
APO	Office of Aviation Policy and Plans
APP	Office of Airport Safety and Standards
ARN	Communications, Navigation, Surveillance and Infrastructure Directorate
ARP	Airport Reference Point
ARSR	Air Route Surveillance Radar
ARTCC	Air Route Traffic Control Center
ARU	Airborne Radar Unit
ASR	Airport Surveillance Radar
ASR	Spectrum Policy and Management
AST	Office of Commercial Space Transportation
ATA	Air Traffic Airspace Management Program
ATC	Air Traffic Control
ATCAA	Air Traffic Control Assigned Airspace
ATCRBS	Air Traffic Control Radar Beacon System
ATCSCC	Air Traffic Control System Command Center
ATCT	Airport Traffic Control Tower
ATD	Air Traffic Division
ATREP	Air Traffic Representative
ATS	Air Traffic Service
AVN	Aviation System Standards

CARF	Central Altitude Reservation Function
CASFO	Civil Aviation Security Field Office
CDRA	Center for Devices and Radiological Health
CFA	Controlled Firing Area
CFZ	Critical Flight Zone
CP	Construction Permit
DF	Directional Finder
DME	Distance Measuring Equipment
DNE	Does Not Exceed
DNH	Determination of No Hazard
DoD	Department of Defense
DOH	Determination of Hazard
DPH	Determination of Presumed Hazard
EBO	Exceeds But Okay
EMI	Electromagnetic Interference
ERP	Effective Radiated Power
FACSFAC	Fleet Area Control and Surveillance Facility
FCC	Federal Communications Commission
FDA	Food and Drug Administration
FL	Flight Level
FM	Frequency Management
FPO	Flight Procedures Office
FSDO	Flight Standards District Office
FSS	Flight Service Station
GAO	General Accounting Office
HIL	High Intensity Light
IAP	Instrument Approach Procedures
ICAO	International Civil Aviation Organization
IFR	Instrument Flight Rules
ILS	Instrument Landing Systems
IR	IFR Military Training Routes
IRAC	Interdepartmental Radio Advisory Committee
J	Joule
L/MF	Low/Medium Frequency
LFZ	Laser Free Zone
LLWG	Local Laser Working Group
LMM	Middle Compass Locators
LOA	Letter of Agreement
LOD	Letter of Determination
LOM	Outer Compass Locators
LSO	Laser Safety Officer
MAJCOM	Major Military Commands
MCA	Minimum Crossing Altitudes
MCP	Minimum Crossing Point
MEA	Minimum En Route Altitude
MHA	Minimum Holding Altitudes

MIA	Minimum IFR Altitudes
MLS	Microwave Landing System
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
MTR	Military Training Route
MVA	Minimum Vectoring Altitudes
NAD	North American Datum
NAS	National Airspace System
NASA	National Aeronautics and Space Administration
NAVAID	Navigational Aid
NDB	Nondirectional Radio Beacons
NEPA	National Environmental Policy Act
NFDD	National Flight Data Digest
NFZ	Normal Flight Zone
NHRD	Nominal Hazard Zone Distance
NM	Nautical Miles
NOHD	Nominal Ocular Hazard Distance
NOS	National Ocean Service
NOTAM	Notices to Airmen
NPIAS	National Plan for Integrated Airport System
NPRM	Notice of Proposed Rulemaking
NR	Non-Rulemaking
NRA	Non-Rulemaking Airport
NWS	National Weather Service
OE	Obstruction Evaluation
OE/AAA	Obstruction Evaluation/Airport Airspace Analysis
OFZ	Obstacle Free Zone
PAPI	Precision Approach Path Indicator
PFC	Passenger Facility Charge
PL	Public Law
PSR	Project Status Request
RBS	Radar Bomb Sites
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
SAMS	Special Use Airspace Management System
SFZ	Sensitive Flight Zone
SIAP	Standard Instrument Approach Procedure

SMO	System Maintenance and Operations
SR	Scientific/Research Lasers
STAR	Standard Terminal Arrival Routes
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
UTC	Coordinated Universal Time
VASI	Visual Approach Slope Indicator
VFR	Visual Flight Rule
VGSI	Visual Glide Scope Indicator
VOR	Very High Frequency Omnidirectional Range
VORTAC	Very High Frequency Omni-Directional Radio Range and Tactical Air Navigation Aid
VR	VFR Military Training Route

TBL 1-1-1

Chapter 2. RULEMAKING/NONRULEMAKING AIRSPACE CASES

Section 1. EX PARTE COMMUNICATIONS

2-1-1. DEFINITION

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

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

2-1-2. SCOPE

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

2-1-3. POLICY

FAA encourages full public participation in rulemaking actions. This policy allows for appropriate ex parte contacts when necessary to ensure adequate public comment. Persons directly responsible for the rulemaking/ nonrulemaking action should, in addition to providing the public the opportunity to respond in writing to proposed actions and/or to appear and be heard at a hearing, undertake such contacts with the public as will be helpful in resolving questions of substance and justification. Responsible persons should be receptive to proper contacts from members of the public who are affected by, or interested in, the proposed action. Contacts with the public to obtain up-to-date information needed for the rulemaking action or to clarify written comments, are also permissible.

2-1-4. DISCLOSURE

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

2-1-5. PERMITTED CONTACT

The kind of ex parte contacts permitted and the procedures to be followed depend on when the contact occurs. Any questions regarding the following authorized contacts should be addressed by the Office of the Chief Counsel.

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

b. During the comment period, ex parte contacts are strongly discouraged, since requests for information can be submitted in writing or at a public meeting. The only information that should be released is that contained in the proposed rule and any other information made generally available during a public meeting. Information, such as facts not presented in the rulemaking/non-rulemaking notification or at a public meeting, or

the agency's preliminary thinking on the final rule, should not be discussed. Persons who contact the agency by telephone or in person seeking to discuss the proposal should be advised that the proper avenue of communication during the comment period is by written comment submitted to the docket. When the agency determines that it would be helpful to meet with a person or group during the comment period, the meeting must be announced in the Federal Register and all interested persons must be invited.

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

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

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

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

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

2-1-6. RECORDING CONTACTS

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

a. The date and time of the meeting or conversation;

b. A list of the participants;

c. A summary of the discussion (more than a simple list of the subjects discussed); and

d. A specific statement of any commitments made by any FAA personnel. A copy of any documents discussed should be attached to the record. Any questions on the preparation of the record should be directed to the Office of the Chief Counsel.

2-1-7. ADVICE FROM COUNSEL

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

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

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

Section 2. EXECUTIVE ORDER 10854

2-2-1. SCOPE

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

b. Under the provisions of Executive Order 10854, airspace actions must be consistent with the requirements of national defense, international treaties or agreements made by the U.S., or the successful conduct of the foreign relations of the U.S.

NOTE-
The full text of Executive Order 10854 is detailed in FIG 1-1-1.

2-2-2. POLICY

Any rulemaking or nonrulemaking actions that encompass airspace outside of the United States sovereign airspace (e.g., beyond 12-miles from the U.S. coast line) require coordination with the Departments of Defense and State. All Executive Order 10854 coordination shall be conducted at the FAA headquarters level by ATA-400.

EXECUTIVE ORDER 10854
EXTENSION OF THE APPLICATION OF THE FEDERAL AVIATION ACT OF 1958

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

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

Dwight D. Eisenhower
The White House, November 27, 1959

FIG 1-1-1

Section 3. ENVIRONMENTAL MATTERS

2-3-1. SCOPE

The National Environmental Policy Act of 1969 (NEPA), as amended, requires that any agency proposing a major Federal action, identify and develop methods and procedures, in consultation with the Council on Environmental Quality. The purpose is to ensure that appropriate consideration is given to environmental concerns during the planning and decision-making phase.

2-3-2. POLICY

The Air Traffic (AT) environmental policy is to use an interdisciplinary approach to ensure that NEPA provisions are incorporated early into the planning and decision-making stages. This policy requires that all potentially sensitive issues that may impact the quality of the human environment, including identification and avoidance of environmentally sensitive areas, be addressed as early as possible. With the above in mind, all Air Traffic (AT) organizations shall adhere to the requirements in Order 1050.1, Policies and Procedures for Considering Environmental Impacts. In addition, all AT organizations shall comply with the guidelines detailed in any FAA Order that establishes policies and procedures for air traffic environmental actions whenever preparing regulatory and nonregulatory airspace actions.

Section 4. AIRSPACE PLANNING AND ANALYSIS

2-4-1. BACKGROUND

a. Airspace management functions historically have been widely dispersed. Responsibility for airspace management has resided with the regions, 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, or structure have national implications for air traffic control, for traffic flow management, and for 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.

2-4-2. POLICY

The Air Traffic planning and analysis policy uses an interdisciplinary approach to ensure the effective management of national airspace changes. This policy requires national implementation strategies, especially for changes designed to enhance user operations, maintain the highest standards of safety, generate new efficiencies, and effectively use our resources. With this policy in mind, the Planning and Analysis Division, ATA-200, is designated as the Air Traffic office that will provide national oversight for:

a. Formulating airspace efficiency policy;

b. Establishing guidelines for airspace architecture and structural changes; and

c. Analyzing current and proposed operations for efficiency.

Section 5. PROCESSING RULEMAKING AIRSPACE ACTIONS

2-5-1. PURPOSE

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

2-5-2. RESPONSIBILITY

a. The Airspace and Rules Division, ATA-400, is responsible for processing Class A, B, and C airspace areas; special use airspace; offshore airspace areas; airways; jet routes; and those Class D and E airspace areas that overlie U.S. territories and possesions.

b. The Airspace and Air Traffic Law Branch, AGC-230, is responsible for ensuring that all the above airspace cases meet the requirements of the Administrative Procedures Act.

c. Regional Air Traffic Divisions (ATD) are responsible for processing all Class D and E airspace area cases.

2-5-3. DOCKETS

a. Docket Location.

1. The official docket for Headquarters' rulemaking cases shall be maintained at the Federal Aviation Administration, Office of the Chief Counsel, Rules Docket, AGC-200, 800 Independence Avenue, SW, Washington, DC 20591.

2. The official docket for regional airspace rulemaking cases shall be maintained in the appropriate regional office.

b. Docket Identification.

1. Rulemaking cases shall be identified by a docket number that includes the last two digits of the calendar year, the abbreviation of the originating office, and a consecutively assigned number (e.g., 00-ASW-46).

2. Numbers shall run consecutively within each calendar year.

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

2-5-4. FLIGHT PROCEDURAL DATA

a. If an airspace docket requires a procedure changes and/or flight inspection, regional ATD shall coordinate the proposed effective date with the regional Flight Prodcedures Office, (FPO). The effective date must include the time needed to process procedural changes and allow ample time for flight inspection, if required. The FPO shall notify the regional ATD of any problems that could affect the proposed effective date. See Order 8260.26, Establishment and Scheduling Standard Instrument Procedure Effective Dates, for scheduled processing and publication dates.

b. If a rule without notice is to be issued and flight check data is required, the regional ATD shall inform the responsible regional FPO of the action and specific data requested.

2-5-5. SUBMISSION OF AIRSPACE CASES TO HEADQUARTERS

a. The regional ATD shall review the action proposed and submit a complete technical description of the proposed airspace (e.g., establishment, modification, or revocation) package to ATA-400.

b. All background information including charts, proper justification and appropriate recommendations shall be submitted.

c. If an airspace action needs to be completed by a specific date, the regional ATD shall coordinate with the FPO and any other FAA offices as necessary to ensure that sufficient lead-time exists for meeting normal airspace procedural processing and charting requirements, and instrument approach procedure development.

d. The ATD shall submit to ATA-400 written comments received in response to the proposed action, analysis of the comment(s), and any recommendations within 30 days after the comment closing date. If applicable, a statement concerning the status of the flight procedures data (e.g., Minimum En Route Altitude, MEA; or Change Over Point, COP) for en route cases shall be included.

2-5-6. EFFECTIVE DATE OF FINAL RULES

a. Amendments to parts 71 and 73 shall be made effective at 0901 Coordinated Universal Time (UTC) and shall coincide with en route charting dates as furnished by ATA-400. Exceptions are as follows:

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

2. Editorial changes.

3. 700-foot floor Class E airspace areas that underlie existing 1,200-foot Class E airspace areas.

4. Actions that lessen the burden on the public (e.g., revocation of restricted areas).

5. Class B and C airspace areas shall be made effective on days that coincide with the appropriate sectional aeronautical charting dates.

b. Cutoff dates are established to allow sufficient time for charting and chart distribution purposes. Rules should be signed on or before the applicable cutoff date.

2-5-7. PUBLICATION IN FEDERAL REGISTER

An original Notice of Proposed Rulemaking (NPRM) and three duplicate originals, or an original final rule and seven duplicate originals shall be forwarded to AGC-200 for publication in the Federal Register.

2-5-8. DISTRIBUTION

Distribution of airspace dockets (NPRMs and final rules) shall be consistent with the procedures set forth in Order 1720.18, FAA Distribution System.

Section 6. PROCESSING NONRULEMAKING AIRSPACE ACTIONS

2-6-1. PURPOSE

This section prescribes procedures to be followed when establishing, modifying, or revoking nonrulemaking actions (e.g., Military Operations Area, MOAs; warning areas; etc.).

2-6-2. IDENTIFICATION

Identify nonrulemaking cases by a study number that includes the last two digits of the calendar year, the abbreviation of the appropriate regional or airports district office, a consecutively assigned number within each calendar year, and "NR" (non-rulemaking), "NRA" (nonrulemaking airport), or "OE" (obstruction evaluation) as appropriate.

Examples-

1. 00-AWP-1-NR for studies involving navigational aids and nonrulemaking Special Use Airspace (SUA) cases (i.e., Alert Areas, Controlled Firing Areas, MOAs, and Warning Areas).

2. 00-ASO-1-NRA for studies involving airports.

3. 00-AGL-1-OE for studies involving surface structures.

4. 00-ORL-1-NRA for studies processed by an airports district office.

2-6-3. CIRCULARIZATION

a. Except for NRA airspace proposals, nonrulemaking airspace proposals shall be circularized by the regional ATD unless procedures for processing particular types of proposals allow exemptions to circularization. Each notice shall contain a complete, detailed description of the proposal including charts, if appropriate, that will assist interested persons in preparing comments. Circularization lists shall include, but not be limited to, all known aviation interested persons and groups such as the state aviation agencies; regional military representatives; national and local offices of aviation organizations; local flight schools, local airport owners, managers, and fixed base operators; and local air taxi and charter flight offices. Normally, a 45-day comment period should be provided. Other parts in this order contain additional guidance regarding circularization.

b. Identify in the nonrulemaking circular any regulatory changes (e.g., part 71) that will be effected if the nonrulemaking proposal is adopted. Describe the regulatory changes in as much detail as is known at the time (e.g., radials, distances, and coordinates).

c. Regions shall coordinate with their respective state aviation representatives to ascertain which nonrulemaking circulars each state is interested in receiving. If various agencies within a state government request copies of particular circulars, the region may request that one agency be designated to receive and distribute the requested copies.

d. Send one copy of each nonrulemaking circular to ATA-400.

e. Except for Class B and Class C airspace actions, when a nonrulemaking action is ancillary to a rulemaking action, the nonrulemaking proposal may be included in the NPRM. In this instance, a nonrulemaking circularization need not be made. The NPRM will satisfy the circularization requirement and present the full impact of both the rule and nonrule proposal.

2-6-4. CIRCULARIZATION DOCUMENTATION

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

AERONAUTICAL STUDY [NUMBER]
CERTIFICATE OF MAILING
I HEREBY CERTIFY THAT A COPY OF THE ATTACHED [notice/determination] WAS MAILED TO EACH OF THE ADDRESSEES LISTED ON THE ATTACHED [mailing list/distribution list number] THIS [date] DAY OF [month/year].
SIGNED: [specialist/mail clerk/etc.]

2-6-5. EFFECTIVE DATE OF NONRULEMAKING ACTIONS

Nonrulemaking actions shall be made effective at 0901 UTC and shall coincide with en route charting dates as furnished by ATA-400. Exceptions are as follows:

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

b. Editorial changes.

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

2-6-6. PUBLICATION OF NONRULEMAKING ACTIONS

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

Section 7. INFORMAL AIRSPACE MEETINGS

2-7-1. PURPOSE

This section prescribes the procedures to be followed for all notices of informal airspace meetings held in advance of rulemaking/ nonrulemaking airspace actions.

2-7-2. POLICY

a. It is the policy of the FAA to hold, if at all practicable, informal airspace meetings to inform the affected users of planned airspace changes. The purpose of these meetings is to gather facts and information relevant to the planned rulemaking or nonrulemaking action being studied.

b. Notwithstanding paragraph 2-7-2a. informal airspace meetings shall be held for any planned changes to Class B and Class C airspace areas prior to issuing an NPRM.

2-7-3. CLASS B AND C AIRSPACE AREAS NOTIFICATION PROCEDURES

a. The regional office shall submit a draft notice of informal airspace meetings to ATA-400 for processing and publication in the Federal Register. The notice shall describe the proposal in sufficient detail, including charts, if necessary, to enable interested persons to prepare comments prior to the meeting.

b. ATA-400 shall process and submit the notice for publication in the Federal Register. For Class B airspace areas, the notice shall be published a maximum of 90 days, and a minimum of 60 days in advance of the meeting.

c. For Class C airspace areas, the notice shall be published a maximum of 60 days, and a minimum of 30 days in advance. The notice shall identify the name and address of the office where additional information can be obtained.

d. In addition to the above, notices of informal airspace meetings shall be sent to all known licensed pilots, state aviation agencies, airport managers/operators, and operators of parachute, sailplane, ultralight, and balloon clubs within a 100-mile radius of the primary airport for Class B airspace actions; and within a 50-mile radius of the primary airport for Class C airspace actions.

e. Distribution of these notices may be accomplished through the facilities of the Airmen Certification Branch, AFS-760. The regional office should coordinate this distribution with the regional Aviation Safety Program Manager. It should be noted that AFS-760 needs a lead-time of 16 days from the receipt of material until mailing. Sufficient lead-time must be provided to allow processing and distribution in time to meet the above minimum advance notice requirements (e.g., 60/30 days).

f. When known or anticipated controversy warrants, the above procedures may also be used for informal airspace meeting notices concerning obstruction evaluation, airport airspace analysis, special use airspace, and the commissioning/decommissioning of navigational aids.

2-7-4. OTHER AIRSPACE ACTIONS

a. Every effort shall be made to notify all aviation organizations and/or persons that may be affected by, or interested in, the planned action. The meeting notice shall explain that the purpose of the meeting is to solicit aeronautical comments on the proposal's effect on the planned action.

b. The notice shall describe the planned action in sufficient detail, including charts if necessary, to enable interested persons to prepare comments prior to the meeting. Notice of the meeting should be distributed at least 30 days prior to the meeting date.

c. Regional offices are also encouraged to make use of electronic media, local newspapers, radio, and television to supplement the dissemination of notices and information.

2-7-5. LOCATION

Informal airspace meetings should be held at times and locations that are most conducive for gathering facts relative to the planned or proposed action under study. The chairperson shall represent the Regional Administrator. Each informal airspace meeting should be numbered consecutively and dated, e.g., "Meeting No. 50, February 15, 2000."

2-7-6. AGENDA ITEMS

Agenda items may be included in the notice of informal airspace meeting or distributed separately. Agendas may also include airspace matters of a rulemaking and/or nonrulemaking nature. When not included in the notice of informal airspace meeting, they should be distributed at least 15 days before the meeting. Agendas involving Class B airspace proposals, shall be distributed at least 30 days prior to the meeting. Items concerning aeronautical studies not on the agenda should not be discussed except when the chairperson considers them appropriate.

2-7-7. RECORD OF MEETINGS

a. Official transcripts or minutes of informal airspace meetings shall not be taken or made. However, the chairperson shall prepare a memorandum for each of the discussed aeronautical study files listing attendees and a digest of the discussions held.

b. Written statements received from attendees during and after the informal airspace meeting shall also be included in the study files.

c. Forward one copy of the memorandum to ATA-400.

Chapter 3. Aeronautical Information

Section 1. GENERAL

3-1-1. POLICY

All geographic (latitude and longitude) and vertical data submitted or used in airspace matters shall be based on current North American Datum (NAD) criteria.

3-1-2. RESPONSIBILITY

a. The Aeronautical Information Services Division, ATA-100, is responsible for coordination with charting agencies and chart producers.

b. ATA-100 shall furnish appropriate aeronautical chart cutoff and publication dates. Cutoff dates are 9 weeks (10 weeks for action involving flight check) in advance of the publication date to allow sufficient time for charting and chart distribution purposes.

c. Any information pertinent to the development of aeronautical information (e.g., validation of geographical coordinates, airport geographic positions, true radials, etc.) shall be obtained from ATA-100.

3-1-3. TRUE/MAGNETIC DIRECTIONS

All radials, courses, and bearings specified in an NPRM shall be stated both as true and magnetic, except magnetic need not be stated in terminal airspace notices.

3-1-4. NAVIGATIONAL AID COORDINATES

When a navigational aid (NAVAID) is used as a reference point in a controlled airspace description, its geographic coordinates shall be included in degrees, minutes, and seconds.

3-1-5. DIRECTIONS

Directions shall be described as follows:

338° True - 022° True = North
023° True - 067° True = Northeast
068° True - 112° True = East
113° True - 157° True = Southeast
158° True - 202° True = South
203° True - 247° True = Southwest
248° True - 292° True = West
293° True - 337° True = Northwest

Section 2. CHARTED REPORTING POINTS

3-2-1. POLICY

a. Charted reporting points should be established only when necessary to provide minimum enroute altitude (MEA) changes or to assist in the separation of aircraft.

b. Reporting points should not be established solely for the purpose of communication handoffs (transfer of aircraft control from one sector/facility to another to define an approach control area of jurisdiction).

3-2-2. CHART SERIES SELECTION

The request to have a reporting point charted should be limited to the chart series necessary for its intended use. For example, a reporting point established for the high altitude structure should not appear on the low altitude charts.

3-2-3. FAA FORM 8260-2, RADIO FIX AND HOLDING DATA RECORD

a. Visual Flight Rules Fix - The appropriate air traffic field facility shall forward the completed FAA Form 8260-2 through the regional ATD to ATA-100.

b. Instrument Flight Rules Fix - FAA Form 8260-2 shall serve as a request form, a checklist for flight inspection in response to a request for charted reporting points, and a record of action taken to publish the data. The appropriate air traffic field facility shall request flight inspection action by completing the FAA Form 8260-2, Radio Fix and Holding Data Record, and submitting it to the FPO through the ATD. It should be forwarded through the respective regional ATD when necessary to establish, modify, or cancel an intersection that is used as a reporting point, or to establish, modify, or cancel a holding pattern.

3-2-4. PREPARATION OF FORM 8260-2

Instructions for preparation of FAA Form 8260-2 are contained in Order 8260.19, Flight Procedures and Airspace.

Section 3. NAMING OF NAVAIDs, AERONAUTICAL FACILITIES, AND FIXES

3-3-1. GENERAL

a. All fixes located at a common point shall have the same name/code regardless of type, altitude, or route structure.

b. If one of the collocated fixes is a NAVAID, the other fixes shall be assigned the same name and three-letter identifier.

3-3-2. RESPONSIBILITY

a. Regional ATD are responsible for assigning and changing names of NAVAID and aeronautical facilities, and shall follow the instructions contained herein and in Order 7350.7, Location Identifiers, Chapter 1.

b. The Aeronautical Information Services Division, ATA-100, is responsible for issuing five-letter names for radio fixes, waypoints, marker beacons, and compass locators. Five-letter names shall be issued by ATA-100 to the National Flight Procedures Office (AVN-100), Major Military Commands (MAJCOM) and Air Route Traffic Control Centers (ARTCC) for future assignments.

c. ATA-100, in conjunction with the respective regional ATD, shall ensure that no duplication in location names exist.

3-3-3. NAMING OF NAVAIDs

a. The NAVAID name selected should represent a city, town, or prominent geographic landmark that is depicted on a sectional aeronautical chart at or near the site. If one is neither available nor suitable, a local memorial name may be used. A common, easily understood word should be selected for the NAVAID name.

b. The name shall not sound similar to an existing NAVAID/fix location name within the originating ARTCC's area, the adjacent ARTCC's area, or within a 300 NM radius from the NAVAID involved.

c. Unduly long names should not be used.

d. A navigational aid with the same name as the associated airport should be located on that airport. However, in existing situations, a NAVAID off the airport with the same name as the airport may retain the airport name provided there is no other NAVAID with the same name. If retention of the airport name at an off-airport NAVAID could lead to a potentially confusing situation, the name should be changed. Only one NAVAID located on the airport may be assigned the airport name.

NOTE-
For the purpose of this paragraph only, a compass locator shall be considered as a separate NAVAID.

e. Instrument Landing Systems (ILS).

1. Inner/middle fan markers (without collocated nondirectional radio beacons (NDBs) or compass locators) and localizer equipment are not normally assigned names. Localizers are identified with the associated airport name and applicable runway number in official writings.

2. All outer markers shall be assigned names/codes. If the outer marker is to be situated at the same geographic location as a fix, it shall adopt the fix names/code.

3. All outer compass locators (LOM) and middle compass locators (LMM) shall be assigned names/codes. If co-located with a fix, they shall also adopt the fix name/code.

f. Names/codes assigned shall be the "chart names" that will appear on aeronautical charts, in airspace dockets, and other official publications and records.

3-3-4. NAMING OF WAYPOINTS, INTERSECTIONS, AND DME FIXES

a. To decide whether a fix needs to be named, see Order 8260.19, Flight Procedures and Airspace.

b. Names assigned for waypoints, intersections, Air Traffic Control (ATC) coordination, and Distance Measuring Equipment (DME) fixes not co-located with a navigational aid shall consist of a single five-letter pronounceable name. These five letters shall serve as the name, identifier, and computer code.

c. Regional requests for specific five-letter names for radio fixes and waypoints should be avoided, but may be granted by ATA-100 if feasible.

d. Five-letter names that are assigned by AVN-100 and major commands will be coordinated with the associated ARTCC to preclude similar sounding fix names.

e. ATA-100 shall not duplicate any radio fix, waypoint, marker beacons or compass locators names.

Chapter 4. NAVAIDs

Section 1. GENERAL

4-1-1. PURPOSE

This chapter provides guidelines and procedures for nonrulemaking actions related to requests for the establishment, relocation, modification, and discontinuance of NAVAIDs.

4-1-2. POLICY

a. Various types of NAVAIDs are in use today, each serving a specific purpose in the National Airspace System (NAS). These aids have varied owners and operators, but the FAA has statutory authority to prescribe standards for the operation of any of these aids that are used as part of the NAS.

b. Dates for commissioning, discontinuance, or conversion of NAVAIDs that are part of the NAS shall coincide with associated aeronautical charting dates.

4-1-3. RESPONSIBILITY FOR FREQUENCY SELECTION

The Interdepartmental Radio Advisory Committee (IRAC), which is composed of representatives of various Federal agencies, has delegated to the FAA the responsibility to manage frequency selections/assignments for all NAVAIDs. The frequency is selected by the regional Frequency Management Office as set forth in the FAA's 6050 series of Orders. Military and other government proponents apply for frequency authorization to the FAA through their respective headquarters. Non-Federal proponents must file with the Federal Communications Commission (FCC) and shall only be notified of the frequency selected after the FCC/IRAC action is completed.

4-1-4. GOVERNING CRITERIA

Order 7031.2, Airway Planning Standard Number One, Terminal Air Navigation Facilities and ATC Services; Order 7031.3, Airway Planning Standard Number 2, Air Route Traffic Control; and other pertinent agency orders contain criteria governing the establishment of NAVAIDs.

4-1-5. LONG-RANGE PLANNING

Regional ATD, Airway Facilities Divisions, the National Airspace System Implementation Program (ANI), and the FPO, shall work in concert to maintain a long-range plan for the provision of NAVAIDs and associated air traffic control services.

4-1-6. PROPOSED CHANGES

Regional ATD and/or FPO shall submit to ANI proposed changes to NAVAIDs that are of a magnitude to require advance budgetary planning and/or user coordination at the national level.

Section 2. FAA NAVAIDs

4-2-1. POLICY

a. Site locations for the establishment or relocation of NAVAIDs require approval by the appropriate regional Airway Facilities, FPO, Air Traffic, Airports, and Flight Standards Division.

b. The regional Airway Facilities' airspace focal point shall request the appropriate regional ATD to initiate a nonrulemaking study of the selected site.

c. The Airway Facilities Division must concur with the site location before the request for study is made.

4-2-2. COORDINATION

The regional ATD shall coordinate the proposed site with ATA-100, FPO, Flight Standards and Airports Divisions, as well as affected air traffic control facilities. The NAVAIDs purpose must be considered and, as appropriate, a preliminary decision made regarding:

a. The establishment of instrument procedures;

b. Airways/routes;

c. Designation of controlled airspace;

d. The ability to provide essential air traffic services;

e. The effect of the site on facility performance; and

f. The effect on the location or configuration of an airport. If all offices agree with the selected site, then the regional ATD should circularize the proposal, as determined necessary, for comment from the aviation community.

4-2-3. INFORMAL AIRSPACE MEETINGS

Convene an informal airspace meeting in accordance with the procedures detailed in Chapter 2, Section 7, of this order. Informal airspace meetings may not be practical for time critical changes or in those cases where delay will adversely affect aviation safety. At such meetings, agency representatives should explain the planned use of the NAVAIDs, including instrument approaches or other terminal procedures or airspace planning, and any action will be subsequently handled by airspace rulemaking procedures. However, care should be taken that the agency's ex parte policy is not violated during these informal proceedings.

4-2-4. APPROVAL AUTHORITY

The regional ATD is responsible for coordination and final approval or disapproval of sites selected for installation of en route NAVAIDs. The regional FPO is responsible for coordination and final approval or disapproval of sites selected for installation of terminal NAVAIDs. The approval or disapproval determination shall be issued by memorandum to the appropriate Airway Facilities Division. Any disapproval issued shall include the reasons why a site is not acceptable. Agency personnel are reminded that en route site approval does not constitute approval of instrument approach procedures or controlled airspace planning to be processed under rulemaking action.

4-2-5. DISTRIBUTION

The regional ATD shall distribute a copy of the approval or disapproval determination to all FAA offices that participated in the site study and to ARN-1.

4-2-6. COMMISSIONING DATE

The responsible regional Airway Facilities Division is authorized to proceed with installation of the NAVAID upon receipt of the site approval. As soon as possible thereafter, an estimated date of commissioning shall be agreed upon by the ATD, FPO, Airway Facilities, and any other concerned FAA offices. To the extent possible, the date of commissioning shall coincide with the associated aeronautical charting dates.

4-2-7. PROCESSING REGULATORY ACTIONS

The FPO shall process the necessary instrument procedures and the regional ATD shall process airspace rulemaking actions to be effective with the associated aeronautical charting date.

Section 3. MILITARY NAVAIDs

4-3-1. POLICY

Military NAVAID proposals may affect airspace or airport utilization and the availability of interference protected frequencies. Consequently, military proposals involving the establishment or relocation of military NAVAIDs are forwarded to regional ATD for nonrulemaking studies. Such proposals should contain the following information:

a. Site of the NAVAIDs using geographical coordinates to the nearest hundredth of a second;

b. Equipment type;

c. Power output;

d. Frequency range; and

e. Any other pertinent information.

4-3-2. COORDINATION WITH MILITARY

The regional ATD is authorized to coordinate with the originating military organization to obtain any additional information needed for the nonrulemaking study.

4-3-3. EVALUATION BY AIRWAY FACILITIES OFFICE

The regional Frequency Management Office shall evaluate the military proposal to determine frequency availability and frequency protection. This evaluation shall be provided to the responsible regional ATD.

4-3-4. CIRCULARIZATION

If the frequency evaluation report is favorable, the regional ATD shall complete coordination with the appropriate Airports, Flight Standards, and other Airway Facilities Divisions, and the FPO. If appropriate, circularize the proposal to user groups and other interested persons for comment. If the public comments indicate further discussion is warranted, then consideration should be given to holding an informal airspace meeting to discuss the proposal.

4-3-5. DETERMINATION RESPONSIBILITY

The responsibility to determine the acceptability of the military proposal is delegated to the regional ATD after coordination with the FPO, Airway Facilities, Flight Standards, and Airports Divisions. Any problems with, or objections to, the proposal shall be resolved at the regional level prior to issuance of the decision. The determination shall be issued in memorandum form stating that the FAA has "no objections" or "objects" to the installation of the NAVAID. Airports Divisions are cautioned to ensure that site locations for the establishment or relocation of NAVAIDs on obligated airports are in accordance with FAA approved Airport Layout Plans. Any restrictions or reasons why the proposal is objectionable shall be clearly set forth in the memorandum.

4-3-6. NOTIFICATION AND DISTRIBUTION

The appropriate regional ATD shall normally address the determination to the military organization that originated the proposal. When the request for the study originated from FAA headquarters, then the determination should be directed to the office requesting the study or relayed to the Military Command through FAA/Department of Defense (DoD) coordination procedures. Forward copies of the memorandum to ARN-1, the Spectrum Assignment and Engineering Division, ASR-100, and those regional offices that participated in the study.

Section 4. NON-FEDERAL NAVAIDs

4-4-1. POLICY

The FAA's role regarding non-Federal NAVAIDs is to assist sponsors proposing to establish or relocate such aids by providing technical planning, minimum equipment and operational standards, and processing requirements for such proposals. The operation of non-Federal navigation facilities involving the approval of Instrument Flight Rules (IFR) and air traffic control procedures shall be in accordance with minimum requirements set forth in Part 171 and the FAA's 6700 series of orders.

4-4-2. REQUEST FOR ESTABLISHMENT

The proponent requesting the establishment or relocation of a non-Federal NAVAIDs, as defined in Part 171, should provide the following information:

a. The site of the NAVAIDs using geographical coordinates to the nearest hundredth second;

b. Equipment type;

c. Power output.

d. Frequency range; and

e. Any other pertinent information.

4-4-3. RESPONSIBILITY

Requests received for establishment of a non-Federal NAVAID shall be forwarded to the appropriate regional Airway Facilities Division for initial processing.

a. Airway Facilities - Regional Airway Facilities Divisions are responsible for the overall regional coordination with the sponsor. Advice should be provided to sponsors on the minimum equipment and operational performance standards, siting requirements, and the conditions prerequisite to use of the navigational facility for any IFR procedure. Additionally:

1. Evaluate the proposal to determine frequency availability, the potential interference effects on existing/planned electronic and visual aids to navigation, and possible electromagnetic interference to radio communications frequencies.

2. Forward the proposal to the regional ATD, FPO and the Airports Divisions for appropriate evaluation and nonrulemaking action.

3. Request the sponsor to submit any additional information needed for the study.

4. Request the FPO to complete the necessary processing of the proposed IFR procedure.

5. Coordinate with Flight Inspection Operations Division, AVN-200, as necessary to complete appropriate flight inspection.

b. Air Traffic - If the sponsor has requested establishment and approval of an IFR procedure predicated on the proposed facility, the regional ATD shall:

1. Ensure that the necessary ATC communications can be satisfied.

2. Request the appropriate Airports, Airway Facilities, and Flight Standards Divisions, and FPO to study the proposal.

3. Examine the proposal regarding utilization of the airspace, aeronautical operations, and air traffic control procedures.

c. Airports Programs - The appropriate Airports Division shall evaluate the proposal in reference to existing airports and planned airport development on file with the agency.

d. Flight Standards - The appropriate Flight Standards Office is the focal point for studying the effect of the proposed non-Federal NAVAID on existing or proposed VFR operations.

e. FPO - The appropriate FPO is the focal point for studying the effect of the proposed non-Federal NAVAID on existing or proposed IFR operations. In developing IFR procedures, FPO personnel are responsible for:

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

2. Advising the appropriate Air Traffic office of the results of its study.

3. Initiating development of required IFR procedures.

4-4-4. EXTERNAL COORDINATION

The appropriate ATD shall circularize the proposal to all interested persons for comment if the Airway Facilities Division, Airports Division, and FPOs responses are favorable. Any internal FAA problem with the proposal shall be resolved prior to the circularization.

4-4-5. INFORMAL AIRSPACE MEETING

When public comments indicate that further discussion is warranted, consideration should be given to scheduling an informal airspace meeting to solicit additional input on the proposal.

4-4-6. APPROVAL AND NOTIFICATION PROCESS

The appropriate regional ATD shall, based upon the results of the study, determine whether there are any objections to the installation or relocation of the NAVAID and so advise the originating Airway Facilities Division. The Airway Facilities Division shall then forward the determination approval or disapproval to the sponsor. If the determination is favorable the regional ATD shall initiate the airspace regulatory action necessary for the IFR procedure.

4-4-7. DISTRIBUTION

Copies of the determination issued to the sponsor shall be forwarded to ARN-1, ASR-100, and to the Support Services Branch of the FCC.

Section 5. DISCONTINUANCE OF FAA NAVAIDs

4-5-1. POLICY

Operational requirements, air traffic demand, and budgetary limitations are normally the basis for the retention or decommissioning of FAA NAVAIDs. Since economics are a necessary consideration, a NAVAID becomes a candidate for decommissioning when the activity level, or factors other than activity level on which it may have been justified, are eliminated or changed significantly. Discontinuance criteria are contained in the appropriate Airway Planning Standards (Orders 7031.2, Terminal, and 7031.3, En Route). Any discontinuance should be in accordance with the Federal Radio Navigation Plan.

4-5-2. RESPONSIBILITIES

a. The Air Traffic Service (ATS) shall ensure that FAA-funded NAVAIDs are allocated so that they benefit the greatest number of users consistent with safety and operational efficiency. The regional ATD shall also evaluate the need for the retention of en route NAVAIDs and recommend candidates for decommissioning when their need can no longer be justified.

b. The FPO shall ensure that FAA-funded NAVAIDs are allocated so that they benefit the greatest number of users consistent with safety and operational efficiency. The FPO shall also evaluate the need for the retention of terminal NAVAIDs and recommend candidates for decommissioning when their need can no loger be justified.

c. ARN-1 shall recommend navigational facilities to the Program Director for Air Traffic Airspace Management as candidates for decommissioning when their function can be equally or better provided by more economically efficient alternatives.

4-5-3. COORDINATION OF PROPOSALS

A navigational facility selected for decommissioning shall be the subject of a nonrulemaking study. The appropriate regional ATD shall coordinate the proposed action with personnel from the regional Airway Facilities Division, FPO, Airports Division, Flight Standards Division, and the regional military representative. If all concur, the regional ATD shall circularize the proposed decommissioning to all interested persons for comment. Include in the circularization a brief description of the decommissioning effect on airspace and instrument procedures.

NOTE-
Advanced coordination should be accomplished with Transport Canada regarding facilities that would affect transborder operations. This coordination may be handled through headquarters, regional offices, or direct facility to facility.

4-5-4. OBTAINING APPROVAL

In accordance with Order 1100.1, FAA Organization - Policies and Standards, Paragraph 15, certain closings, consolidation, and decommissioning may require approval of the Administrator. Upon completion of the nonrulemaking study, if applicable, the appropriate regional office shall forward the study with a summary of comments and a recommendation to the Administrator through the concerned office or service.

4-5-5. DISCONTINUANCE ACTION

Delay initiating steps for discontinuance of a navigational facility that requires approval from the Office of the Administrator until 10 working days after receipt of such approval.

4-5-6. CANCELLATION OF CONTROLLED AIRSPACE AND INSTRUMENT PROCEDURES

The appropriate Air Traffic office shall ensure that the designated airspace based on the NAVAID is revoked or modified. The Flight Procedures Office shall coordinate the cancellation of any instrument approach procedure predicated on that NAVAID before the decommissioning date.

4-5-7. DECOMMISSIONING DATE

To the extent possible, the date of decommissioning should coincide with the associated aeronautical charting dates.

4-5-8. DISCONTINUANCE OF NAVAIDs INCLUDED IN ICAO PLANS

To meet the operational requirements of United States and foreign aircraft, certain United States NAVAIDs are included in the Caribbean, North Atlantic, and Pacific Regional Air Navigation Plans of the International Civil Aviation Organization (ICAO). By international agreement, amendments to these plans cannot be made until the necessary coordination is effected through ICAO with all interested contracting states and international organizations.

4-5-9. INTERNATIONAL STAFF NOTIFICATION

The Air Traffic Service International Staff, AAT-30, is the liaison on international issues between the FAA and U.S. Government elements and international organizations. Before action is initiated to discontinue any NAVAID included in an ICAO Air Navigation Plan, the appropriate air traffic office shall notify AAT-30 of the proposed action. Notification shall be made at least 90 days before the proposed effective date.

Section 6. DISCONTINUANCE OF MILITARY AND NON-FEDERAL NAVAIDs

4-6-1. POLICY

When notice of discontinuance of a military, other government, or non-Federal NAVAID is received, it shall be forwarded to the appropriate regional ATD for processing.

4-6-2. RESPONSIBILITY

Upon receipt of the notice, the responsible regional ATD shall, in conjunction with the Airway Facilities Division, Airports Division, and the FPO, determine if:

a. The NAVAID forms part of the Federal airway/route system;

b. An airspace designation is predicated upon the NAVAID; or

c. The NAVAID is used for a published civil instrument procedure.

4-6-3. ACTION PRIOR TO DISCONTINUANCE

a. If none of the conditions in paragraph 4-6-2 exist, Air Traffic shall notify user groups and other interested persons of the name of the facility, its location, and the date of discontinuance without resorting to the nonrulemaking process.

b. If any of the conditions in paragraph 4-6-2 exist, the appropriate Air Traffic office shall:

1. Initiate the nonrulemaking process by circularizing a proposal to user groups and other interested persons for comment.

2. Coordinate with Airway Facilities to determine feasibility of FAA takeover.

3. If discontinuance of the NAVAID is to be pursued, ensure that the airspace designated on the NAVAID is revoked or modified and that instrument procedures predicated on that NAVAID are canceled before the effective date of discontinuance.

4-6-4. DISCONTINUANCE OF NAVAIDs INCLUDED IN ICAO PLANS

Refer to paragraphs 4-5-8 and 4-5-9 of this order for requirements applicable to the discontinuance of NAVAIDs that are referenced in ICAO Air Navigation Plans.

PART 2
OBJECTS AFFECTING NAVIGABLE AIRSPACE

Part 2. OBJECTS AFFECTING NAVIGABLE AIRSPACE

Chapter 5. BASIC

Section 1. GENERAL

5-1-1. PURPOSE

The guidelines, procedures, and criteria detailed in this part supplement those contained in part 77, Objects Affecting Navigable Airspace, and address the following:

a. The performance of functions relating to the processing of notices of proposed construction or alteration;

b. The conduct of aeronautical studies of any existing or proposed object affecting the navigable airspace;

c. The conduct of aeronautical studies of the electromagnetic radiation effect of proposed or existing objects on the operation of air navigation facilities;

d. The conduct of aeronautical studies of the physical effect of proposed or existing objects on the line-of-sight view of all runways, taxiways, and traffic pattern areas from the airport traffic control tower; and

e. The conduct of aeronautical studies regarding the physical effect of proposed or existing objects on airport approach lighting systems.

5-1-2. AUTHORITY

a. The FAA's authority to promote the safe and efficient use of the navigable airspace, whether concerning existing or proposed structures, is predominantly derived from Section 44718. It should be noted however, that Section 44718 does not provide specific authority for the FAA to regulate or control how land (real property) may be used in regard to structures that may penetrate navigable airspace.

b. Title 14 of the Code of Federal Regulations part 77, Objects Affecting Navigable Airspace, was adopted to establish notice standards for proposed construction or alteration that would protect aircraft from encountering unexpected structures.

5-1-3. POLICY

The prime objective of the FAA in administering 49 U.S.C. 44718 and 14 CFR part 77 in conducting obstruction evaluation studies is to ensure the safety of air navigation and efficient utilization of navigable airspace by aircraft.

5-1-4. SCOPE

a. 49 U.S.C. Sections 40103 and 44718, and part 77 apply only to structures located within any state, territory, or possession of the United States, within the District of Columbia, or within territorial waters (12 NM) surrounding such states, territories, or possessions.

b. Structures that are subject to study requirements associated with 49 U.S.C. Section 40103, 44718, and part 77 may be man made (including mobile structures) or of natural growth and terrain whether existing, proposed, permanent, or temporary.

5-1-5. RESPONSIBILITY

The responsibility for managing the obstruction evaluation program for those structures that may affect the navigable airspace is delegated to the regional ATD.

5-1-6. SENSITIVE CASES REFERRED TO WASHINGTON

a. The regional ATD Manager may refer sensitive cases (with their recommendation) to ATA-400 for action before issuing, revising, or extending a determination concerning a construction proposal that precipitates a policy determination.

b. When a regional ATD Manager refers a sensitive case, ATA-400 shall:

1. Review, analyze, and evaluate the construction proposal, the aeronautical study, and the region's recommendation with the coordinated assistance of ASR-100, AAS-100, AFS-420, and

AVN-100. Additionally, ASR-100 shall review all obstruction evaluation cases for potential electromagnetic interference. AGC-230 shall review each case for form and legality as determined necessary by ATA-400.

2. Prepare and coordinate a memorandum for ATA-1's signature to the regional ATD Manager concurring or non-concurring with the region's recommendation. The regional ATD will then issue the appropriate determination.

5-1-7. PERIODIC REVIEW

ATA-400 shall conduct special and periodic reviews of regional aeronautical studies, processing procedures, and issued correspondence to ensure agency-wide continuity in the execution of the obstruction evaluation program. ASR-100, AAS-100, AFS-420, and AVN-100 shall assist in these reviews as requested.

5-1-8. AUTOMATION

a. To the extent practicable, the obstruction evaluation/airport airspace analysis (OE/AAA) automated programs shall be used in lieu of manual processing. This includes the Airway Facilities (AF) conflict analysis program, the military airspace conflict analysis program, the military part 77 obstruction criteria conflict analysis program, the [civil] part 77 obstruction criteria conflict analysis program, and any other screening programs incorporated into the OE/AAA automation system.

b. Automated obstruction evaluation (OE) correspondence forms available under the automated obstruction evaluation and the airport airspace analysis programs shall be used in lieu of previously approved FAA forms.

5-1-9. OE/AAA AUTOMATED SYSTEM AIRPORT/RUNWAY DATABASE

a. To ensure the automated part 77 obstruction criteria and the military part 77 obstruction criteria conflict analysis programs consider all known plans on file, the regional Airports Division is responsible for maintaining the automated airport/runway database.

1. Either the Airports Division or the Airports District Office shall enter the ultimate airport reference point for any proposed public-use or military airport into the database within two working days from receipt of the information.

2. Either the Airports Division or the Airports District Office shall enter any change of airport status from private-use to public-use into the database within two working days from receipt of the information. As workload permits, information on private-use airports shall also be entered into the database.

NOTE-
Runway information for private-use airports may be omitted.

3. Either the Airports Division or the Airports District Office shall enter all other public-use and military airport/runway information in the database within 10 working days from receipt of the information.

b. Airports shall resolve and correct any discrepancies that have been identified in the automated airport/runway database.

c. Any required corrections shall be forwarded to ATA-100.

5-1-10. TRAINING

Employees involved with the OE/AAA program should attend the Basic Obstruction Evaluation and Airport/Airspace Analysis Course offered by the FAA Academy.

5-1-11. QUARTERLY MEETINGS

To provide a forum to discuss regional OE/AAA issues, each region should conduct meetings at least quarterly for all personnel involved in processing OE/AAA cases.

5-1-12. RELEASE OF INFORMATION

Requests from the public for access to or copies of information contained in obstruction evaluation study files are occasionally made to the regional offices. Such requests shall be processed in accordance with the provisions of the Freedom of Information Act (5 U.S.C. 552), as implemented by part 7 of the Department of Transportation Regulations and Order 1200.23, Public Availability of Information. Information should not be released on any case until a final determination has been made.

Section 2. NOTICES

5-2-1. REQUIREMENTS

a. Requirements for notifying the FAA of proposed construction or alteration are contained in Sections 77.13 (see FIG 5-2-1, FIG 5-2-2, FIG 5-2-3, and FIG 5-2-4) and 77.15. Advisory Circular 70/7460-2, Proposed Construction of Objects that May Affect the Navigable Airspace, provides the public guidance on the application of these notice requirements.

b. No notice is required, as specified in Section 77.15(c), 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 part 77 criteria.

c. Examples of equipment not requiring notice are:

1. Wind equipment (except supplemental wind cones);

2. Transmissometers (Runway Visibility Value (RVV) and Runway Visual Range (RVR) equipment);

3. Instrument Landing Systems (ILS); and

4. Visual Glide Slope Indicators (VGSI).

5-2-2. PROCESSING

a. Air Traffic personnel shall administer obstruction evaluation studies with the coordinated assistance of Airports, Airway Facilities, Frequency Management, Flight Standards, FPO and military representatives.

b. The regional ATD shall process notices received under the provisions of Sections 44718 and 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 shall be processed by the Airports Division as a nonrulemaking airport (NRA) case. (Defined in part 3, Airport Airspace Analysis, of this order). However, if the notice pertains to a temporary structure or a structure that radiates a frequency, the Airports Division may request that Air Traffic process the notice as an OE case.

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

5-2-3. FAA FORMS

Standard FAA forms are established for use in conducting obstruction evaluation studies. The standard FAA forms are:

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

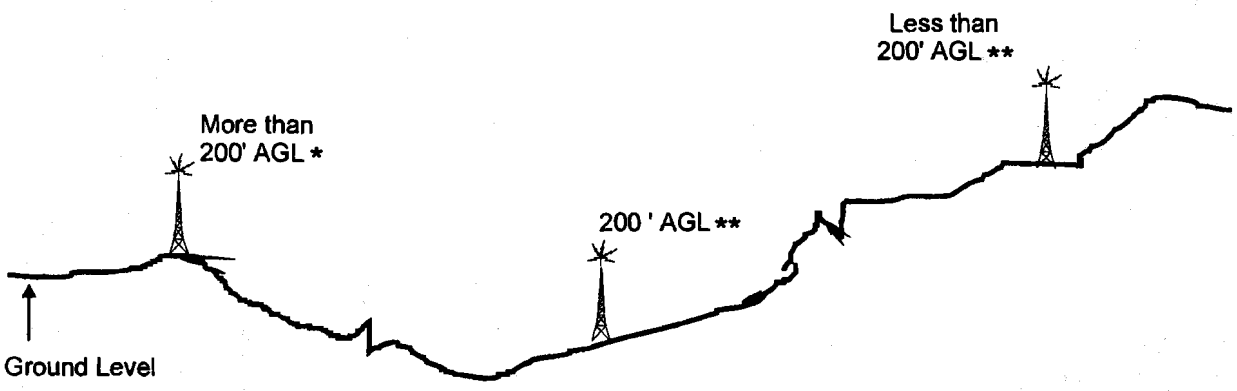
b. FAA FORM 7460-2, Notice of Actual Construction or Alteration (Supplemental Notice).

c. FAA FORM 7460-6, Obstruction Evaluation Worksheet.

NOTICE OF CONSTRUCTION OR ALTERATION

§77.13(a)(1) - A notice is required for any proposed construction or alteration that would be more then 200 feet in height above the ground level at its site.

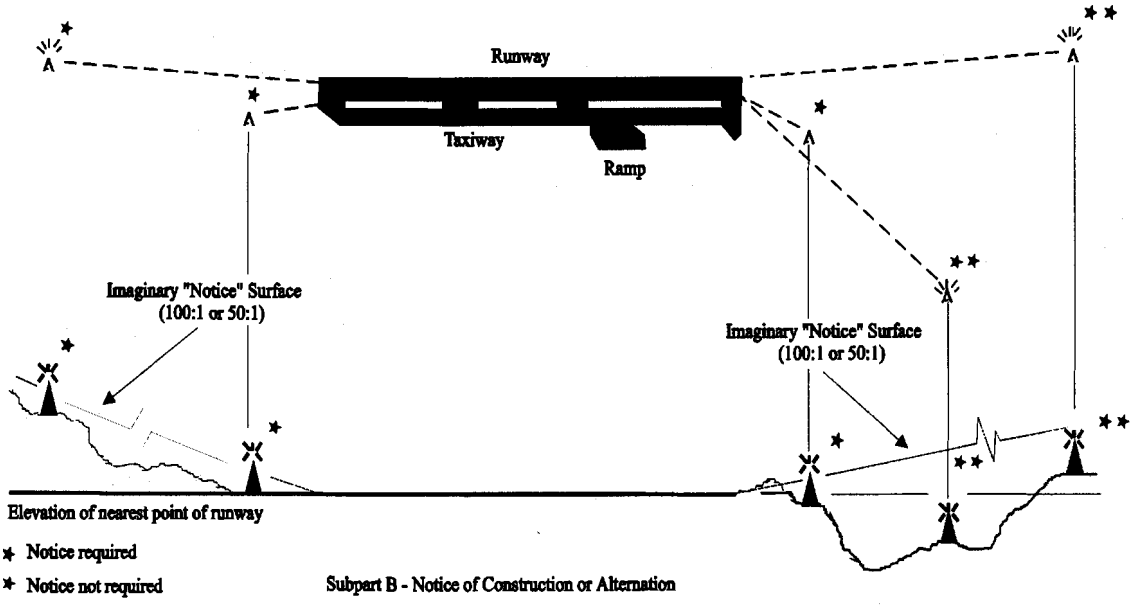
§77.13(a)(1) - Notice Requirement Anywhere



* Notice Required
** Notice Not Required

FIG 5-2-1

NOTICE REQUIREMENT RELATED TO AIRPORTS



NOTE:

Each airport must be available for public use and listed in the Airport/Facility Directory or in either the Alaska or Pacific Chart Supplement; under construction and the subject of a notice or proposal on file with FAA, and except for Military airports, it is clearly indicated that airport will be available for public use, or operated by an armed force of the United States. (Heliports and seaplane bases without specified boundaries are excludes.)

§77.13(a)(2) - A notice is required for any proposed construction or alteration that would be of greater height than an imaginary surface extending outward and upward at one of the following slopes-

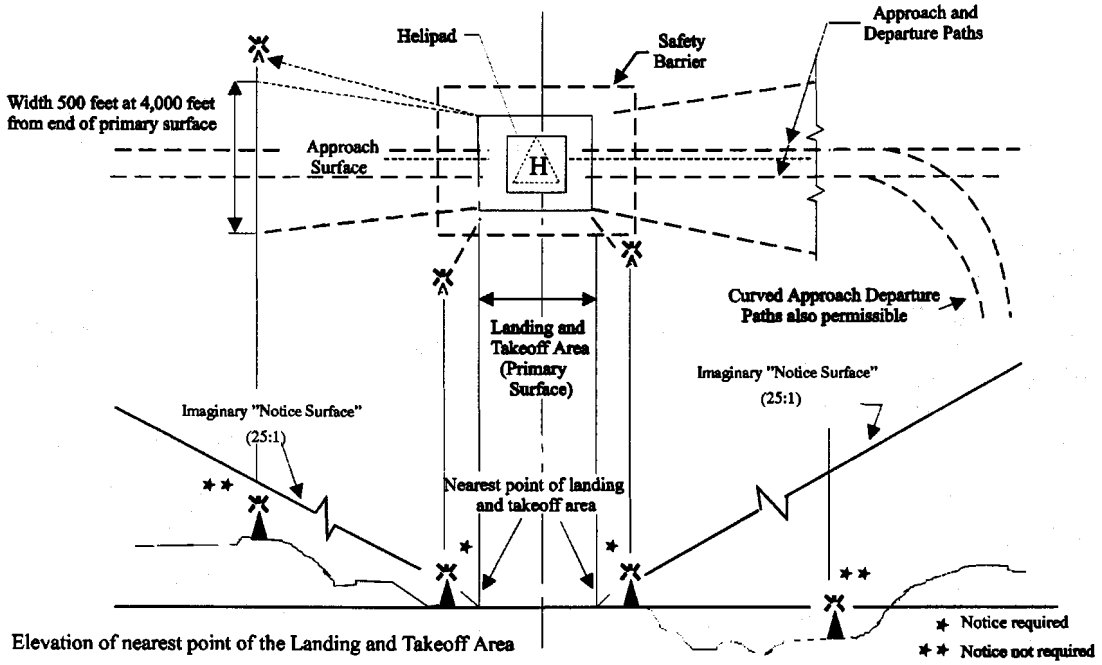
(i) 100 to 1 for a horizontal distance of 20,000 feet from the nearest runway of each airport with at least one runway more than 3,200 feet in actual length.

(ii) 50 to 1 for a horizontal distance of 10,000 feet from the nearest point of the nearest runway of each airport with its longest runway no more than 3,200 feet in actual length.

(Note: §77.13(a)(5) requires notice of any proposed construction or alteration on each airport, including heliports)

FIG 5-2-2

NOTICE REQUIREMENT RELATED TO HELIPORTS



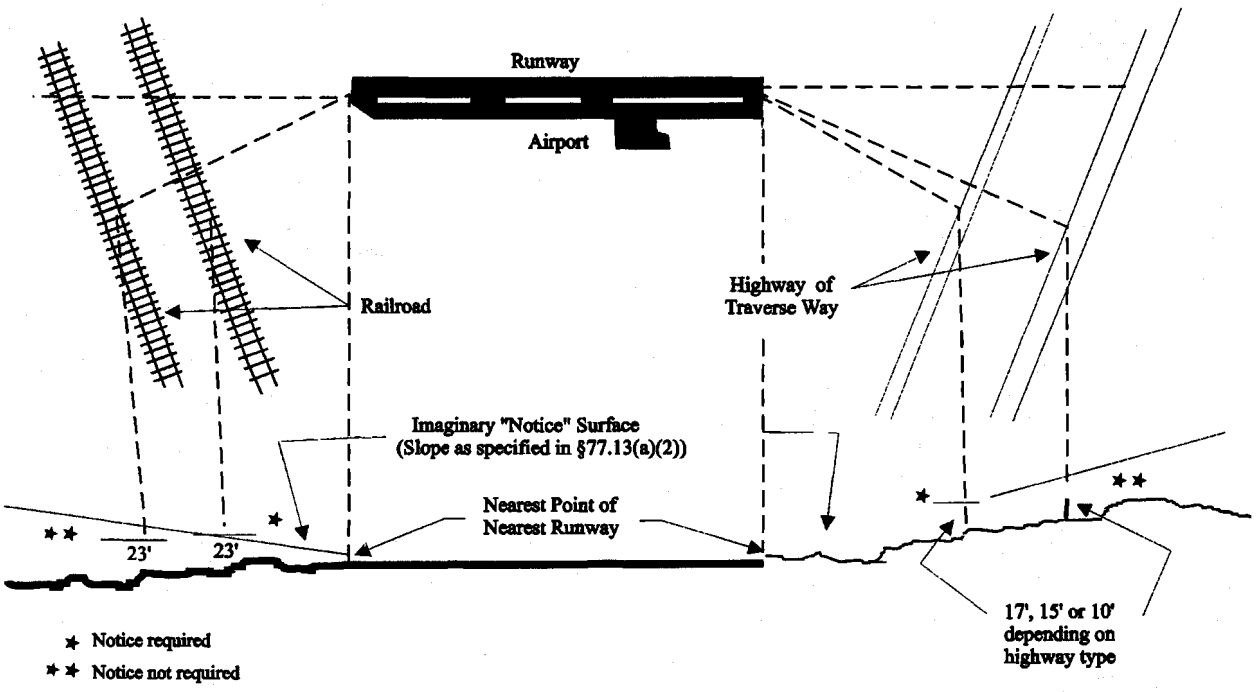
Subpart B - Notice of Construction or Alteration

§77.13(a)(2) - A notice is required for any proposed construction or alternation that would be of greater height than an imaginary surface extending outward and upward at the following slope:

(iii) 25 to 1 for a horizontal distance of 5,000 feet from the nearest landing and takeoff area of each heliport, available for public use listed in the Airport/Facility Directory or in either the Alaska or Pacific Chart Supplement; is under construction and is the subject of a notice of proposal on file with the FAA and except for military heliports, it is clearly indicated that heliport will be available for public use, or operated by a Federal Military agency.

FIG 5-2-3

NOTICE REQUIREMENT RELATED TO TRAVERSE WAYS



Subpart B - Notice of Construction or Alteration

§77.13(a)(3) - Notice is required for any proposed construction or alternation of any highway, railroad, or othr traverse way for mobile objects if of greater height than the standards of §77.13(a)(1) or (2) after their height has been adjusted upward by one of the following:

17 Feet for an Interstate highway that is part of National System of Military and Interstate Highways,
15 feet for any other public roadway,
10 feet or the height mobile object that would normally traverse the road, whichever is greater, for a private road.
23 feet for a railroad.
For a waterway or any other traverse way, an amount equal to the height of the highest mobile object that would normally use it.

FIG 5-2-4

Chapter 6. AERONAUTICAL STUDIES

Section 1. GENERAL

6-1-1. POLICY

An obstruction evaluation study shall be conducted for all complete OE notices received.

6-1-2. AERONAUTICAL STUDY NUMBERS

For ease of use of the OE/AAA automated obstruction programs and correspondence, a separate aeronautical study number shall be assigned and a separate obstruction evaluation study shall be conducted for:

a. Each site (location), structure (height), or sponsor.

1. At times, a single sponsor may file notice for multiple sites. Each site shall be assigned a separate aeronautical study number and a separate obstruction evaluation study shall be conducted.

2. At times, a single FAA Form 7460-1 may be received for a single project that covers multiple structures such as an antenna array, windmill clusters, housing development, cluster of buildings, utility poles, or catenaries. Each structure shall be assigned a separate aeronautical study number and a separate obstruction evaluation study shall be conducted. However, a single determination addressing all of the structures may be issued.

3. At times, multiple sponsors may be competing for the same FCC license in the same market area and may file notice for the same communications band/frequency/channel using the same effective radiated power at the same location and height. A separate FAA Form 7460-1 should be submitted for each sponsor with information specific to the structure and sponsor. Separate aeronautical study numbers shall be assigned and separate obstruction evaluation studies conducted.

NOTE-
A single structure with multiple points of interest, such as a building, may be processed as a single obstruction evaluation study provided that all information including items such as maps, blue prints, elevations, etc., are coordinated with each division for evaluation. In the automated obstruction evaluation case screen, the highest site elevation, or finished floor elevation should be recorded as the site elevation. The tallest point on the structure should be recorded as the above ground elevation, and the closest point of the structure to the closest runway should be recorded as the latitude/longitude. This information would be considered worst case and should be used for recording purposes. For analysis purposes, it may be necessary to use specific information for each point of interest.

b. Changes to marking/lighting recommendations.

c. Revisions or corrections to coordinates or elevations after the study has been verified and made available for evaluation by other FAA divisions. This would include revisions or corrections to a notice received from the sponsor; revisions or corrections made necessary by the FAA due to mistakes; revisions or corrections as a result of "as-built" surveys; and revisions or corrections due to receipt of supplemental notice.

d. Aeronautical studies that supercede previous studies shall include a reference to the previous aeronautical study number.

6-1-3. STUDY OF EXISTING STRUCTURES

a. The authorities for conducting aeronautical studies of existing structures are contained in Section 40103, Section 44718, and part 77. These studies are conducted when deemed necessary by the FAA to determine the physical or electromagnetic effect on the use of the navigable airspace and air navigation facilities. Obstruction evaluation studies may be initiated as a result of:

1. Information received or a situation observed (e.g., structures reported by flight inspection crews).

2. A request for a study from another FAA component, another agency, or a person with a valid interest in the matter.

3. A notice received under the provisions of part 77 for proposed construction or alteration that has already been started and, therefore, must be considered an existing structure.

4. A structure blocking all or portions of runways, taxiways, or traffic patterns from being seen from an airport traffic control tower.

5. Other situations for which such an aeronautical study would be appropriate.

b. Situations that may require obstruction evaluation of existing structures include, but are not limited to:

1. Determining the effect of a change in aeronautical procedures.

2. Determining the effect of a proposed runway construction, extension, or realignment.

3. Determining the need for providing technical assistance in the design and development of airports.

4. Determining whether the FAA should recommend that an existing structure be altered or removed.

5. Determining whether the FAA should recommend that an existing structure be made conspicuous by marking and/or lighting in accordance with current standards.

6. Determining whether the marking and/or lighting display on an existing structure can be removed or reduced without adversely affecting aviation safety or should be increased to more effectively make its presence known to airmen.

7. Determining whether an existing structure has an electromagnetic effect upon an air navigation or communications facility, or obstructs the required line of sight from an airport traffic control tower.

8. Providing recommendations to FCC concerning dismantling abandoned antenna structures.

9. Providing technical assistance or information to a person, or government organization (Federal, state or local) expressing an interest in the structure and the FAA's responsibility associated with the structure's effect on the safe and efficient use of the navigable airspace.

c. Conduct an aeronautical study for an existing structure in the same manner as proposed structures except as specifically noted in this order.

6-1-4. PROPOSALS UNDER CONSTRUCTION

A proposal for which construction has already started shall be considered as an existing structure. Construction is considered to have started if actual structural work has begun such as the laying of a foundation but not including excavation.

6-1-5. STRUCTURES EXCEEDING 2,000 FEET

Any proposed structure that would exceed a height of 2,000 feet above ground is presumed to have a substantial adverse effect upon the safe and efficient use of navigable airspace and shall be determined to be a hazard to air navigation unless the sponsor, at the time of filing, makes a clear and compelling showing to the contrary.

a. Notices proposing a structure greater than 2,000 feet in height above the ground that are accompanied with the detailed graphic required in Section 77.17(c) shall be processed in the normal manner with one exception. Send one copy of the notice and a detailed graphic to ATA-400 for coordination prior to the issuance of a determination.

b. Notices received without the detailed graphic shall be responded to with a determination stating that the proposed structure is presumed to be, inherently, a hazard to air navigation and the sponsor has the burden of overcoming this presumption in accordance with Section 77.17(c).

6-1-6. FEASIBILITY STUDIES

a. A feasibility study is a limited aeronautical review based on very broad, estimated, or general information supplied for the structure. The study usually addresses only certain issues; e.g., feasibility of height at a general location, feasibility of frequency and power at a general location.

b. Requests for feasibility studies should be accommodated to the extent existing resources and workloads allow. The need for coordination with other divisions will be based on the type of information supplied for the structure.

c. A feasibility study shall result in a report rather than an official determination.

6-1-7. TOWER OWNERSHIP

While the FAA must maintain a means of contacting parties responsible for filing FAA Form 7460-2, it is not responsible for tracking changes in tower ownership. The FCC antenna structure registration program is specifically intended to register and maintain current files with regards to ownership of antenna structures. Therefore, if the FAA receives ownership changes it shall not make those corrections to issued determinations. However, the ownership change should be noted in the automated and/or manual case file. Additionally, request that the sponsor notify the FCC, and, for assurance, forward a copy of the change to the FCC.

6-1-8. INFORMAL AIRSPACE MEETINGS

Informal airspace meetings may be held with interested parties to discuss the obstruction evaluation study and to gather additional facts or information relevant to the study.

Section 2. INITIAL PROCESSING/VERIFICATION

6-2-1. INITIAL REVIEW

a. Prior to assigning an aeronautical study number, review the submission for completeness. The following information should be considered:

1. Ground elevation of the site (site elevation);

2. Above ground elevation of the structure (AGL);

3. Latitude and longitude of the structure; and

4. A 7.5-Minute U.S.G.S. Topographic Map (Quadrangle Chart) depicting the site of the structure.

b. If the submission package contains all of the required information, assign an aeronautical study number, enter the data into the OE/AAA automation program, and initiate an obstruction evaluation study. Exceptions may be made for emergency situations in accordance with 77.17(d).

c. If the submission package does not contain the required information, it may be returned to the sponsor with a clear explanation and a request for the sponsor to provide the information necessary to initiate the study.

d. For submission packages pertaining to structures that may be time critical, an effort should be made to obtain the required information by telephone. Information received by telephone conversation should be recorded in a written memo to the file. Also, request the sponsor to provide the same information in writing.

6-2-2. VERIFICATION

a. The regional ATD shall verify each obstruction evaluation case to ensure that the submitted site elevation and coordinates appear to be correct and that all necessary information has been included. Verification shall include, as a minimum, the following actions:

1. Compare the submitted site depiction to the submitted coordinates when plotted;

2. Compare the submitted site elevation to the ground contour elevations in the area of the submitted coordinates when plotted;

3. If a survey is submitted, compare the information contained on the survey, with the submitted information and the site as plotted;

4. If the submission involves an existing structure, compare the submitted information to the digital obstacle file, with the previous aeronautical study (if any), and possibly the FCC tower registration information;

5. Ensure that the submission provides a complete description and clearly explains the reason for submission. The submission should include sufficient information to allow each division to accomplish its specialized portion of the obstruction evaluation;

6. If the submission involves a structure that would normally radiate frequencies, ensure that the frequencies and effective radiated power are included;

7. If the submission involves a structure over 200 feet AGL, ensure marking and/or lighting preferences are part of the submission. Sponsors shall be required to specifically request the type of marking and/or lighting they desire when submitting FAA Form 7460-1. They should be encouraged to become familiar with the different type of lighting systems available. The sponsor should obtain information about these systems from the manufacturers. The sponsor can then determine which system best meets his/her needs based on purchase, installation, and maintenance costs. The FAA will consider the sponsor's desired marking and/or lighting system when conducting the aeronautical study.

b. If the submission contains errors, discrepancies, or lacks information, Air Traffic shall request (automated letter "ADD") resolution by the sponsor and/or the sponsor's representative. If the sponsor does not resolve the issues within 37 days of the written request, Air Traffic may terminate the aeronautical study (automated letter "TER-ADD").

c. If the submission passes verification and there are no unresolved issues, send a receipt letter

(automated letter "REC") to the sponsor and initiate evaluation by other divisions by changing the status in the OE/AAA automation program to "WRK."

NOTE-
It is imperative that all data in the automated OE case file is reviewed and verified for accuracy before proceeding to "Division Coordination." Any correction or change to the heights and/or coordinates after the divisions begin evaluation shall require initiating a new aeronautical study.

6-2-3. DIVISION COORDINATION

Each division described in paragraph 5-2-2 shall evaluate all notices of proposed construction or alteration received regardless of whether notice was required under part 77, except as follows:

NOTE-
For the purpose of division coordination, Frequency Management (FM) will be considered separately in addition to Airway Facilities (AF). It should also be noted that FM responds separately.

a. Side Mounted Non-Microwave Antennas - Airports, Flight Standards, Airway Facilities and the military normally are not required to review OE cases that involve the addition of antennas to a previously studied structure that does not increase in overall height of the structure. FM will continue to evaluate these cases. The FAA must have previously studied the structure and the data of the present case and it must exactly match the data of the previously studied case.

b. Side Mounted Microwave Dishes - Airports, Flight Standards, and the military normally shall not be required to review OE cases that involve the addition of microwave dishes to a structure that does not increase in overall height. FM will continue to evaluate these cases. The FAA must have previously studied the structure and the data of the present case and it must exactly match the data of the previously studied case.

c. Marking and Lighting Changes - Airports, Flight Standards, Flight Procedures, FM, Airway Facilities, and the military normally are not required to review OE cases which involve only marking and lighting changes. The FAA must have previously studied the structure and the data of the present case and it must exactly match the data of the prior case.

d. Temporary Structures - Airports, Flight Standards, FM, and the military normally shall not be required to review OE cases which involve temporary structures of a 6 month or less duration. All appropriate divisions shall review temporary structures of a longer duration.

e. Flight Procedures normally shall not be required to review OE cases that are beyond 14 nautical miles from the airport reference point of the nearest public-use or military airport and the height of the structure is not more than 200 feet above ground level.

f. Airports normally shall not be required to review OE cases that are beyond three nautical miles from the airport reference point of the nearest public-use or military airport.

g. Flight Standards shall review OE cases that are circularized for public comment.

h. FM normally shall only be required to review OE cases, that involve transmitting frequencies.

6-2-4. ADDITIONAL COORDINATION

Air Traffic may request for any division to review an OE case on a case-by-case basis. For instance, Flight Standards should be requested to review a marking and lighting change, the military should be requested to review a temporary structure if the closest airport is a military base, or FM should be requested to review a temporary structure if it radiates a frequency.

Section 3. IDENTIFYING/EVALUATING AERONAUTICAL EFFECT

6-3-1. POLICY

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

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

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

6-3-2. SCOPE

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

a. The effect the proposal would have:

1. On existing and proposed public-use and military airports and/or aeronautical facilities.

2. On existing and proposed visual flight rule (VFR)/instrument flight rule (IFR) aeronautical departure, arrival and en route operations, procedures, and minimum flight altitudes.

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

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

b. Whether marking and/or lighting is necessary.

6-3-3. DETERMINING ADVERSE EFFECT

A structure is considered to have an adverse aeronautical effect if it exceeds the obstruction standards of part 77 and/or is found to have physical or electromagnetic radiation effect on the operation of air navigation facilities. A proposed or existing structure, if not amended, altered or removed, has an adverse effect if it would:

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

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

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

d. Derogate airport capacity/efficiency.

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

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

6-3-4. DETERMINING SIGNIFICANT VOLUME OF ACTIVITY

The type of activity must be considered in reaching a decision on the question of what volume of aeronautical activity is "significant." For example, if one or more aeronautical operations per day would be affected, this would indicate regular and continuing activity, thus a significant volume no matter what the type of operation. However, an affected instrument procedure or minimum altitude may need to be used only an average of once a week to be considered significant if the procedure is one which serves as the primary procedure under certain conditions.

6-3-5. SUBSTANTIAL ADVERSE EFFECT

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

a. Adverse effect as described in paragraph 6-3-3; and

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

6-3-6. RESPONSIBILITY

The FAA's obstruction evaluation program transcends organizational lines. In order to determine the effect of the structure within the required notice period, each office should forward the results of its evaluation within 10 working days to the regional ATD for further processing. Areas of responsibility are delegated as follows:

a. Regional ATD personnel shall:

1. Identify when the structure exceeds Section 77.23 (a)(1) (see FIG 6-3-1) and apply Section 77.23(b) (see FIG 5-2-4).

2. Identify the effect on existing and planned aeronautical operations, air traffic control procedures, and airport traffic patterns and making recommendations for mitigating adverse effect including marking and lighting recommendations.

3. Identify when the structure would adversely effect published helicopter route operations as specified in paragraph 6-3-8 subparagraph e., of this order, and forward the case to Flight Standards.

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

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

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

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

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

NOTE-
See Note under b, below.

b. Regional Airports Division personnel shall:

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

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

3. Identify when the structure exceeds Sections 77.23 (a)(2), 77.23 (a)(5), 77.25, 77.28, and 77.29 (See FIG 6-3-2, FIG 6-3-3, FIG 6-3-4, FIG 6-3-5, FIG 6-3-6, FIG 6-3-7, and FIG 6-3-8).

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

NOTE-
Regional ATD personnel shall perform the automated part 77 obstruction criteria analysis when the automation program is available and the airport/runway database is appropriately maintained and updated by the Airports Division. To ensure that all changes the Airports Division may have made to the airport/runway database are considered and reflected in the study, AT personnel shall perform the "run/rerun," the automated part 77 obstruction criteria analysis before issuing the determination. However, due to limited availability of runway spot elevations, the automated analysis of the primary and transition surfaces abeam the runway should be performed manually when spot elevations differ significantly from threshold elevations.

c. FPO personnel shall:

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

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

3. Identify the effect on minimum en route altitudes (MEA), minimum obstruction clearance altitudes (MOCA), minimum vectoring altitudes (MVA), minimum IFR altitudes (MIA), minimum safe altitudes (MSA), minimum crossing altitudes (MCA), minimum holding altitudes (MHA), turning areas and termination areas, and making recommendations for eliminating adverse effect.

4. Coordinate with Air Traffic and Airway Facilities personnel to determine the effect of any interference with an air navigation facility on any terminal or en route procedure.

5. State what adjustments can be made to the procedure/structure to mitigate or eliminate any adverse effects of the structure on an instrument flight procedure.

NOTE-
While AVN is responsible, they may use a contractor or contractors to accomplish all or part of these duties.

d. Regional Flight Standards personnel shall identify the effect on fixed-wing and helicopter VFR routes, terminal operations, and other concentrations of VFR traffic. When requested by Air Traffic, the Flight Standards Division shall also evaluate the mitigation of adverse effect on VFR operations for marking and/or lighting of structures.

e. Airway Facilities personnel shall identify any electromagnetic and/or physical effect on air navigation and communications facilities including:

1. The presence of any electromagnetic effect in the frequency protected service volume of the facilities shown in FIG 6-3-10, FIG 6-3-11, and FIG 6-3-12.

2. The effect on the availability or quality of navigational or communications signals to or from aircraft including lighting systems (e.g., VGSI), and making recommendations to eliminate adverse effect.

3. The effect on ground-based communications and NAVAID equipment, and the signal paths between ground-based and airborne equipment, and making recommendations to eliminate adverse effect.

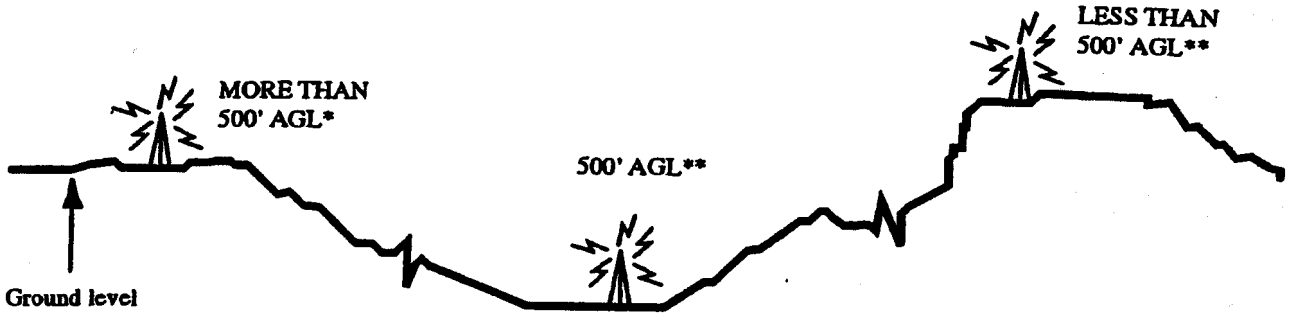
4. The effect on the availability or quality of ground-based primary and secondary radar, direction finders, and air traffic control tower line-of-sight visibility, and making recommendations to eliminate adverse effect.

5. The effect of sunlight or artificial light reflections, and making recommendations to eliminate adverse effect.

f. Military personnel are responsible for evaluating the effect on airspace and routes used by the military.

g. Other applicable FAA offices or services may be requested to provide an evaluation of the structure on a case-by-case basis.

ANYWHERE



* Obstruction to Air Navigation
** Not an Obstruction to Air Navigation

Subpart C - Obstruction Standards
§77.23(a)(1) - An object would be an obstruction to air navigation if of greater height than 500 feet above ground level at its site.

FIG 6-3-1

NEAR AIRPORTS

Subpart C - Obstruction Standards
§77.23(a)(2) - An object would be an obstruction to air navigation if of greater height than 200 feet above ground at the site, or above the established airport elevation, whichever is higher -
(a) within 3 NM of the established reference point of an airport with its longest runway more than 3,200 feet in actual length, and
(b) that height increases in proportion of 100 feet for each additional nautical mile from the airport reference point up to a maximum of 500 feet.
Note: Heliports excluded.

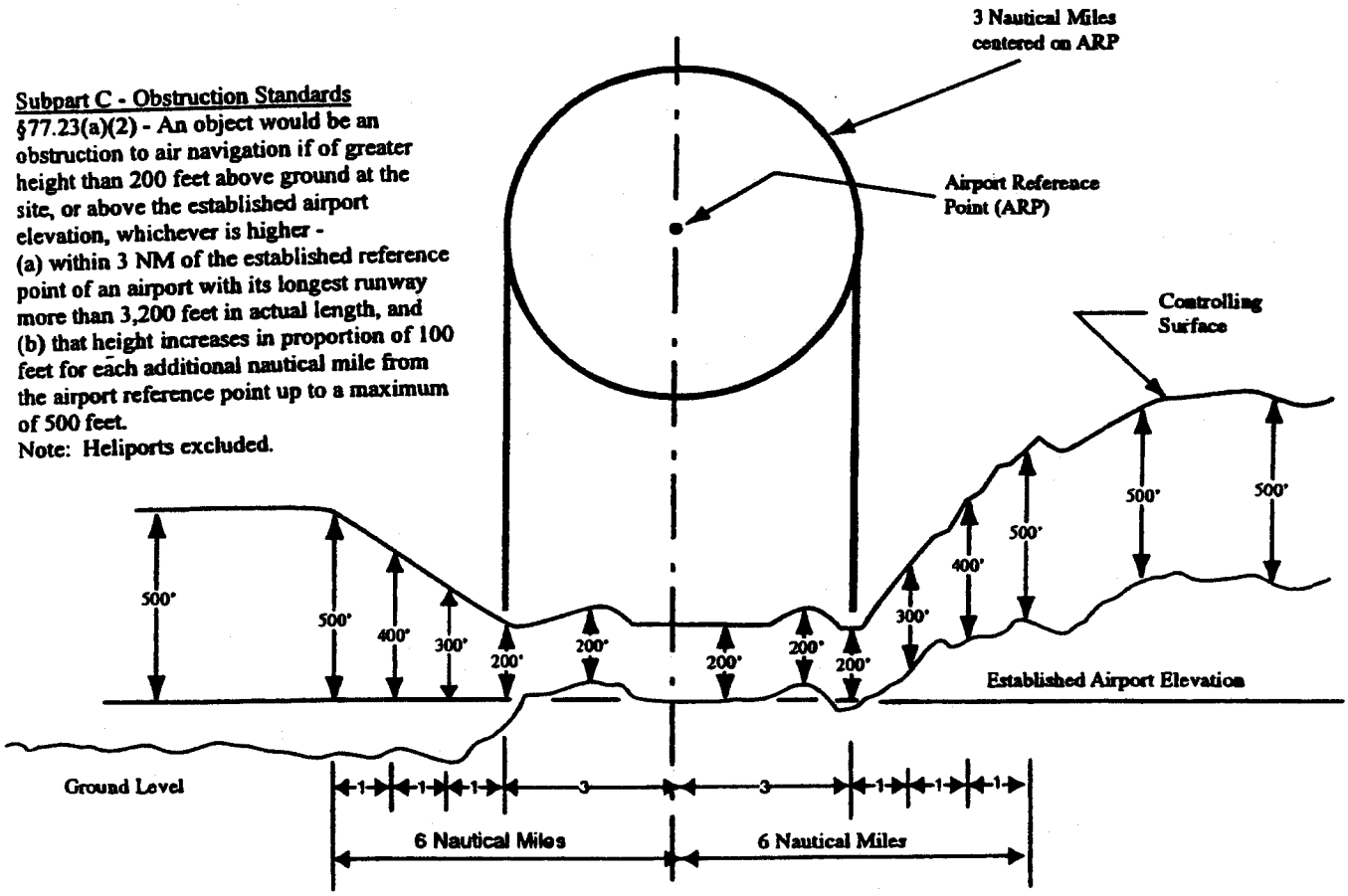
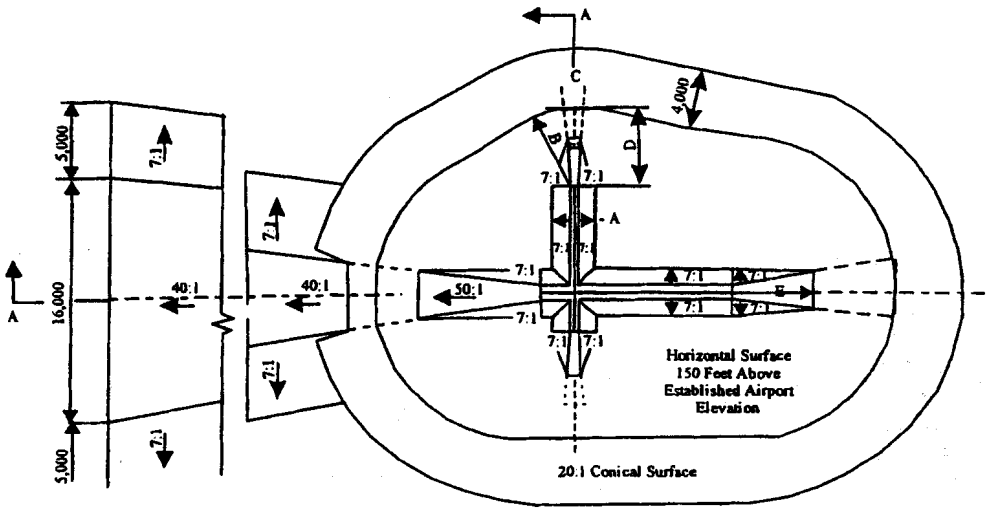


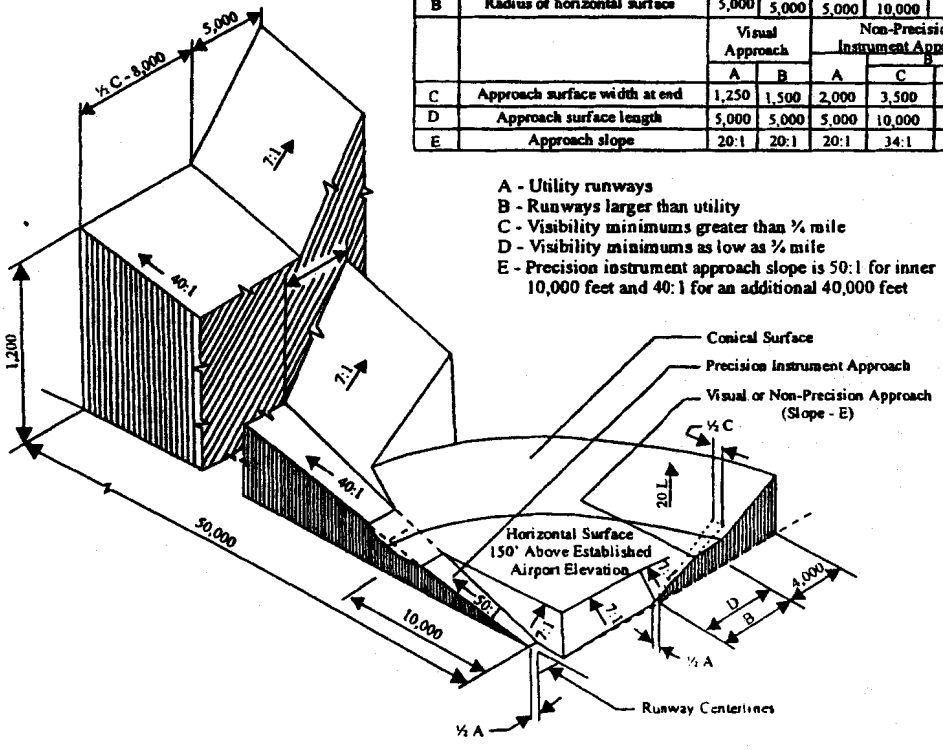
FIG 6-3-2

CIVILIAN AIRPORT IMAGINARY SURFACES



DIM	ITEM	Dimensional Standards (Feet)					
		Visual Runway		Non-Precision Instrument Runway			Precision Instrument Runway
		A	B	A	C	D	
A	Width of primary surface and approach surface width at inner end	250	500	500	500	1,000	1,000
B	Radius of horizontal surface	5,000	5,000	5,000	10,000	10,000	10,000
		Visual Approach		Non-Precision Instrument Approach			Precision Instrument Approach
		A	B	A	C	D	
C	Approach surface width at end	1,250	1,500	2,000	3,500	4,000	16,000
D	Approach surface length	5,000	5,000	5,000	10,000	10,000	*
E	Approach slope	20:1	20:1	20:1	34:1	34:1	*

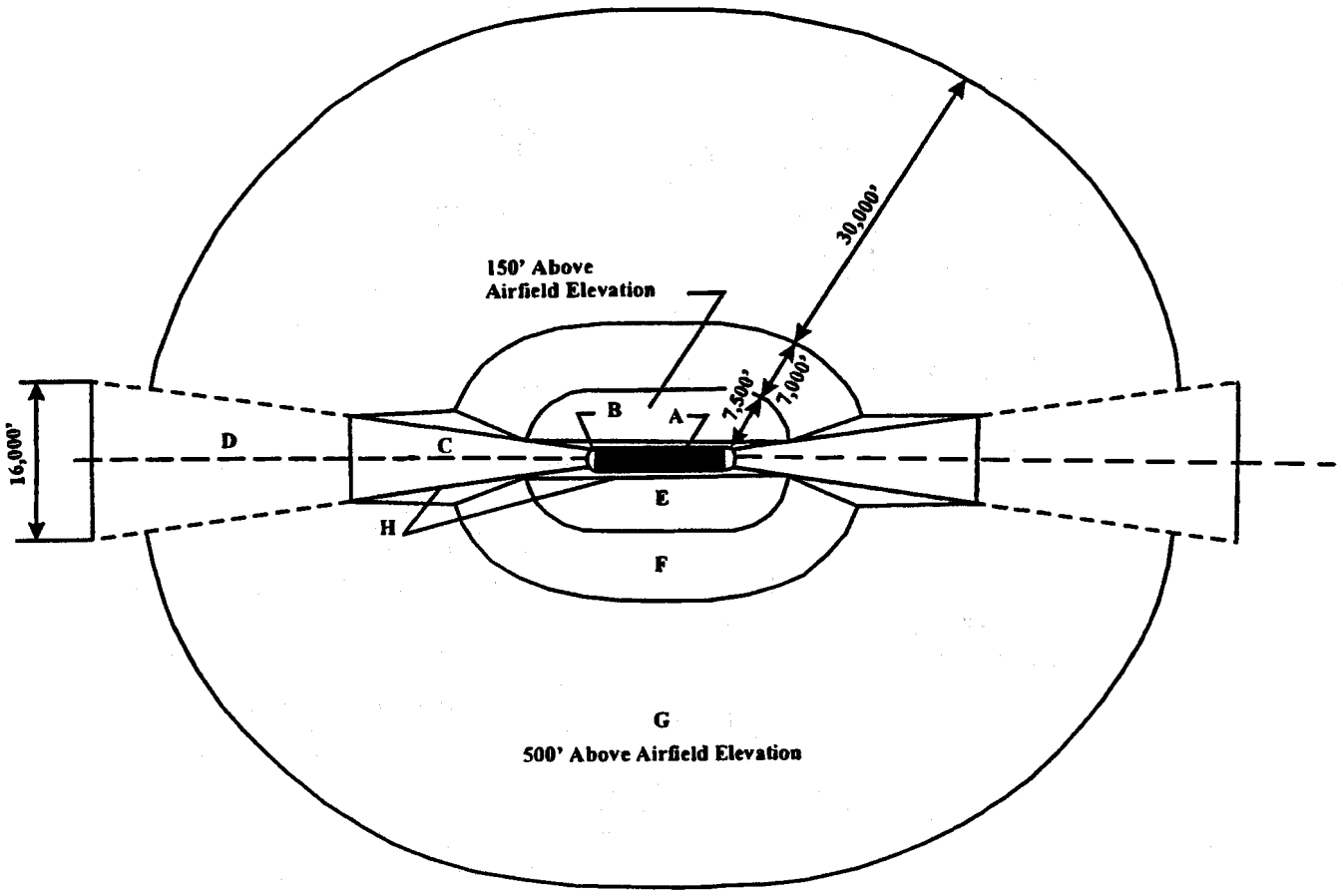
A - Utility runways
B - Runways larger than utility
C - Visibility minimums greater than ¾ mile
D - Visibility minimums as low as ¾ mile
E - Precision instrument approach slope is 50:1 for inner 10,000 feet and 40:1 for an additional 40,000 feet



Isometric View of Section A - A

FIG 6-3-3

MILITARY AIRPORT IMAGINARY SURFACES

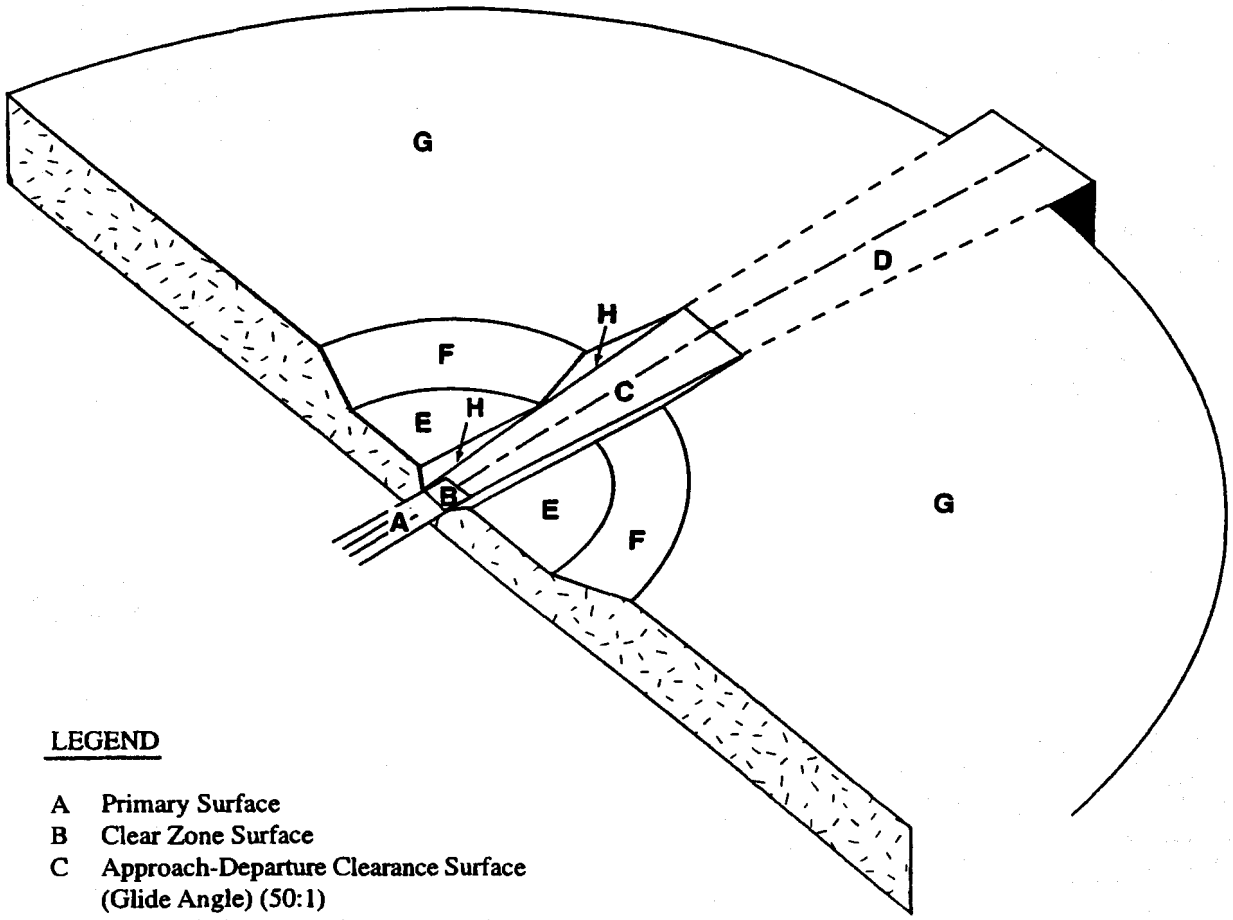


Legend

- A Primary Surface
- B Clear Zone Surface
- C Approach-Departure Clearance Surface (Glide Angle)
- D Approach-Departure Clearance Surface (Horizontal)
- E Inner Horizontal Surface
- F Conical Surface
- G Outer Horizontal Surface
- H Transitional Surface

FIG 6-3-4

MILITARY AIRPORT IMAGINARY SURFACES

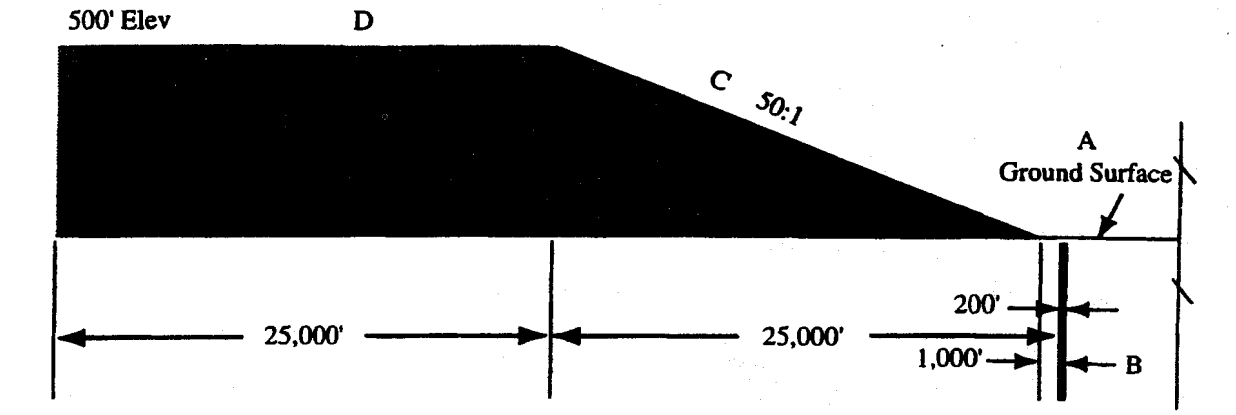


LEGEND

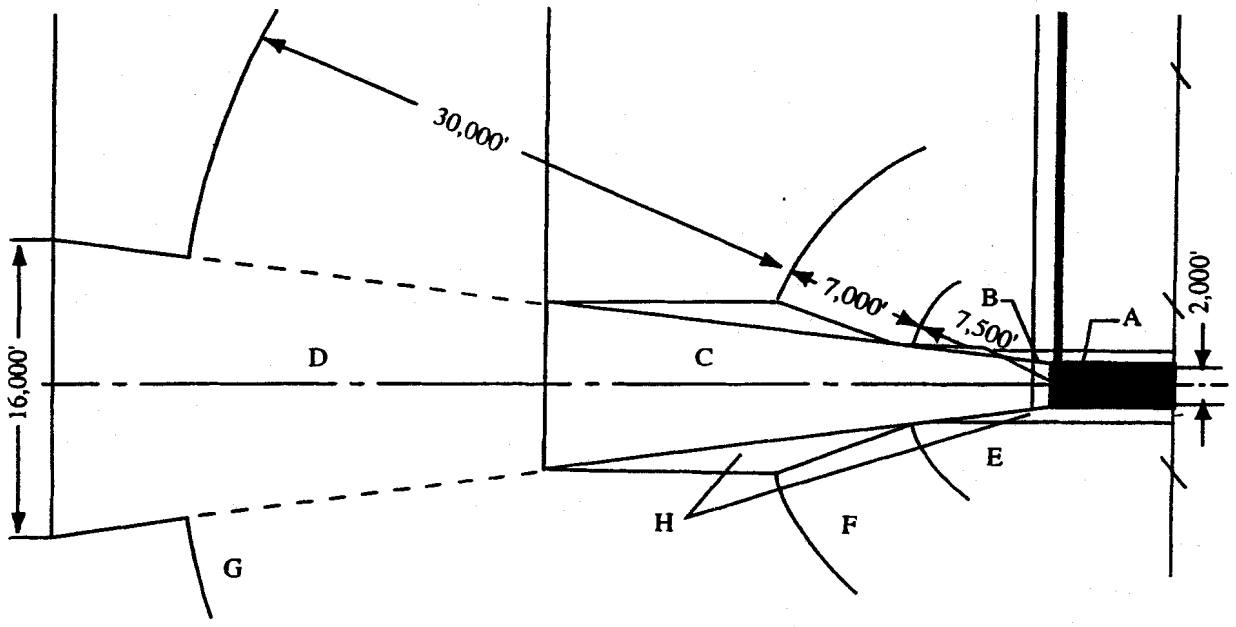
A Primary Surface
B Clear Zone Surface
C Approach-Departure Clearance Surface (Glide Angle) (50:1)
D Approach-Departure Clearance Surface (Horizontal)
E Inner Horizontal Surface
F Conical Surface (20:1)
G Outer Horizontal Surface
H Transitional Surface (7:1)

FIG 6-3-5

MILITARY AIRPORT IMAGINARY SURFACES



Longitudinal Section



Plan View

Legend

A Primary Surface
B Clear Zone Surface
C Approach - Departure Clearance Surface (Glide Angle)
D Approach - Departure Clearance Surface (Horizontal)
E Inner Horizontal Surface
F Conical Surface
G Outer Horizontal Surface
H Transitional Surface

FIG 6-3-6

CLEAR ZONE - MILITARY

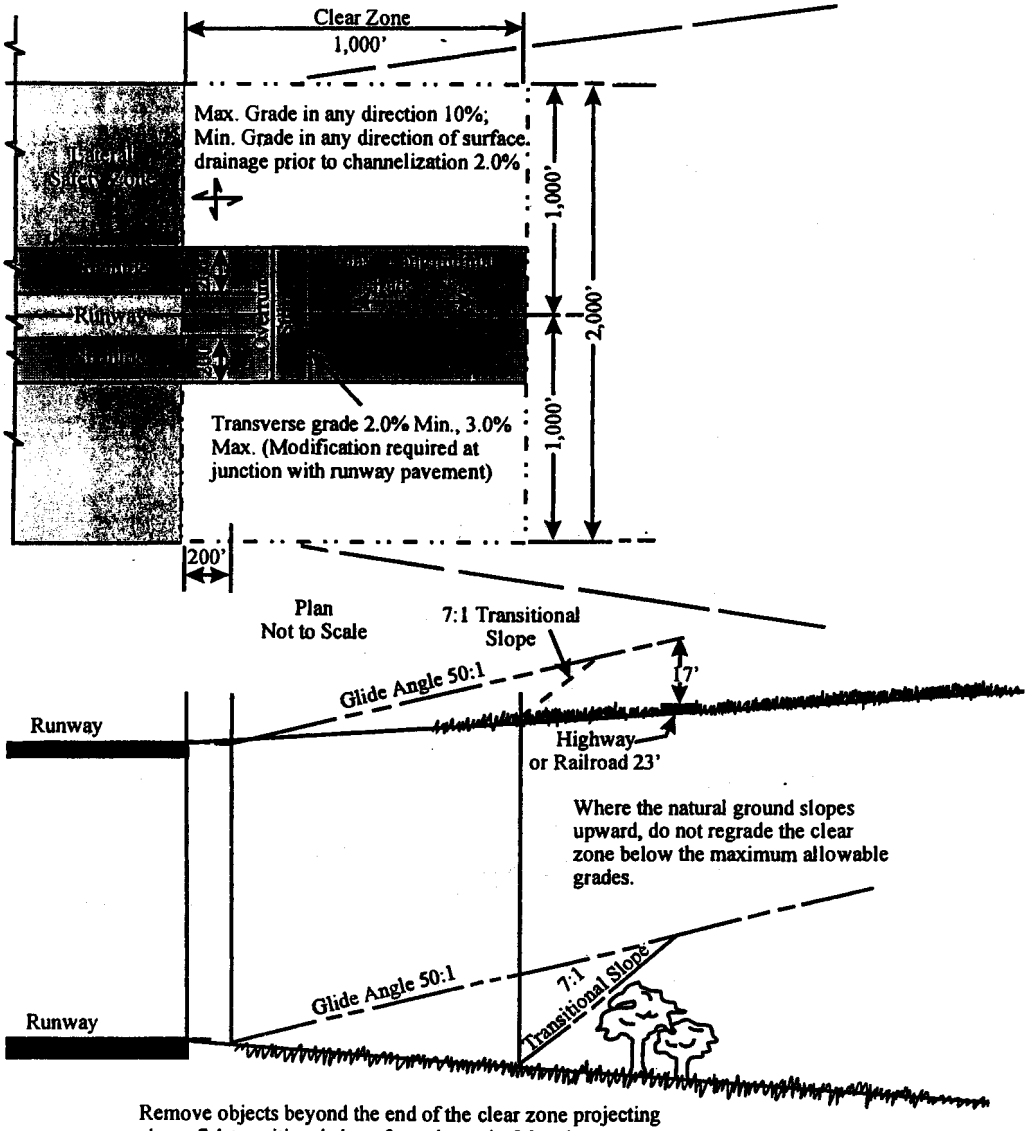


FIG 6-3-7

AIRPORT IMAGINARY SURFACES FOR HELIPORTS

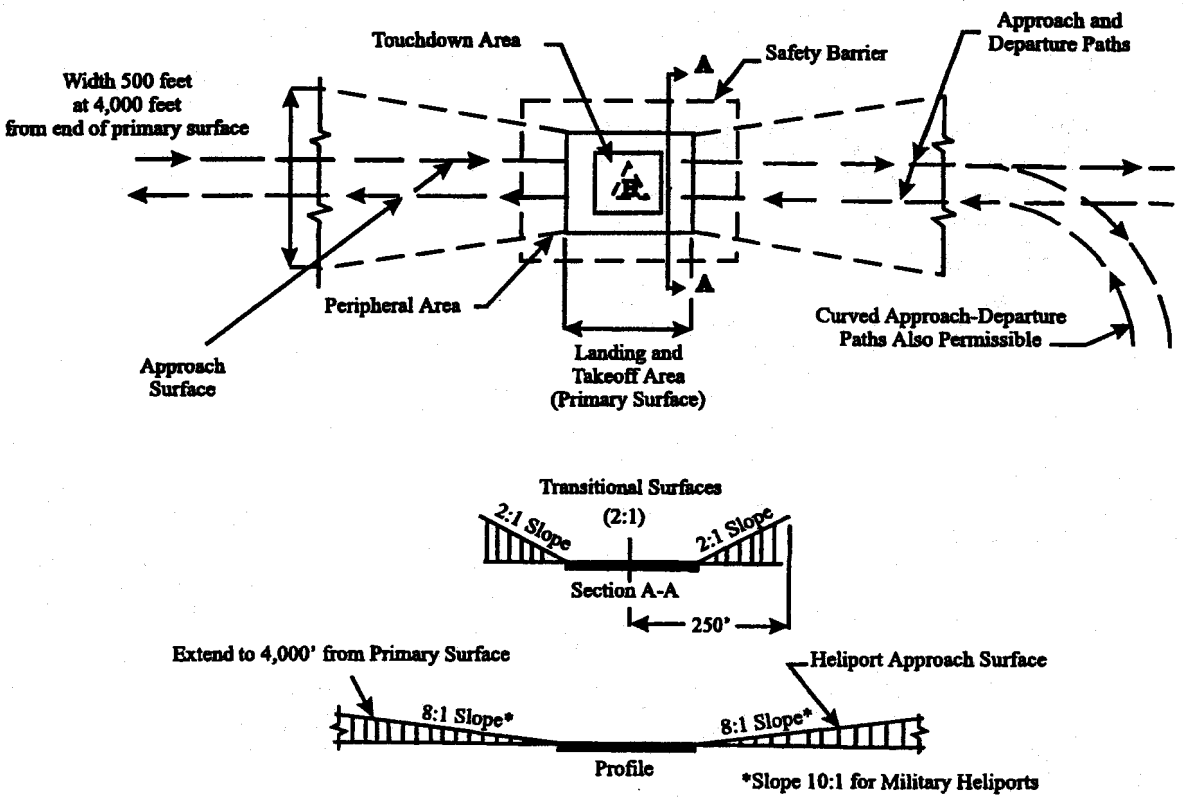


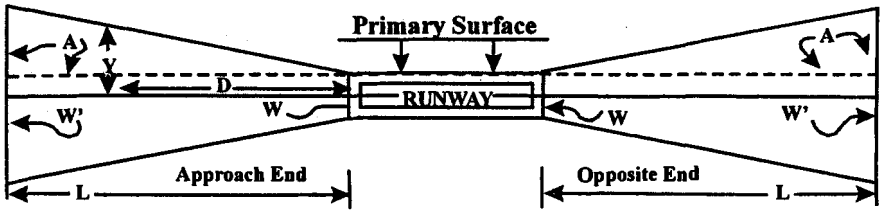
FIG 6-3-8

PART 77, APPROACH SURFACE DATA

RUNWAY TYPE	RWY USE AVAILABLE/PLANNED APPROACH/OPPOSITE RUNWAY END COMBINATIONS		APPROACH SURFACE DIMENSIONS LENGTH L	INNER WIDTH - W	OUTER WIDTH - W'	SLOPES AND FLARE RATIOS SLOPE RATIO	FLARE RATIO - A
UTILITY RUNWAYS	V		5,000	250	1,250	20:1	.1:1
		V	5,000	250	1,250	20:1	.1:1
	V		5,000	500	1,250	20:1	.075:1
		NP	5,000	500	2,000	20:1	.15:1
	NP		5,000	500	2,000	20:1	.15:1
		NP	5,000	500	2,000	20:1	.15:1
OTHER THAN UTILITY RUNWAYS	V		5,000	500	1,500	20:1	.1:1
		V	5,000	500	1,500	20:1	.1:1
	V		5,000	500	1,500	20:1	.1:1
		NP ¾+	10,000	500	3,500	34:1	.15:1
	V		5,000	1,000	1,500	20:1	.05:1
		NP ¾+	10,000	1,000	4,000	34:1	.15:1
	V		5,000	1,000	1,500	20:1	.05:1
		P	50,000	1,000	16,000	50:1/40:1	.15:1
	NP ¾+		10,000	500	3,500	34:1	.15:1
		NP ¾+	10,000	500	3,500	34:1	.15:1
	NP ¾+		10,000	1,000	3,500	34:1	.125:1
		NP ¾+	10,000	1,000	4,000	34:1	.15:1
	NP ¾+		10,000	1,000	3,500	34:1	.125:1
		P	50,000	1,000	16,000	50:1/40:1	.15:1
	NP ¾		10,000	1,000	4,000	34:1	.15:1
		NP ¾+	10,000	1,000	4,000	34:1	.15:1
	NP ¾		10,000	1,000	4,000	34:1	.15:1
		P	50,000	1,000	16,000	50:1/40:1	.15:1
	P		50,000	1,000	16,000	50:1/40:1	.15:1
		P	50,000	1,000	16,000	50:1/40:1	.15:1

V - Visual NP - Nonprecision P - Precision ¾+ - Visibility Minimums More Than ¾ SM ¾ - Visibility Minimums As Low As ¾ SM

EXAMPLE



Sample Use Problem: Proposed structure would be located by measurement to be 20,000 feet from the end of the primary surface and 3,400 feet at 90° from the extended centerline of a precision runway (Refer to Section 77.21(b) for relation of primary surface to end of runway). To determine whether it would fall within the approach surface of that runway, apply the following formula

$$Y = D \times A + \frac{W}{2}$$

Y = distance for runway centerline to edge of the approach

D = distance from end of primary surface at which proposed construction is 90° from extended runway centerline

$Y = 20{,}000 \times 15 + \frac{1{,}000}{2}$ $Y = 3{,}000 + 500$ Y = 3,500 (structure would be within approach surface)

FIG 6-3-9

6-3-7. AIRPORT SURFACES AND CLEARANCE AREAS

a. CIVIL AIRPORT SURFACES

1. Civil airport imaginary surfaces are defined in Section 77.25 and are based on the category of each runway according to the type of approach (visual, nonprecision, or precision) available or planned for each runway end (see FIG 6-3-9). The appropriate runway imaginary surface shall be applied to the primary surfaces related to the physical end of the specific runway surface that is usable for either takeoff or landing.

2. Approach Surface Elevation - Use the runway centerline elevation at the runway threshold and the elevation of the helipad as the elevation from which the approach surface begins (see Sections 77.25 and 77.29).

3. Heliport imaginary surfaces are defined in Section 77.29 and are based upon the size of the takeoff and landing area.

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

b. MILITARY AIRPORT SURFACES - The obstruction standards in Section 77.25, Civil Airport Imaginary Surfaces, apply to civil operated joint-use airports. The obstruction standards in Section 77.28, Military Airport Imaginary Surfaces, are applicable only to airports operated and controlled by a military service of the United States, regardless of whether use by civil aircraft is permitted.

c. TERMINAL OBSTACLE CLEARANCE AREA - The terminal obstacle clearance area specified in Section 77.23(a)(3) includes the initial, intermediate, final, and missed approach segments of an instrument approach procedure, and the circling approach and instrument departure areas. The applicable FAA approach and departure design criteria are contained in the 8260.3 Order series.

d. EN ROUTE OBSTACLE CLEARANCE AREA - The en route obstacle clearance area specified in Section 77.23(a)(4) is applicable when evaluating the effect of a structure on an airway, a feeder route, and/or an approved off-airway route (direct route) as prescribed in the 8260.3 Order series.

6-3-8. EVALUATING EFFECT ON VFR OPERATIONS

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

b. CONSIDERATIONS

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

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

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

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

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

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

4. Shielded Structures - A structure may be "shielded" by being located in proximity to other permanent structures or terrain and would not, by itself, adversely affect aeronautical operations (see paragraph 6-3-13).

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

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

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

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

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

1. A structure would have an adverse effect upon VFR air navigation if its height is greater than 500 feet above the surface at its site, and within 2 statute miles of any regularly used VFR route (see FIG 6-3-10).

2. Evaluation of obstructions located within VFR routes must recognize that pilots may, and sometimes do, operate below the floor of controlled airspace during low ceilings and 1-mile flight visibility. When operating in these weather conditions and using pilotage navigation, these flights must remain within 1 mile of the identifiable landmark to maintain visual reference. Even if made more conspicuous by the installation of high intensity white obstruction lights, a structure placed in this location could be a hazard to air navigation because after sighting it, the pilot may not have the opportunity to safely circumnavigate or overfly the structure. However, as flight conditions improve, the pilot is able to move farther away from the landmark and be at higher altitudes while still maintaining visual contact. Additional factors include but are not limited to:

(a) Section 91.119 minimum altitude requirements;

(b) Historical weather data (e.g., ceiling and visibility);

(c) Floor of controlled airspace; or

(d) Conditions that could make circumnavigation or overflight of the structure impossible or impractical, e.g., other tall structures, terrain, special use airspace, large bodies of water, controlled airspace configurations.

3. When the height of the structure is greater than 500 feet AGL, circularization shall be conducted to ascertain the extent of adverse effect on aeronautical operations. If the route is not used by a significant volume of traffic and an aeronautical study discloses that the installation and operation of high intensity white obstruction lights or high

intensity dual obstruction lights would mitigate the substantial adverse effect, the appropriate lighting/marking requirement shall be specified in the conditions section of a determination of no hazard to air navigation.

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

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.

(a) Traffic Pattern Airspace dimensions (See FIG 6-3-11).

(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.(c) and (d) (see FIG 6-3-12).

(1) 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, Section 77.25).

(2) 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 Section 77.23a.(2), whichever is greater not to exceed 500 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 6-3-13).

(3) Beyond the lateral limits of the conical surface and not in the climb/descent area of any runway – 500 feet above airport elevation (AE) not to exceed 500 feet AGL.

(c) 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.

(d) 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 500 feet above the surface at its site; and

VFR ROUTES

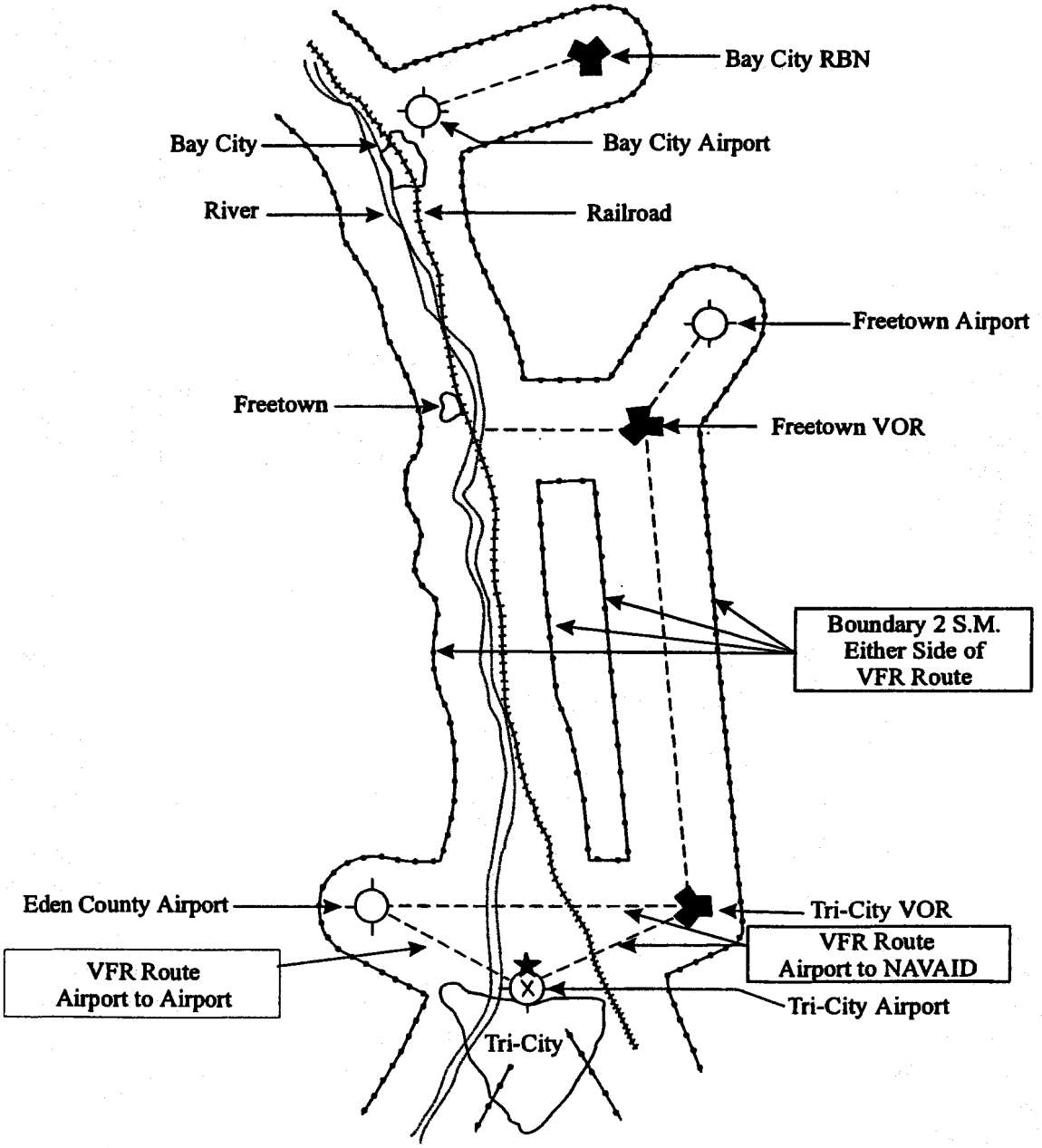
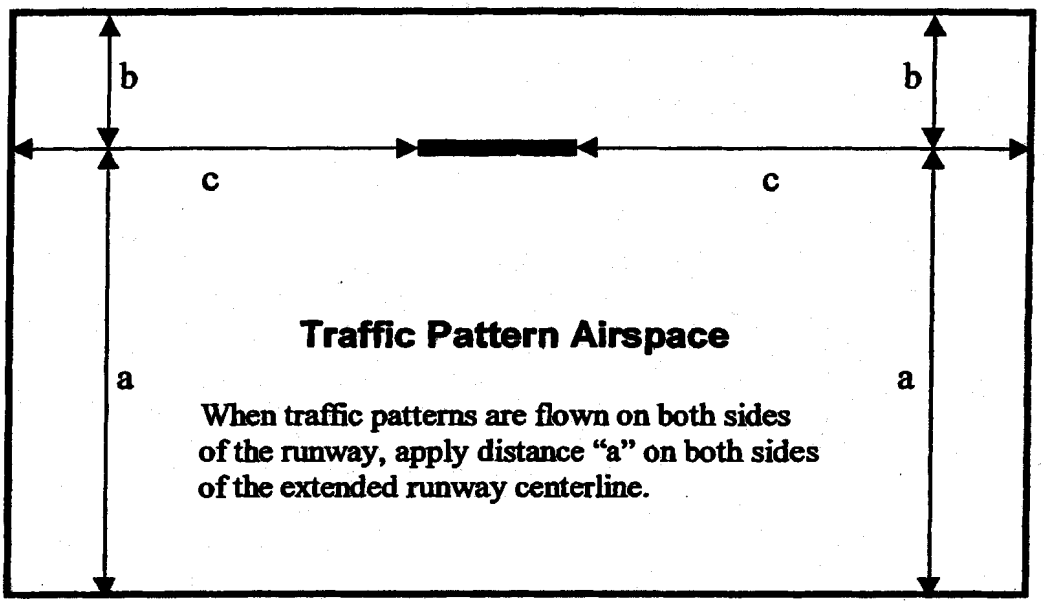


FIG 6-3-10

TRAFFIC PATTERN AIRSPACE



Aircraft Category	Distance (nautical miles)			
	a	b	c	d*
A	1.25	.25	1.25	.375
B	1.5	.25	1.5	.5
C	2.25	.5	2.25	.875
D	4.0	.5	3.0	1.0

* Increase distance "c" by adding distance specified in "d" for each aircraft over four (of the same category) anticipated to be operating in the traffic pattern at the same time.

FIG 6-3-11

TRAFFIC PATTERN AIRSPACE ADVERSE EFFECT

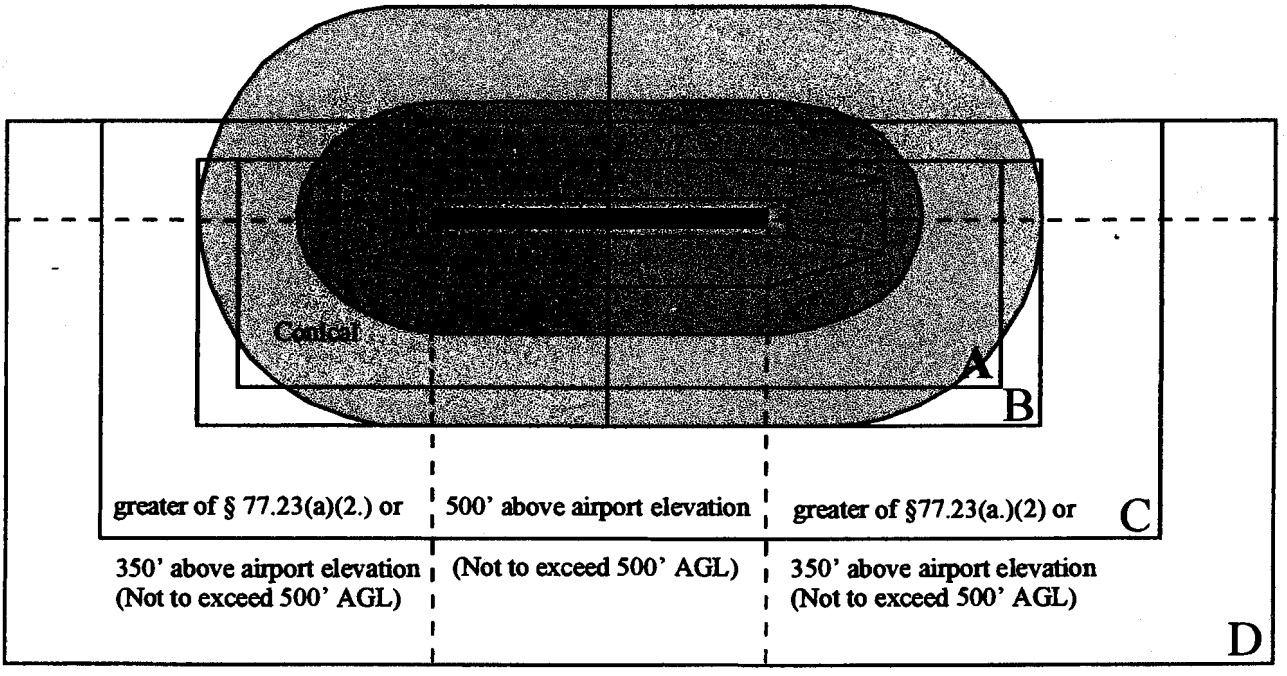


FIG 6-3-12

TRAFFIC PATTERN AIRSPACE CLIMB/DESCENT AREAS

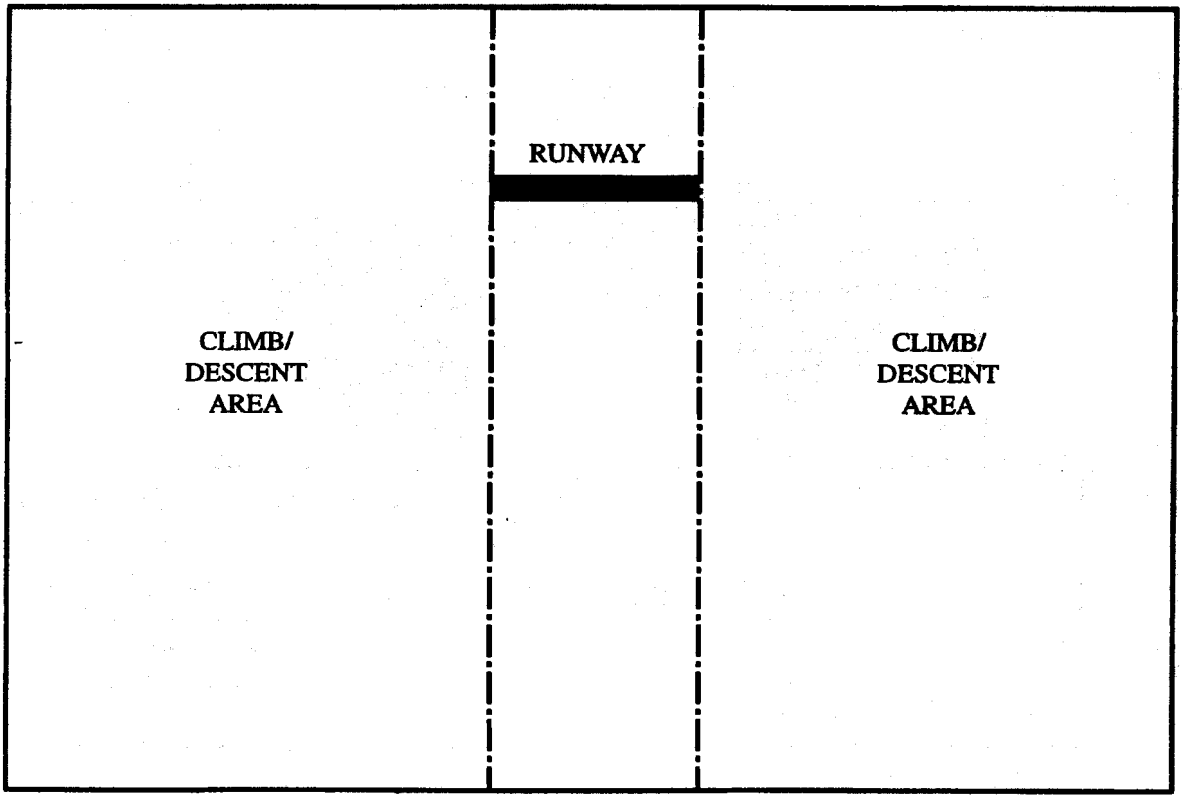


FIG 6-3-13

(b) Is located within 2 statute miles of the centerline of any regularly used VFR route (See FIG 6-3-10).

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

(a) 20:1 for civil visual approaches;

(b) 50:1 for military runway approaches;

(c) 8:1 for civil helicopter approaches surfaces; and

(d) 10:1 for military helicopter approach surfaces.

e. HELICOPTERS - The special maneuvering characteristics of helicopters are recognized in Sections 91.119 and 91.155, provided operations are conducted without hazard to persons or property on the ground. Helicopter pilots must also operate at a speed that will allow them to see and avoid obstructions. Consequently, proposed or existing structures are not considered factors in determining adverse effect upon helicopter VFR operations except as follows:

1. En route - When the Administrator prescribes routes and altitudes for helicopters, the exemptions to part 91 for helicopters do not apply. Thus, any structure would have an adverse effect if it penetrates an imaginary surface 300 feet below an established helicopter minimum flight altitude and is located within 250 feet either side of the established route's centerline.

2. Heliport Landing/Takeoff Area - Any structure would have an adverse effect if it would exceed any of the heliport imaginary surfaces. Although helicopter approach-departure paths may curve, the length of the approach-departure surface remains fixed.

f. AGRICULTURAL AND INSPECTION AIRCRAFT OPERATIONS - Rules that apply to agricultural dispensing operations, as prescribed in part 137, allow deviation from part 91 altitude restrictions. It is the pilot's responsibility to avoid obstacles because the agricultural operations must be conducted without creating a hazard to persons or property on the surface. Similar operations include pipeline, power line, and military low-level route inspections. Consequently, these operations are not considered in reaching a determination of substantial adverse effect.

NOTE-
Before and after the dispensing is completed, the pilot is required to operate under the part 91 minimum altitudes.

g. OPERATIONS UNDER WAIVER OR EXEMPTION TO CFR - Waivers and/or exemptions to CFR operating rules include provisions to ensure achievement of a level of safety equivalent to that which would be present when complying with the regulation waived or exempted. Additionally, waivers and exemptions do not relieve pilots of their responsibility to conduct operations without creating a hazard to persons and property on the surface. Accordingly, a determination of hazard to air navigation shall not be based upon a structure's effect on aeronautical operations conducted under a waiver or exemption to CFR operating rules.

6-3-9. EVALUATING EFFECT ON IFR OPERATIONS

a. PURPOSE - This section provides general guidelines for determining the effect of structures, whether proposed or existing, upon IFR aeronautical operations.

b. STANDARDS - Obstruction standards are used to identify potential adverse effects and are not the basis for a determination. The criteria used in determining the extent of adverse affect are those established by the FAA to satisfy operational, procedural, and electromagnetic requirements. These criteria are contained in regulations, advisory circulars, and orders (e.g., the 8260 Order series and Order 7110.65). Obstruction evaluation personnel shall apply these criteria in evaluating the extent of adverse effect to determine if the structure being studied would actually have a substantial adverse effect and would constitute a hazard to air navigation.

c. IFR MINIMUM FLIGHT ALTITUDES - Aviation System Standards (AVN) is the principal FAA element responsible for establishing instrument procedures and minimum altitudes for IFR operations. FPO personnel shall evaluate the effect of proposed structures on IFR aeronautical operations as outlined in Order 8260.19, Flight Procedures and Airspace.

d. EN ROUTE IFR OPERATIONS

1. Minimum En Route Altitudes (MEA) - MEAs are established for each segment of an airway or an approved route based upon obstacle clearance, navigational signal reception, and communications. The MEA assures obstruction clearance and acceptable navigational signal coverage over the entire airway or route segment flown. Any structure that will require an MEA to be raised has an adverse effect. Careful analysis by the appropriate Flight Procedures and AT personnel is necessary to determine if there would be a substantial adverse effect on the navigable airspace. Generally, the loss of a cardinal altitude is considered a substantial adverse effect. However, the effect may not be substantial if the aeronautical study discloses that the affected MEA is not normally flown by aircraft, nor used for air traffic control purposes.

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

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

4. IFR Military Training Routes (IR) and Military Operation Areas (MOA) - Operations in MOAs involve military training activities such as air combat maneuvers, air intercepts, aerobatics, and tactics training. These training activities are basic requirements for combat readiness. To ensure flying operations can be conducted within MOAs safely, the FAA's regional office must carefully evaluate any proposed structure that would penetrate the floor of an established MOA.

(a) The Obstruction Evaluation Automation Program will be used to identify any proposed structure that could potentially affect an established IR or MOA. The appropriate military service will review the proposal to determine if the proposed structure would have an impact on flight safety and combat training. If the military service determines that the proposed structure would adversely effect an IR or MOA, then the military service must provide a detailed response to the FAA's regional headquarters, through the military representatives, outlining the adverse effects. The response should include as much information as possible describing in detail how training and/or safety would be negatively impacted and any height reduction or relocation that would significantly reduce the impact.

(b) The FAA's regional office will carefully review the proposal, including the inputs from the proponent and the military. If the FAA determines the proposed structure, or cumulative effects of the proposed and already existing structures will have a significant adverse effect on safe operations within the IR or MOA, then a "Determination of Hazard to Air Navigation" or a "Determination of Presumed Hazard" will be issued. The FAA Obstruction Evaluation Specialist will attempt to mitigate any valid impacts identified by the military.

5. Radar Bomb Sites (RBS) - These sites are a vital link in the low level training network used by the U.S. Air Force to evaluate bomber crew proficiency. They provide accurate radar records for aircraft flying at low altitudes attacking simulated targets along the RBS scoring line. An obstruction located within the flights' RBS boundaries may have a substantial adverse effect and a serious operational impact on military training capability.

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

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

2. Minimum Vectoring Altitudes (MVA) - These altitudes are based upon obstruction clearance requirements only (see Order 8260.19). The area considered for obstacle clearance is the normal operational use of the radar without regard to the flight-checked radar coverage. It is the responsibility of individual controllers to determine that a target return is adequate for radar control purposes. MVAs are developed by terminal facilities, approved by the National Flight Procedures Office, AVN-100, and published for controllers on MVA Sector Charts. Any structure that would cause an increase in an MVA is an obstruction and a study is required to determine the extent of adverse effect. Radar coverage adequate to vector around such a structure is not, of itself, sufficient to mitigate a finding of substantial adverse effect that would otherwise be the basis for a determination of hazard to air navigation.

3. Military Airports - With the exception of the U.S. Army, the appropriate military commands establish and approve terminal instrument procedures for airports under their respective jurisdictions. Consequently, the ATD responsible for the issuance of a determination shall ensure that the military organizations are provided the opportunity to evaluate a structure that may affect their operations. While the military has the responsibility for determining the effect of a structure, it is expected that the FPO will assist Air Traffic in reconciling differences in the military findings.

4. Departure Procedures - TERPS, Chapter 12, Civil Utilization of Area Navigation (RNAV) Departure Procedures, contains criteria for the development of IFR departure procedures. Generally, any obstacle that penetrates the 40:1 slope should be evaluated on a case-by-case basis to determine the need for a departure restriction.

5. Minimum Safe Altitudes (MSA) - A MSA is the minimum obstacle clearance altitude for emergency use within a specified distance from the navigation facility upon which a procedure is predicated. These are either Minimum Sector Altitudes, established for all procedures within a 25-mile radius of the navigational facility (may be increased to 30 miles under certain conditions), or Emergency Safe Altitudes, established within a 100-mile radius of the navigation facility and normally used only in military procedures at the option of the approval authority. These altitudes are designed for emergency use only and are not routinely used by pilots or by air traffic control. Consequently, they are not considered a factor in determining the extent of adverse effect, used as the basis of a determination, or addressed in the public notice of an aeronautical study.

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

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

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

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

4. Survey Information Distribution - When the certified survey is received, Air Traffic personnel shall ensure that the survey information is provided to FPO personnel and shall send to NOS a copy of the survey attached to the FAA form 7460-2, Notice of Actual Construction or Alteration.

6-3-10. EVALUATING EFFECT ON AIR NAVIGATION AND COMMUNICATION FACILITIES

a. The FAA is authorized to establish, operate, and maintain air navigation and communications facilities and to protect such facilities from interference. During evaluation of structures, factors that may adversely affect any portion or component of the NAS must be considered. Since an electromagnetic interference potential may create adverse effects as serious as those caused by a physical penetration of the airspace by a structure, those effects shall be identified and stated. Proposals will be handled, when appropriate, directly with FCC through ASR-100.

b. Airway Facilities personnel shall evaluate notices to determine if the structure will affect the performance of existing or proposed NAS facilities. The study must also include any plans for future facilities, proposed airports, or improvements to existing airports.

c. The physical presence of a structure and/or the electromagnetic signals emanating or reflecting therefrom may have a substantial adverse effect on the availability, or quality of navigational and communications signals, or on air traffic services needed for the safe operation of aircraft. The following general guidelines are provided to assist in determining the anticipated interference.

1. Instrument Landing System (ILS) - Transmitting antennas are potential sources of electromagnetic interference that may effect the operation of aircraft using an ILS facility. The antenna height, radiation pattern, operating frequency, effective radiated power (ERP), and its proximity to the runway centerline are all factors contributing to the possibility of interference. Normally, any structure supporting a transmitting antenna within the established localizer and/or glide-slope service volume area must be studied carefully. However, extremes in structure height, ERP, frequency, and/or antenna radiation pattern may require careful study of structures up to 30 nautical miles from the ILS frequency's protected service volume area.

(a) ILS Localizer - Large mass structures adjacent to the localizer course and/or antenna array are potential sources of reflections and/or re-radiation that may affect facility operation. The shape and intensity of such reflections and/or re-radiation depends upon the size of the reflecting surface and distance from the localizer antenna. The angle of incidence reflection in the azimuth plane generally follows the rules of basic optical reflection. Normally, in order to affect the course, the reflections must come from structures that lie in or near the on-course signal. Large mass structures of any type, including metallic fences or powerlines, within plus/minus 15 degrees of extended centerline up to 1 NM from the approach end of the runway and any obstruction within 500 feet of the localizer antenna array must be studied carefully. (Refer to FAA Order 6750.16, Siting Criteria for Instrument Landing Systems).

(b) ILS Glide Slope - Vertical surfaces within approximately 1,000 feet of the runway centerline and located up to 3,000 feet forward of the glide slope antenna can cause harmful reflections. Most interference to the glide slope are caused by discontinuities in the ground surface, described approximately as a rectangular area 1,000 feet wide by 5,000 feet long, extending forward from the glide slope antenna and centered at about the runway centerline. Discontinuities are usually in the form of rough terrain or buildings. (Refer to FAA Order 6750.16, Siting Criteria for Instrument Landing Systems.)

2. Microwave Landing System (MLS) - The guidelines stated for ILS systems above also apply to MLS installations. The established MLS service volume defines the area of concern.

3. Very High Frequency Omni -Directional Radio Range and Tactical Air Navigation Aid (VOR/TACAN) - Usually, there should be no reflecting structures or heavy vegetation (trees, brush, etc.) within a 1,000 foot radius of the VOR or the TACAN antenna. Interference may occur from large structures or powerlines up to 2 NM from the antenna. (Refer to FAA Order 6820.10 VOR, VOR/DME, and TACAN Siting Criteria).

4. Air Route Surveillance Radar/Airport Surveillance Radar (ARSR/ASR) - Normally, there should be no reflecting structures within a 1,500-foot radius of the radar antenna. In addition, large reflective structures up to 3 NM from the antenna can cause interference unless they are in the "shadow" of topographic features.

5. Air Traffic Control Radar Beacon (ATCRB) - The effects encountered due to reflections of the secondary radar main lobe are more serious than those associated with primary radar. Therefore, it is necessary to ensure that no large vertical reflecting surface penetrates a 1,500-foot radius horizontal plane located 25 feet below the antenna platform. In addition, interference may occur from large structures up to 12 miles away from the antenna. This distance will depend on the area of the reflecting surface, the reflection coefficient of the surface, and its elevation with respect to the interrogator antenna. (Refer to FAA Order 6310.6, Primary/Secondary Terminal Radar Siting Handbook).

6. Directional Finder (DF) - The DF antenna site should be free of structures that will obstruct line-of-sight with aircraft at low altitudes. The vicinity within 300 feet of the antenna should be free of metallic structures which can act as re-radiators.

7. Communication Facilities - Minimum desirable distances to prevent interference problems between communication facilities and other construction are:

(a) 1,000 feet from power transmission lines (other than those serving the facility) and other radio or radar facilities;

(b) 300 feet from areas of high vehicle activity such as highways, busy roads, and large parking areas; and

(c) One (1) NM from commercial broadcasting stations (e.g., FM, TV).

8. Approach Lighting System - No structure, except the localizer antenna, the localizer far field monitor antenna, or the marker antenna shall protrude above the approach light plane. For approach light plane clearance purposes, all roads, highways, vehicle parking areas, and railroads shall be considered as vertical solid structures. The clearance required above interstate highways is 17 feet; above railroads, 23 feet; and for all other public roads, highways, and vehicle parking areas, 15 feet. The clearance required for a private road is 10 feet or the highest mobile structure that would normally use the road, which would exceed 10 feet. The clearance for roads and highways shall be measured from the crown of the road; the clearance for railroads shall be measured from the top of the rails. For vehicle parking areas, clearance shall be measured from the average grade in the vicinity of the highest point. Relative to airport service roads substantial adverse effect can be eliminated if all vehicular traffic is controlled or managed by the air traffic control facility. A clear line-of-sight is required to all lights in the system from any point on a surface, one-half degree below the aircraft descent path and extending 250 feet each side of the runway centerline, up to 1,600 feet in advance of the outermost light in the system. The effect of parked or taxiing aircraft shall also be considered when evaluating line-of-sight for approach lighting systems.

9. Visual Approach Slope Indicator (VASI)/Precision Approach Path Indicator (PAPI) - No structures or obstructions shall be placed within the clearance zone for the particular site involved or the projected visual glide path.

NOTE-
VASI and PAPA now fall under the heading of VGSI.

10. Runway End Identifier Lights (REIL) - No structures or obstructions shall be placed within the established clearance zone.

d. Factors that modify the evaluation criteria guidelines require consideration. Some facility signal areas are more susceptible to interference than others. The operational status of some signals may already be marginal because of existing interference from other structures. In addition, the following characteristics of structures must be considered:

1. The higher the structure's height is in relation to the antenna, the greater the chance of interfering reflections. Any structure subtending a vertical angle greater than one degree from the facility is usually cause for concern. Tall structures, such as radio towers and grain elevators, can interfere from distances greater than those listed in the general criteria.

2. The type of construction material on the reflecting surface of the structure is a factor, with nonmetallic surfaces being less troublesome than metallic or metallic impregnated glass.

3. Aircraft hangars with large doors can be a special problem because the reflecting surface of the hangar varies appreciably with changes in the position of the doors.

4. Interference is usually caused by mirror reflections from surfaces on the structure. Orientation of the structure therefore plays an important part in the extent of the interference. Reflections of the largest amplitude will come from signals striking a surface perpendicular to the signals. Signals striking a surface at a shallow angle will have a smaller amplitude.

e. Air Traffic personnel shall request Airway Facilities personnel to assist them in discussions with sponsors to explore alternatives to resolve the prospective adverse effects to facilities. These may involve design revisions, relocation, or reorientation depending on the character of the construction and facility involved.

f. Attempt to resolve electromagnetic interference (EMI) before issuing a hazard determination. Notify the sponsor by letter (automated DPH letter) that the structure may create harmful EMI and include in the letter the formula and values that were applied, the specific adverse effects expected, and an offer to consider alternatives. Provide the sponsor, as well as the FAA, ample time to exhaust all available avenues for positive resolution. The intent of this process is to allow the sponsor adequate time to consider the problems and the alternatives before a decision is rendered by the issuance of the FAA determination. Follow these guidelines in all situations where harmful EMI is projected by the study.

6-3-11. EVALUATING PLANNED OR FUTURE AIRPORT DEVELOPMENT PROGRAMS

The national system of airports consists of public, civil, and joint-use airport facilities considered necessary to adequately meet the anticipated needs of civil aeronautics. Airport Planning and Programming Offices are the most accurate sources of up-to-date information on airport development plans. Consequently, Airports personnel are expected to extensively review structures in reference to the safe and orderly development of airport facilities, including what development will realistically be accomplished within a reasonable time. Areas of consideration in accomplishing this responsibility are:

a. Future Development of Existing Airports - A detailed review in this area requires looking at current planned airport projects, national airport plan data, and land-use planning studies in the vicinity of the structure. The results of the study forwarded to Air Traffic shall include appropriate comments regarding the extent of Federal aid, sponsor airport investments, the airport owner's obligations in existing grant-in-aid agreements, and anticipated aeronautical activity at the airport and in the general area. If a structure would adversely impact an airport's efficiency, utility, or capacity, the responsible Airports Office should document this impact in its evaluation. Comments should include recommended new location(s) for the structure as appropriate.

b. New Airport Development - When a structure requiring notice under part 77 and any new airport development are both in the same vicinity, Airports personnel shall study the interrelationship of the structure and the airport. Additionally, supplemental information on the proposed airport site shall be furnished to Air Traffic. If a substantial adverse effect is anticipated, Airports personnel shall provide detailed comments and specific recommendations for mitigating the adverse effects.

6-3-12. EVALUATING TEMPORARY CONSTRUCTION

a. Temporary Construction Equipment - Construction of structures normally requires use of temporary construction equipment that is of a greater height than the proposed structure. Appropriate action is necessary to ensure that the temporary construction equipment does not present a hazard to air navigation. It is not possible to set forth criteria applicable to every situation; however, the following action examples may help to minimize potential problems:

1. If use of the temporary construction equipment is on an airport, it may be necessary to negotiate with airport managers/owners to close a runway, taxiway, temporarily move a runway threshold, or take other similar action.

2. Negotiate with equipment operators to raise and lower cranes, derricks, or other construction equipment when weather conditions go below predetermined minimums as necessary for air traffic operations or as appropriate for the airport runways in use.

3. Control the movement of construction vehicle traffic on airports.

4. Adjust minimum IFR altitudes or instrument procedures as necessary to accommodate the construction equipment if such action will not have serious adverse effects on aeronautical operations.

5. Request that the temporary construction equipment be properly marked and/or lighted if needed.

b. Temporary Structures - OE notices for temporary structures are processed in the same manner as a permanent structure, but require special consideration in determining the extent of adverse effect. This is especially true of structures such as cranes and derricks that may only be at a particular site for a short time period. As a general policy, it is considered in the public interest to make whatever adjustments necessary to accommodate the temporary structure of 30 days or less if there is no substantial adverse affect on aeronautical operations or procedures. However, this policy does not apply if the aeronautical study discloses that the structure would be a hazard to aviation. Reasonable adjustments in aeronautical operations and modifications to the temporary structure should be given equal consideration.

6-3-13. CONSIDERING SHIELDING

Shielding as described below should not be confused with notice criteria as stated in Section 77.15(c).

a. Consideration - Shielding is one of many factors that must be considered in determining the physical effect a structure may have upon aeronautical operations and procedures. Good judgment, in addition to the circumstances of location and flight activity, will influence how this factor is considered in determining whether proposed or existing structures would be physically shielded.

b. Principle - The basic principle in applying the shielding guidelines is whether the location and height of the structures are such that aircraft, when operating with due regard for the shielding structure, would not collide with that structure.

c. Limitations - Application of the shielding effect is limited to:

1. The physical protection provided by existing natural terrain, topographic features, or surface structures of equal or greater height than the structure under study; and

2. The structure(s) providing the shielding protection is/are of a permanent nature and there are no plans on file with the FAA for the removal or alteration of the structure(s).

d. Guidelines - Any proposed construction of or alteration to an existing structure is normally considered to be physically shielded by one or more existing permanent structure(s), natural

terrain, or topographic feature(s) of equal or greater height if the structure under consideration is located:

1. Not more than 500 feet horizontal distance from the shielding structure(s) and in the congested area of a city, town, or settlement, provided the shielded structure is not located closer than the shielding structures to any heliport or airport located within 5 miles of the structure(s);

2. Such that there would be at least one such shielding structure situated on at least three sides of the shielded structure at a horizontal distance of not more than 500 feet; or

3. Within the lateral dimensions of any runway approach surface but would not exceed an overall height above the established airport elevation greater than that of the outer extremity of the approach surface, and located within, but would not penetrate, the shadow plane(s) of the shielding structure(s).

e. ATD shall coordinate with FPO before applying shielding criteria for precision approach surface penetrations.

NOTE-
See FIG 6-3-14 and FIG 6-3-9.

6-3-14. CONSIDERING SHADOW PLANE

The term "shadow plane" means a surface originating at a horizontal line passing through the top of the shielding structure at right angles to a straight line extending from the top of the shielding structure to the end of the runway. The shadow plane has a width equal to the projection of the shielding structure's width onto a plane normal to the line extending from the top and center of the shielding structure to the midpoint of the runway end. The shadow plane extends horizontally outward away from the shielding structure until it intersects or reaches the end of one of the imaginary approach area surfaces; see FIG 6-3-15, FIG 6-3-16 and FIG 6-3-17.

6-3-15. RECOMMENDING MARKING AND LIGHTING OF STRUCTURES

a. STANDARDS - FAA standards, procedures, and types of equipment specified for marking and lighting structures are presented in AC 70/7460-1, Obstruction Marking and Lighting. These standards provide a uniform means to indicate the presence of structures and are the basis for recommending marking and lighting to the public. These standards are the minimum acceptable level of conspicuity to warn pilots of the presence of structures. They shall also apply when Federal funds are to be expended for the marking and lighting of structures.

b. AERONAUTICAL STUDY - All aeronautical studies shall include an evaluation to determine whether obstruction marking and/or lighting are necessary and to what extent. The entire structure or complex, including closely surrounding terrain and other structures, must be considered in recommending marking and lighting. A subsequent study may indicate a need to change an earlier determination by recommending marking and/or lighting when such recommendation was not made in the original study or, in some cases, after a determination was issued.

1. Proposed Structures – A change in runway length or alignment, a new airport development project, a change in aeronautical procedures, or other similar reasons may be cause for additional study of proposed structures to determine whether marking and/or lighting are now appropriate even when not recommended in the original study.

2. Existing Structures – A marking and/or lighting recommendation may be made at any time. In making the recommendation consider changes that have occurred in the vicinity of the structure since the initial determination was made and include such factors as increased aircraft activity, the closing of an airport, changes in IFR and VFR routes, and shielding by taller structures.

c. RECOMMENDATIONS - Recommend the marking and/or lighting standard most appropriate for the height and location of any temporary or permanent structure that:

1. Exceeds 200 feet in overall height above ground level at its site or exceeds any obstruction standard contained in part 77, Subpart C, unless an aeronautical study shows the absence of such marking and/or lighting will not impair aviation safety; or

2. Is not more than 200 feet AGL, or is not identified as an obstruction under the standards of part 77, Subpart C, but may indicate by its particu-

lar location a need to be marked or lighted to promote aviation safety.

d. PARTIAL MARKING AND/OR LIGHTING - Omitting marking and/or lighting on the structure's bottom section; e.g., the lowest 200 feet of a tall structure should be discouraged unless that part of the structure is shielded. Marking and lighting standards are based on a total system configuration and are only effective when used as intended. Therefore, the structure and its location must be given careful consideration before recommending partial marking and/or lighting.

e. OMISSION/DELETION OF MARKING AND/OR LIGHTING - When recommending that marking and/or lighting be omitted because the structure is sufficiently conspicuous by its shape, size, and/or color, include a judgment that the structure would not blend into any physical or atmospheric background that may reasonably be expected in the vicinity.

f. EXCESSIVE MARKING AND/OR LIGHTING - Recommend specific advisory circular chapters, paragraphs, and, when appropriate, specific intensities that address the minimum marking and/or lighting standards for safety. Recommendation of specific chapters allow for the use of those chapters only, although they may contain references to other chapters. If the sponsor insists on or the FAA finds that high intensity white lights would not be objectionable, indicate in the determination that the FAA does not object to increased conspicuity provided the lighting is in accordance with guidelines of AC 70/7460-1, Obstruction Marking and Lighting.

g. VOLUNTARY MARKING AND/OR LIGHTING - When it is determined 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, but instead, it shall be recommended that, if voluntary, marking and/or lighting be installed and maintained in accordance with AC 70/7460-1.

h. HIGH AND MEDIUM INTENSITY WHITE OBSTRUCTION LIGHTING SYSTEMS -

1. High intensity lighting systems should not be recommended for structures less than 300 feet above ground level and normally not on structures 500 feet or less above ground level except when an aeronautical study shows otherwise. This does not apply to catenary support structures.

2. Use caution in recommending the use of high or medium intensity white obstruction lighting systems. Aircraft operations can be adversely affected where strobe-lighted structures are located in an area of limited visual cues. These situations can contribute to spatial disorientation when pilots are maneuvering in minimum visibility conditions. Marine or surface vessels and other vehicles, especially on nearby elevated roadways, could also experience operational difficulties from strobe lights. External shielding may minimize adverse effects. Examples are:

(a) At locations within the airport/heliport environment in a sparsely lighted rural setting.

(b) At an offshore installation.

3. Dual lighting systems should be considered when a structure is located in or near residential areas, especially in hilly terrain where some houses are higher than the base of the structure.

i. LIGHTED SPHERICAL MARKERS - Lighted spherical markers are available for increased night conspicuity of high-voltage (69kv or greater) transmission-line catenary wires. These markers should be recommended for increased night conspicuity for such wires when located near airports, heliports, across rivers, canyons, lakes, etc. Consider the following when recommending lighted spherical markers: aeronautical activity, nighttime operations, low level operations, local weather conditions, height of wires, length of span, etc. If the support structures are to be lighted, also consider lighting the catenary wires. Installation, size, color, and pattern guidelines can be found in Advisory Circular 70/7460-1, Obstruction Marking and Lighting.

j. DEVIATIONS AND MODIFICATION TO MARKING AND/OR LIGHTING - When the sponsor or owner of a structure requests

permission to deviate from or modify the recommended marking and/or lighting, an appropriate aeronautical study should be made to determine whether the deviation/modification is acceptable, and/or whether the recommended marking and/or lighting should be retained.

1. A deviation refers to a change from the standard patterns, intensities, flashing rates, etc. A marking and lighting deviation is considered to be marking patterns or colors and lighting patterns, intensities, flashing rates, or colors other than those specified in AC 70/7460-1.

(a) Requests for deviations shall be forwarded to ATA-400 only after an aeronautical study has been conducted on the proposal. The results of the study and the regional recommendation shall be submitted with the request.

(b) Deviations require approval by the Program Director for Airspace Management, ATA-1. The Airspace and Rules Division shall effect all coordination necessary for issuing the decision to approve or disapprove. The approval or disapproval decision shall be forwarded to the region for response to the sponsor. Examples of deviations are contained in AC 70/7460-1.

2. The regional ATD may approve a request for a modified application of marking and/or lighting. Examples of modified applications may be found in AC 70/7460-1. A modified application of marking and lighting refers to the amount of standard marking and/or lighting such as:

(a) Placing the standard marking and/or lighting on only a portion of a structure;

(b) Adding marking and/or lighting in addition to the standard marking and lighting to improve the conspicuity of the structure;

(c) Reducing the amount of standard marking and/or lighting to the extent of eliminating one or the other as may be considered appropriate; or

(d) Adjusting the standard spacing of recommended intermediate light levels for ease of installation and maintenance as considered appropriate.

6-3-16. NEGOTIATIONS

Negotiations shall be attempted with the sponsor to reduce the structure's height so that it does not exceed obstruction standards, mitigate any adverse effects on aeronautical operations, air navigation and/or communication facilities, or eliminate substantial adverse effect. Do not encourage heights that would exceed those requested by the sponsor or the obstruction standards, except to recommend collocation of the structure with other structures of equal or greater heights. Include in the aeronautical study file and determination a record of all the negotiations attempted and the results. If negotiations result in the withdrawal of the OE notice, the obstruction evaluation study may be terminated. Otherwise, the obstruction evaluation shall be continued to its conclusion.

6-3-17. CIRCULARIZATION

a. Circularizing a public notice of aeronautical study provides the opportunity for interested persons to participate by submitting comments for consideration. The ATD, shall determine when it is necessary to distribute a public notice.

1. Normally, any structure that would exceed obstruction standards, affect an airport, have possible VFR affect, and/or require a change in aeronautical operations or procedures should always be circularized.

2. Circularization is not necessary for the following types of studies:

(a) A reduction in the height of an existing structure;

(b) A structure that would be located on a site in proximity to another previously studied structure, would have no greater effect on aeronautical operations and procedures, and the basis for the determination issued under the previous study could be appropriately applied;

(c) A proposed structure replacing an existing or destroyed structure, that would be located on the same site and at the same or lower height as the original structure, and marked and/or lighted under the same provisions as the original structure (This does not preclude a recommendation for additional marking/lighting to ensure conspicuity.);

(d) A proposed structure that would be in proximity to, and have no greater effect than, a previously studied existing structure, and no plan is on file with the FAA to alter or remove the existing structure;

(e) A structure that would be temporary and appropriate temporary actions could be taken to accommodate the structure without an undue hardship on aviation;

(f) A structure found to have substantial adverse effect based on an internal FAA study;

(g) A structure that would exceed part 77.23(a)(2) and would be outside the traffic pattern; or

(h) A structure that would affect IFR operations but would only need FAA comment. For instance a structure that:

(1) Would raise a MOCA but not a MEA;

(2) Would raise a MVA; or

(3) Would raise a MIA.

3. Circularization for existing structures will be determined on a case-by-case basis.

b. Each public notice (automated letter CIR) shall contain:

1. A complete, detailed description of the structure including, as appropriate, illustrations or graphics depicting the location of the structure:

(a) On-airport studies - Use airport layout plans or best available graphic.

(b) Off-airport studies - Use the appropriate aeronautical chart. Additional illustrations may be included, as necessary.

2. A complete description of the obstruction standards that are exceeded, the number of feet by which the structure exceeds the standards.

3. An explanation of the potential effects of the structure in sufficient detail to assist interested persons in formulating comments on how the structure would affect aeronautical operations.

4. A date by which comments are to be received. The date established should normally allow interested persons 30 days in which to submit comments, but a shorter comment period may be established depending upon circumstances.

c. Public notices should be distributed to those who can provide information needed to assist in evaluating the aeronautical effect of the structure. As a minimum, the following governmental agencies, organizations, and individuals should be included on distribution lists due to their inherent aeronautical interests:

1. The sponsor and/or his representative;

2. All known aviation interested persons and groups such as state, city, and local aviation authorities; airport authorities; various military organizations within the DoD; flying clubs; national, state, and local aviation organizations; flight schools; fixed base operators; air taxi, charter flight offices; and other organizations or individuals that demonstrate a specific aeronautical interest such as county judges and city mayors;

3. Airport owners as follows:

(a) All public-use airports within 13 nautical miles of the structure;

(b) All private-use airports within 5 nautical miles of the structure;

4. The specific FAA approach facility, en route facility (ARTCC), and Automated Flight Service Station (AFSS) in whose airspace the structure is located;

5. Flight Standards;

6. An adjacent regional office if the structure is within 13 nautical miles of the regional state boundary; and

7. State and local zoning authorities, civic groups, organizations, and individuals who do not have an aeronautical interest but may become involved in specific aeronautical cases shall be included in the notice distribution, and given supplemental notice of actions and proceedings on a case-by-case basis. Those involved should clearly understand that the public notice is to solicit aeronautical comments concerning the physical effect of the structure on the safe and efficient use of airspace by aircraft.

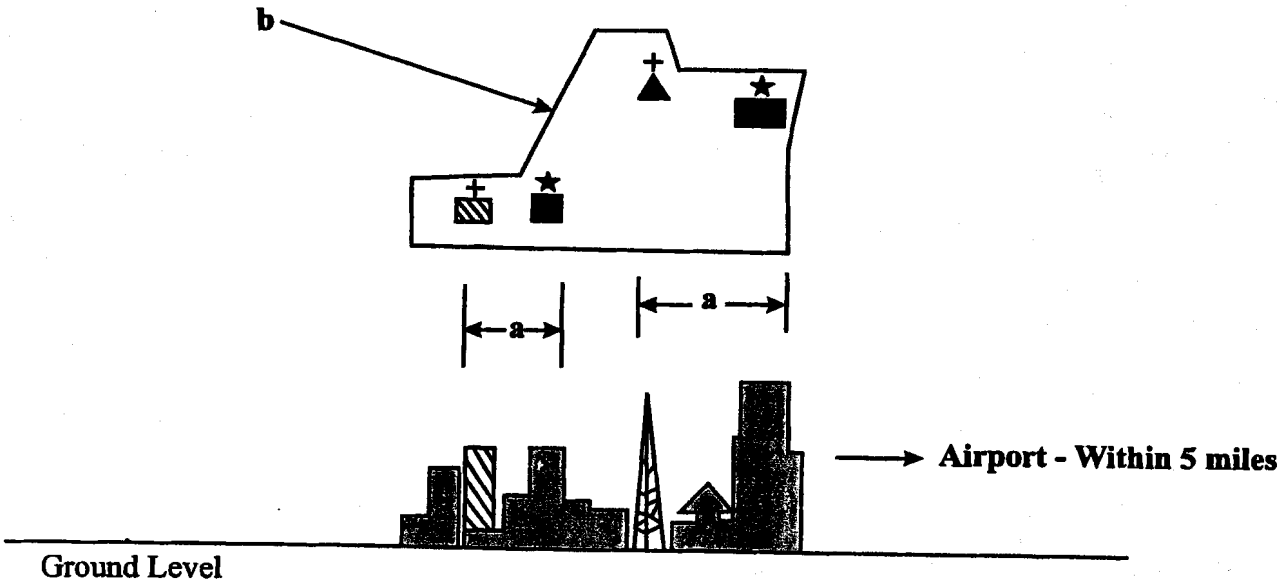
d. Document and place in the obstruction evaluation file the names of each person and/or organizations to which public notice was sent. Reference to a distribution code, mailing list, or other evidence of circularization is sufficient provided a printout or list of each coded

distribution is maintained for future reference. Also record the time period during which each printout or list is used. The retention schedule is listed in Order 1350.15, Records Organization, Transfer, and Destruction Standards.

e. Consider only valid aeronautical objections or comments in determining the extent of adverse effect of the structure. Comments of a non-aeronautical nature are not considered in obstruction evaluation as described in part 77.

f. If the sponsor agrees to revise the project so that it does not exceed obstruction standards and would have no adverse effect, cancel the public notice, advise interested parties, as necessary, revise the obstruction evaluation study, and proceed as appropriate.

STANDARDS FOR DETERMINING SHIELDING: CONGESTED PART OF CITY, TOWN, OR SETTLEMENT



+ Shielded Object
★ Shielding Object
a Not More Than 500 Feet
b Congested Part of City, Town, or Settlement

FIG 6-3-14

STANDARDS FOR DETERMINING SHIELDING

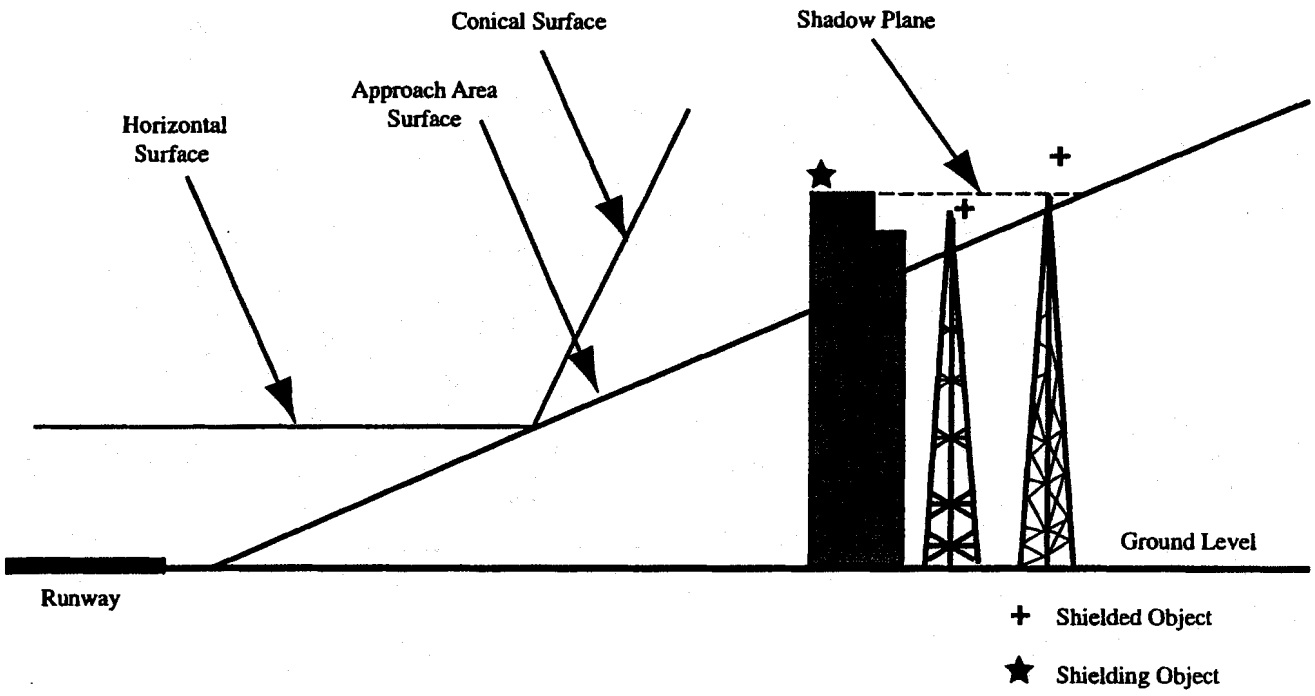


FIG 6-3-15

STANDARDS FOR DEVELOPING SHIELDING: PERSPECTIVE OF A SHADOW PLANE

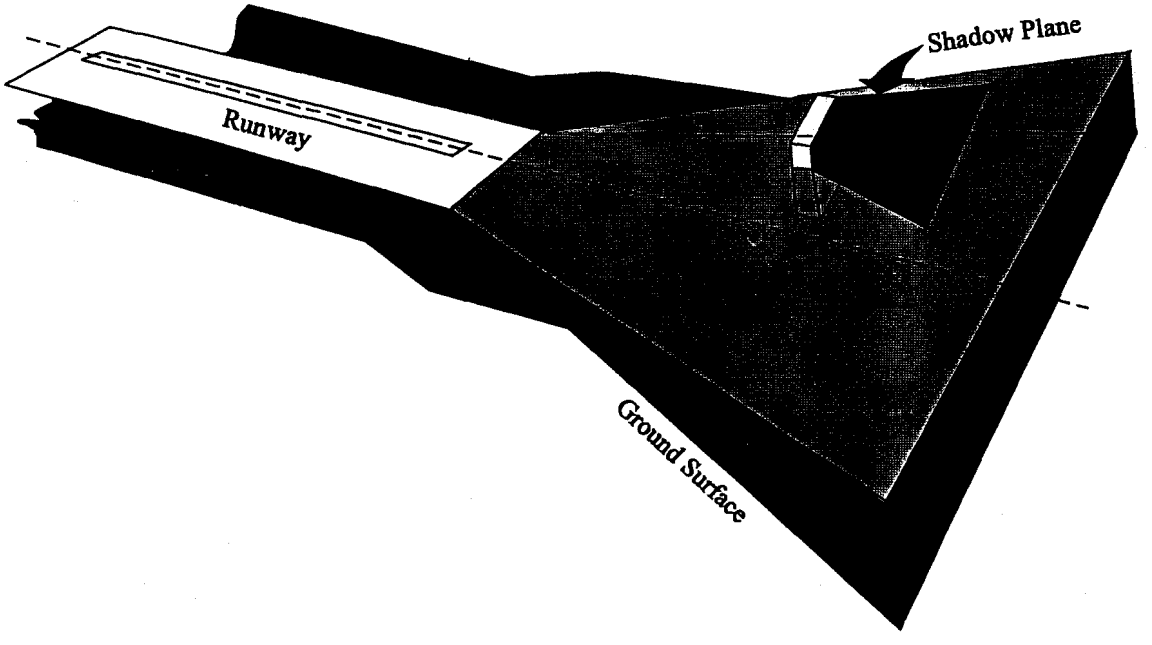


FIG 6-3-16

STANDARDS FOR DETERMINING SHIELDING: EXAMPLES OF SHADOW PLANES

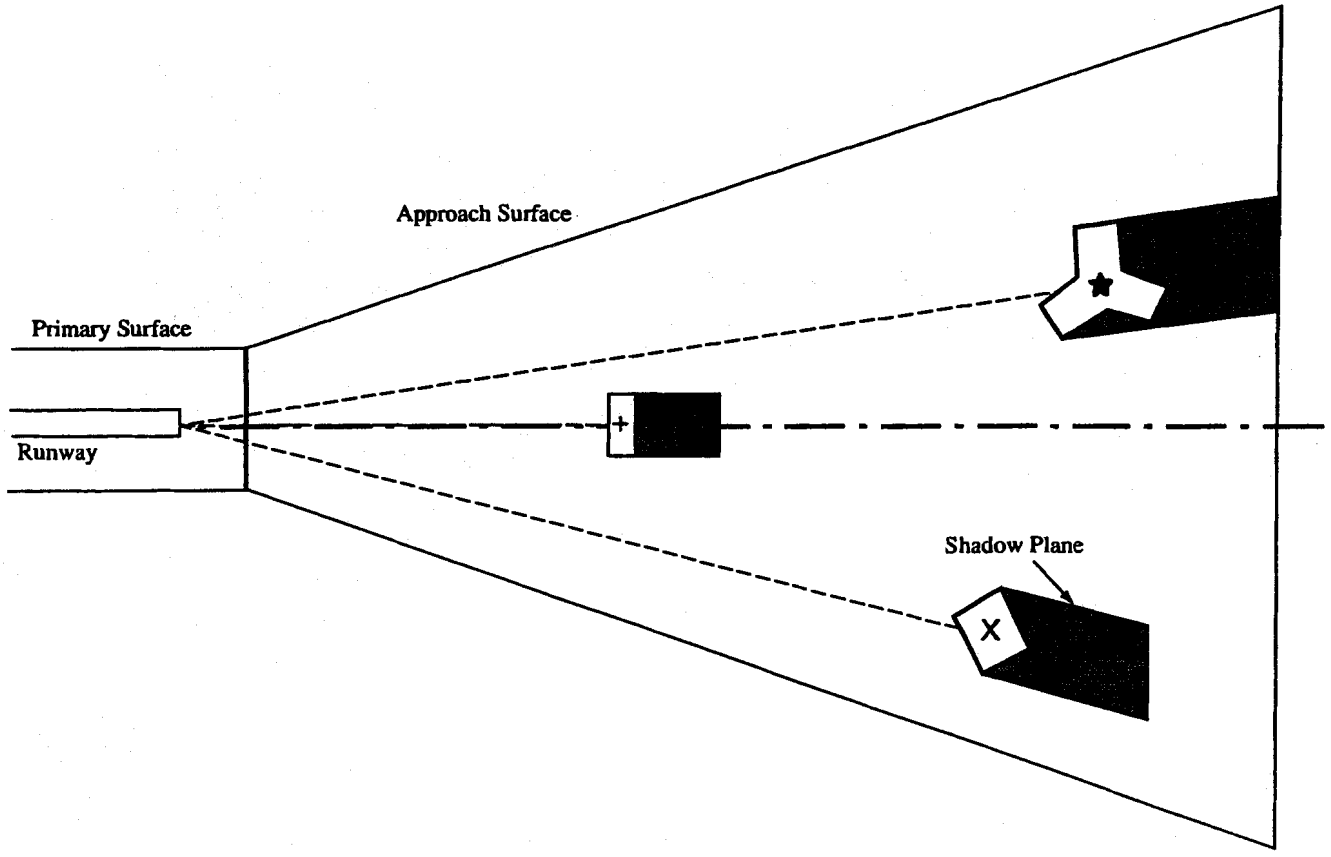


FIG 6-3-17

Frequency Protected Service Volume for ILS Front Course

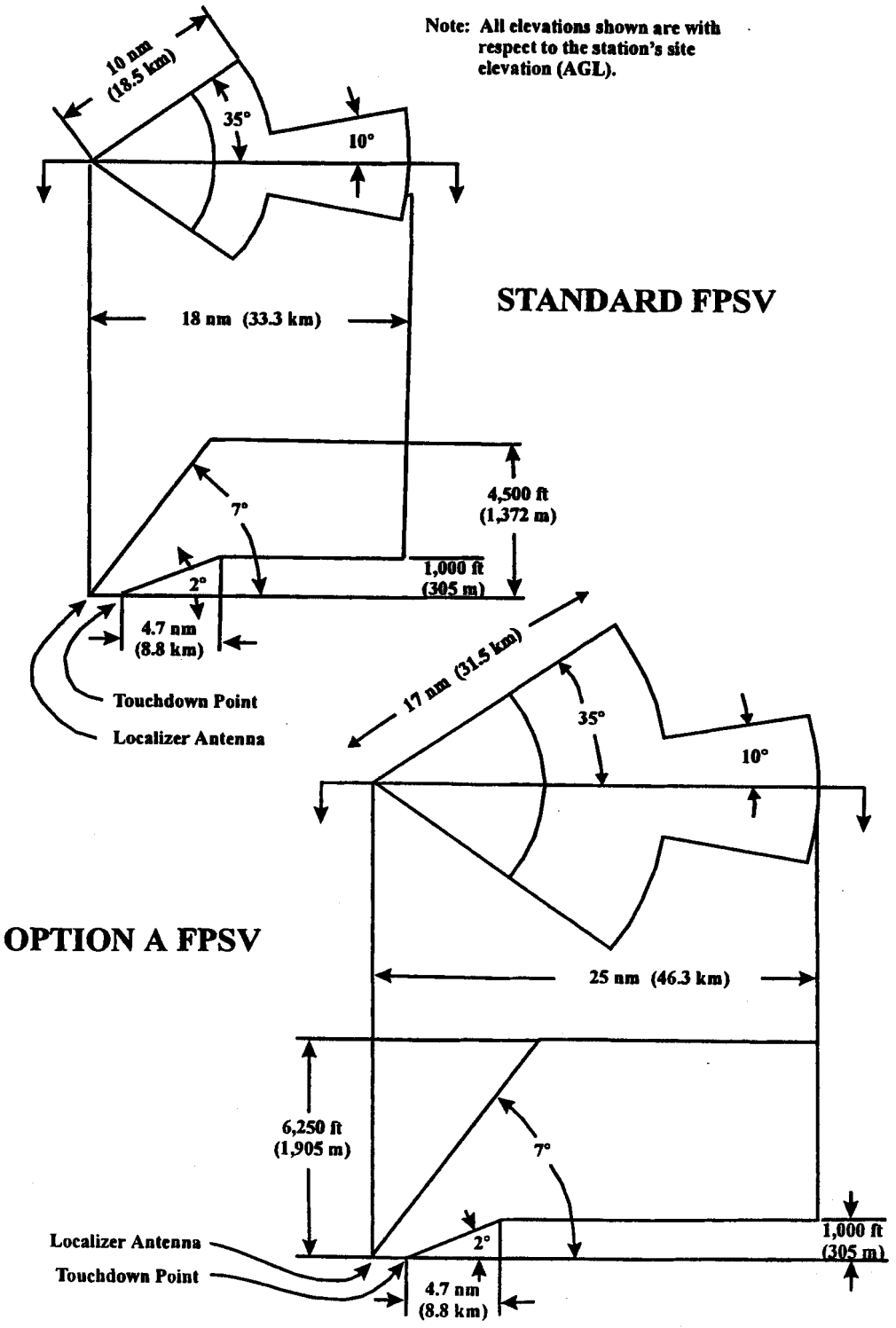


FIG 6-3-18

Frequency Protected Service Volume for ILS Back Course

Note: All elevations shown are with respect to the station's site elevation (AGL).

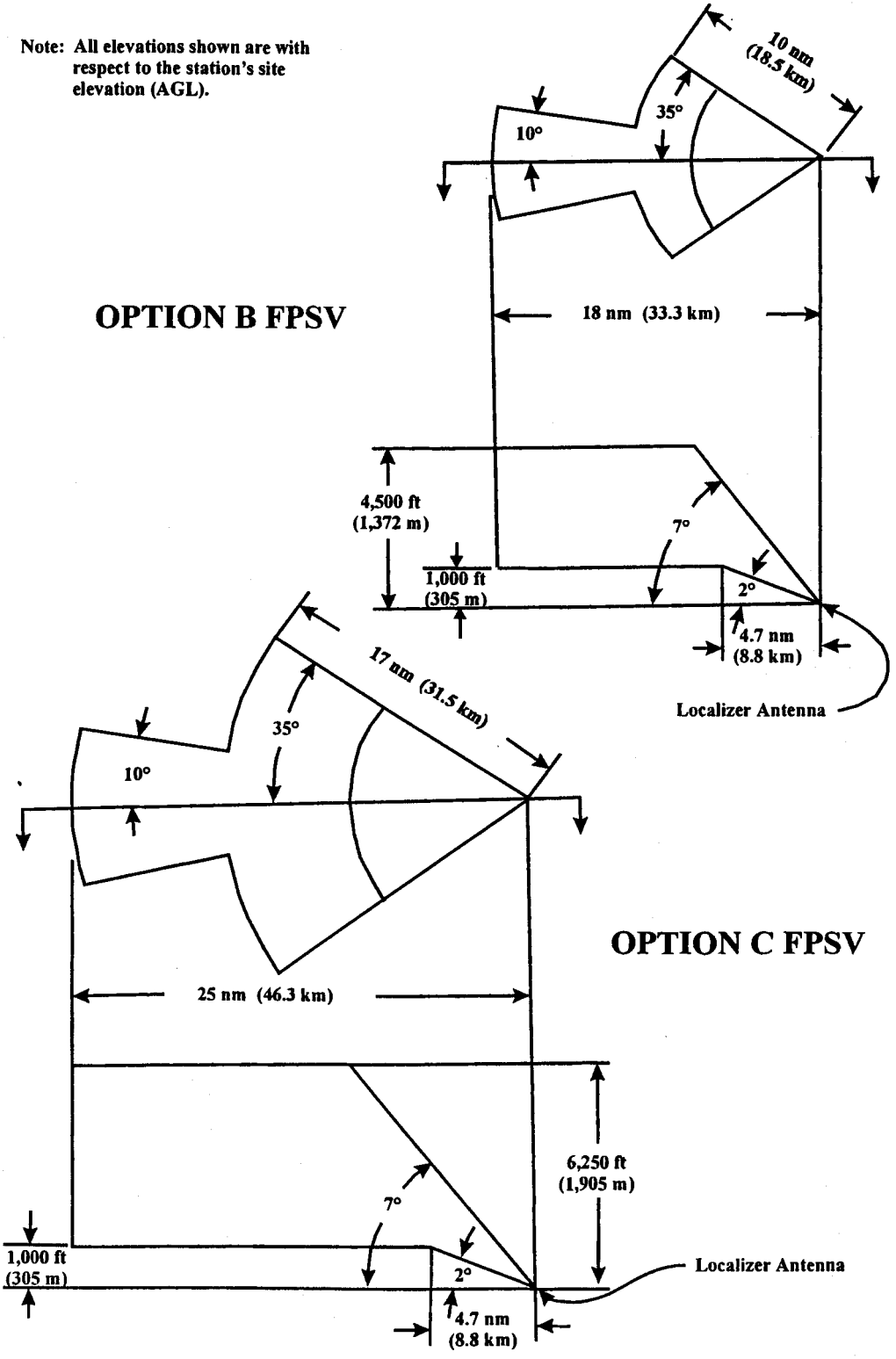
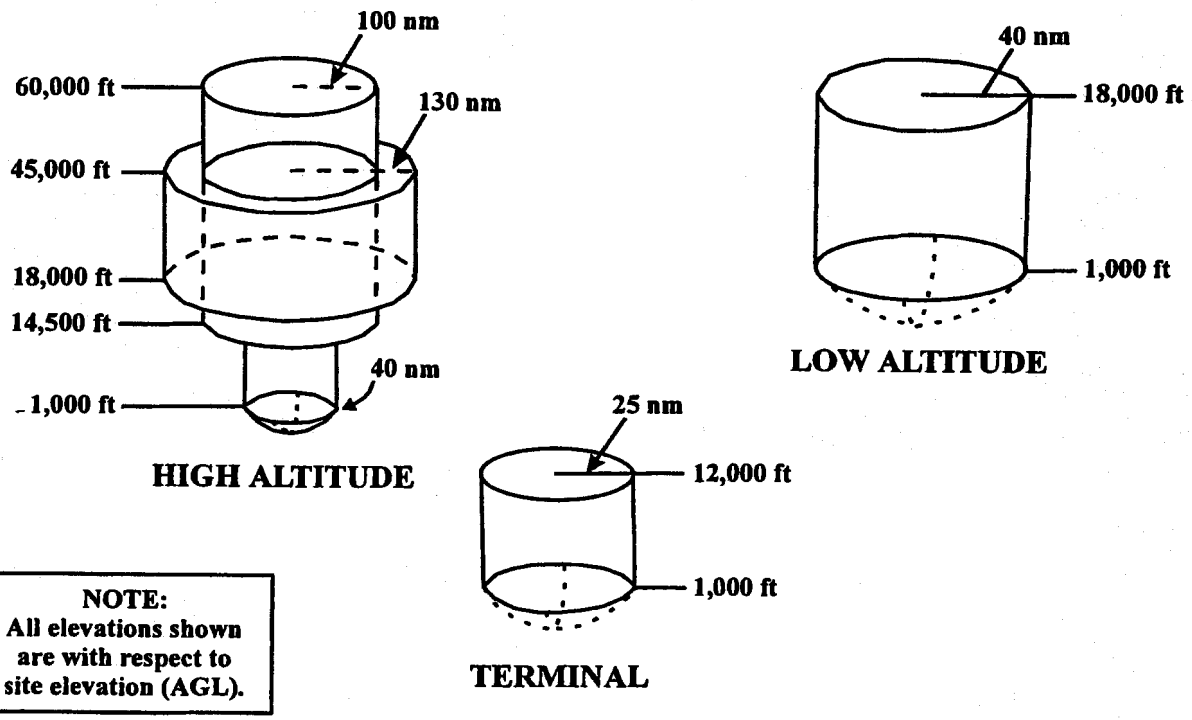


FIG 6-3-19

Frequency Protected Service Volume for FOR



NOTE:
All elevations shown are with respect to site elevation (AGL).

FIG 6-3-20

Chapter 7. DETERMINATIONS

Section 1. ISSUING DETERMINATIONS

7-1-1. POLICY

All known aeronautical facts revealed during the obstruction evaluation shall be considered when issuing an official FAA determination. The determination shall be a composite of all comments and findings received from interested FAA offices. Should there be a disagreement in the findings, the disagreement shall be resolved before issuance of a determination. The basis for all determinations shall be 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. The regional ATD is responsible for issuing determinations.

b. However, if any division objects to a structure that does not exceed part 77 obstruction standards or have a physical or electromagnetic interference effect upon navigable airspace or air navigation facilities, the objecting division shall be responsible for issuing 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 (e.g., landfills, retention ponds, and waste recycling areas) but may create an environment that attracts birds and other wildlife.

7-1-3. CONFORMANCE TO POLICY

The FAA office that is responsible for issuing determinations shall ensure that each determination issued conforms to established policies, procedures, and guidelines. Exceptional cases may require special handling, but no determination shall be issued which would be contrary to agency policy until the matter has been coordinated with and approved by the Program Director for Air Traffic Airspace Management, ATA-1.

7-1-4. DETERMINATIONS

Determinations issued by the FAA receive widespread public distribution and review. 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 is available through the OE/AAA automation program and shall be used in lieu of previously approved FAA forms. Determinations shall 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 facilities, and would not be a hazard to air navigation.

NOTE-
A determination indicating that No Notice is Required (NNR) is no longer authorized.

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; or

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.

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 "Determination of Presumed Hazard" (automated DPH letter) if the structure exceeds

obstruction standards and/or has an adverse effect upon navigable airspace or air navigation facilities and resolution or further study is necessary to fully determine the extent of the adverse effect. The DPH 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 DPH determination is to stand as a final determination if the sponsor does not respond or if negotiation/resolution is not successful. 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. This may be because of adjustments to aviation requirements to accommodate the structure. The obstruction evaluation may or may not have been circularized.

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.

7-1-5. DETERMINATION CONTENT AND OPTIONS

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

a. All non-hazard determinations shall address or include:

1. FULL DESCRIPTION - A full description of the structure, project, proposal, etc., including all submitted frequencies and ERP shall be included. Use exact information to clearly identify the nature of the project. Use wording, such as microwave antenna tower, FM or AM antenna tower, suspension bridge, TV antenna tower, or four-stack power plant.

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 shall 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 (e.g., 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 shall 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 shall 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 shall 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 shall 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 use of the high intensity flashing white lighting system."

(3) If it is an existing structure and the requested marking and/or lighting change is recommended, the sponsor shall be required to notify NOS directly when the change has been accomplished. Use the following specific language: "So that aeronautical charts and records can be updated, please notify National Ocean Service (NOS) in writing (with a courtesy copy to the FAA) when the new system is installed and operational. NOS notification should be addressed to: National Ocean Service, Aeronautical Information Branch, Room 5601 N/ACC113, 1305 East-West Highway, Silver Spring, Maryland 20910."

(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 shall 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, is the authorized form for sponsors to report the start, completion, or abandonment of construction, and the dismantlement of structures. If needed, furnish this form to each sponsor when such supplemental notice is required. Include on the form, the aeronautical study number, the city and state, and the requesting ATD's return address before sending it to the sponsor. Retain and file Part 3 of the form in the requesting division.

(a) Request sponsors to complete and mail Part 1 of FAA Form 7460-2, to be received at least 10 days before the start of construction or alteration, when:

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

(2) The construction will be in progress over an extended period of time; or

(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, shall 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;

(2) Is less than 200 feet above ground level (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; or

(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) Giving notice to airmen, when applicaple, of the construction of obstructions;

(3) Changing affected aeronautical procedures and operations;

(4) Revising minimum flight altitudes; and

(5) Updating the NOS Obstacle Digital 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 NOS and other relevant persons or organizations, as necessary.

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

(a) Assign an expiration date to all determinations that involve new construction or alterations.

(1) Normally all determinations, whether FCC construction permit related or not, shall be

assigned an expiration date 18 months from the effective/issued date. In the case of determinations involving petition rights, the expiration shall be 18 months from the final date of the determination.

(2) An expiration date of less or more than 18 months may be assigned if circumstances warrant.

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

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

(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 6 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 postmarked or delivered 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 shall not contain an expiration date.

6. SPECIAL CONDITIONS - Any condition upon which a non-hazard determination is based shall be specified in the determination. When FAA Form 7460-2 is requested, a condition of the determination will be for the sponsor to keep the FAA informed of the project's status. 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 shall 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 will void this determination. Any future construction or alteration, including increase in heights, power, or the addition of other transmitters, requires separate notice to the FAA."

(b) "This determination does include temporary construction equipment, such as cranes, derricks, etc., which may be used during the actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA."

(c) "This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, state, or local government body."

8. ADVISORIES - Determinations may require advisory statements (available in the automated letters) to notify sponsors of potential issues.

(a) Issues pertaining to noise can be addressed as a statement in the determination with the following language: "The structure considered under this study lies in proximity to an airport and occupants may be subjected to noise from aircraft operating to and from the airport."

(b) When requested by the military, issues pertaining to military training areas/routes can be addressed in a determination with the following language: "While the structure does not constitute a hazard to air navigation, it would be located within or near a military training area and/or route."

(c) Issues pertaining to a runway protection zone can be addressed in the determination as follows: "While the structure does not constitute a hazard to air navigation, it would be located within the Runway Protection Zone (RPZ) of the airport/runway. Structures, which will result in the congregation of people within an RPZ, are strongly discouraged in the interest of protecting people and property on the ground. In cases where the FAA can control the use of the property, such structures are prohibited. In cases where the FAA exercises no such control, advisory recommendations are issued to inform the sponsor of the inad-

visability of the project from the standpoint of safety to personnel and property."

b. In addition to the above items, a DNH shall also include or address:

1. Obstruction standards exceeded;

2. Effect on VFR/IFR aeronautical departure/arrival and en route operations, procedures, and minimum flight altitudes;

3. Effect on existing public-use airports and aeronautical facilities;

4. Effect on all planned public-use airports and aeronautical facilities;

5. Cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures;

6. Information and comments received as a result of circularization, informal airspace meetings, and negotiations;

7. Reasons and basis for the determination that the structure will not be a hazard to air navigation and any accommodations necessary by aeronautical users or sponsors;

8. Consideration given to any valid aeronautical comments received during the aeronautical study. The official FAA determination shall be a composite of the comments and findings received from other interested FAA offices;

9. Conditions of the determination including recommendations for marking and/or lighting of a structure, changes in procedures and/or altitudes that are necessary to accommodate the structure. The "conditions" should include a statement that appropriate action will be taken to amend the effected procedure(s) and/or altitude(s) upon notification to the FAA by the sponsor prior to the start of construction or alteration;

10. Limitations, if any; and

11. Petitioning information regardless of whether the structure is proposed or existing using the following specific language: "This determination is subject to review if an interested party files a petition on or before (30 days from issued date). In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted in triplicate to the Manager, Airspace and Rules Division, ATA-400, Federal Aviation Administration, Washington, DC 20591. This determination becomes final on (40 days from issued date) unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review."

c. A DOH shall include or address:

1. FULL DESCRIPTION - A full description of the structure, project, proposal, etc. including all submitted frequencies and ERP shall be included. Use exact information to clearly identify the nature of the project. Use wording, such as microwave antenna tower, FM or AM antenna tower, suspension bridge, TV antenna tower, or four-stack power plant.

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. BASIS FOR THE DETERMINATION - The reasons and basis for the determination must include the adverse effect of the proposal upon the safe and efficient use of the navigable airspace by aircraft and upon air navigation facilities. Also, state the reasons the affected aeronautical operations or the procedure cannot be adjusted to alleviate or eliminate the conflicting demands for the airspace. As a minimum, the determination shall address the following:

(a) Obstruction standards exceeded;

(b) The effect on VFR/IFR aeronautical departure/arrival and en route operations, procedures, and the minimum flight altitudes effect on existing public-use airports and aeronautical facilities;

(c) The effect on all planned public-use airports and aeronautical facilities on file with the FAA or for which the FAA has received adequate notice;

(d) The cumulative impact resulting from the proposed construction or alteration of a struc-

ture when combined with the impact of other existing or proposed structures;

(e) Information and comments received as a result of circularization, informal airspace meetings and negotiations; and

(f) Reasons and basis for the determination as to why the structure would be a hazard to air navigation (e.g., a clear showing of substantial adverse effect).

4. PETITIONING INFORMATION - Include petitioning information regardless of whether the structure is proposed or existing using the following specific language: "This determination is subject to review if an interested party files a petition on or before (30 days from issued date). In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted in triplicate to the Manager, Airspace and Rules Division, ATA-400, Federal Aviation Administration, Washington, DC 20591. This determination becomes final on (40 days from issued date) unless a petition is timely filed. The determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review."

7-1-6. DETERMINATION DATES

a. ISSUED DATE - The issuance date of a determination is the date the determination is distributed.

b. PETITION DEADLINE - For determinations that involve petition rights, the deadline for receipt of petition shall be 30 days from the date of issuance.

c. EFFECTIVE DATE -

1. The effective date of determinations that do not involve petition rights shall be the date of issuance.

2. The effective date of determinations that involve petition rights, whether for existing or proposed structures, shall be 40 days from the date of issuance provided a petition for review is not filed. If a petition for review is filed, the determination will not become final pending disposition of the petition.

NOTE-
The effective date and the issued date may or may not be the same. The effective date may also be referred to as the final date.

7-1-7. EXISTING STRUCTURES

A determination issued as a result of the study of an existing structure may be written in the following forms:

a. As a DOH or DNH;

b. As a formal letter outlining the effects of the structure and perhaps recommending to the sponsor that the structure be marked and/or lighted, specifying that it be reduced in height, or specifying that it be removed;

c. As an informal letter or staff study making an internal FAA recommendation; or

d. As a formal letter to the FCC recommending the dismantling of an abandoned tower.

7-1-8. DISTRIBUTION OF DETERMINATIONS

A record of the distribution for each determination whether original, revised, extended, or affirmed shall be maintained in the aeronautical study file. When appropriate, a reference to the distribution code, a mailing list, or any other evidence of distribution will be sufficient.

a. Copies of all determinations shall be sent to the:

1. Sponsor (with FAA Form 7460-2 as necessary);

2. Sponsor's representative (if any);

3. FCC (if the structure is subject to its licensing authority);

4. NOS in lieu of FAA Form 7460-2 (if the structure is existing and does not involve a proposed physical alteration). Copies of the determination shall always be accompanied by a copy of the submitted map and, if applicable, a copy of the survey; or if the determination involves a change to marking and/or lighting of an existing structure for which the sponsor has been requested to notify NOS directly of the change. Copies of the determination shall always be accompanied by a copy of the submitted map and, if applicable, a copy of the surveys; and

5. Other persons, offices, or entities as deemed necessary or as requested.

b. In addition to the above distribution, copies of a DNH and DOH shall also be sent to:

1. ATA-400;
2. NOS;
3. Military representatives; and
4. All other interested persons.

Section 2. EXTENSION OF DETERMINATIONS

7-2-1. AUTHORITY

The FAA official issuing a determination has the delegated authority to grant an extension. Where a petition for an extension precipitates a policy determination that is of such controversial nature that FAA Headquarters should consider the matter, the petition should be referred through the regional ATD to ATA-1.

7-2-2. CONDITIONS

An extension may be granted provided the request is timely (postmarked or delivered 15 days before the determination expires) and a review of aeronautical activity shows no significant adverse affect resulting from a change that has occurred since the determination was issued. In the event a request for extension to the expiration date cannot be granted based on new facts, a "Determination of Hazard to Air Navigation" should be issued effective on the day following the expiration date of the no hazard determination.

7-2-3. COORDINATION

Coordination with ATA-400 shall be obtained before denying extensions that pertain to structures that are subject to FCC licensing authority.

7-2-4. EXTENSION PERIOD

Normally, an extension should be for a period of 18 months, unless the sponsor requests a shorter period.

7-2-5. REVIEW PROVISIONS FOR PETITION

If an extension is granted on a DNH, petition rights apply, and therefore, each such extension shall contain a statement advising of the petition period, the effective date, and the new expiration date.

7-2-6. DISTRIBUTION

Distribution shall be accomplished in accordance with paragraph 7-1-8.

Section 3. REVISION, CORRECTION, AND TERMINATION OF DETERMINATION

7-3-1. REVISIONS AND TERMINATIONS BASED ON NEW FACTS

The FAA official responsible for issuing a no hazard determination has the delegated authority (Section 77.39) to revise or terminate the determination provided the decision is based upon new facts that change the basis on which the original determination was made.

a. Revised determinations based on new aeronautical facts shall be issued under a new aeronautical study number that would cancel and supersede the original determination.

b. A decision to terminate a no-hazard determination shall be based on facts that were not properly considered although they existed at the time the determination was issued and would have resulted in a hazard determination. Normally in such a case, a subsequent "Determination of Hazard" would be issued under a new aeronautical study number.

7-3-2. CORRECTION

The FAA official issuing a determination may also correct that determination as required. Editorial changes that do not involve a coordinate change (of 1 second or more in latitude or longitude) or elevation change (of 1 foot or more) may be issued as corrections. In this case, no change to dates would be necessary. Adjustments or corrections to a proposal that involve one or both of the above coordinate or elevation changes shall be addressed as a new and separate obstruction evaluation study.

7-3-3. STANDARD FORMAT

a. A revised determination based on new aeronautical facts shall follow the standard format of the appropriate determination. An explanation should be included addressing the reason for the revision. A statement indicating that the revised determination cancels and supersedes the determination originally issued, should also be included.

b. A determination addressing editorial changes that do not involve structure coordinates or elevations may be issued by duplicating the original determination, making the corrections, adding a statement explaining the correction, and adding "Corrected" at the end of the title.

c. A determination addressing corrections to coordinates or elevations shall follow the standard format of the appropriate determination. An explanation should be included addressing the correction. This may be done in the description section of the determination. A statement should also be included which indicates that the corrected determination cancels and supersedes the original determination.

7-3-4. DISTRIBUTION

Copies of revised or corrected determinations shall be given the same distribution as the original determination and, if appropriate, be distributed to other known interested persons or parties.

Chapter 8. POST DETERMINATION ACTION

Section 1. ACTION

8-1-1. FOLLOW-UP ACTION

If a determination requires supplemental notice (Form 7460-2) and the expiration date has passed without its receipt, action shall 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, Air Traffic shall forward an automated Project Status Request (PSR) letter to the sponsor. If the sponsor fails to complete and return the PSR within 37 days, AT may send an automated Termination Project Status (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 shall not be terminated. Consequently, additional attempts shall be made to determine construction status.

8-1-2. RECEIPT OF COMPLETED PSR

When a completed PSR is received, Air Traffic shall:

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; and

(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 1 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 Form 7460-2.

8-1-3. RECEIPT OF COMPLETED FORM 7460-2

When a completed Form 7460-2 is received, Air Traffic shall 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 it is verified that submitted information differs from the original evaluation, initiate a new aeronautical study to reevaluate the new information.

c. Make special distribution of completed Form 7460-2, part 1, as necessary. If minimum flight altitudes require change or the potential for EMI exists, notify the FPO, FS, AF and/or FM by the quickest means possible.

d. Distribute the completed Form 7460-2, part 2, as follows:

1. Send one copy of completed Form 7460-2 to NOS along with a copy of the map and survey (if applicable).

2. Send a copy of completed Form 7460-2 to all interested offices including military, AFSS, ARTCC E-MSAW, ARTS IIA, III, IIIA, and Micro E ARTS facilities.

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, Air Traffic shall:

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, Air Traffic shall:

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 the NOS, FCC (if it is involved), and FPO of the dismantled structure by sending a copy of the received correspondence.

Chapter 9. OBSTRUCTION EVALUATION FOR DISCRETIONARY REVIEW PROCESS

Section 1. GENERAL

9-1-1. AUTHORITY

ATA-1, is delegated the authority to decide whether to:

a. Grant or deny a petition for discretionary review;

b. Decide the procedural basis (written materials or public hearings) upon which a review will be made; and

c. Affirm, revise, or reverse a determination issued in accordance with Part 77, section 77.19, 77.35, or 77.39c.

9-1-2.REGIONAL OFFICE RESPONSIBILITY

a. Any written communication that contains an objection to a determination issued under part 77, sections 77.19, 77.35, or 77.39, and which may be considered a petition under section 77.37, shall be treated as a valid petition.

b. Any FAA office receiving a petition for discretionary review shall immediately forward the document to ATA-400.

c. If a petition regarding a "Determination of No Hazard" is received toward the end of the 30-day petition-filing period, the receiving office shall also promptly notify ATA-400 by telephone.

9-1-3. JURISDICTION

Upon receipt of a valid petition, jurisdiction of the case immediately transfers from the issuing office to ATA-400, and any further coordination with the petitioner, the sponsor, and/or the respective representative(s) shall be conducted by ATA-400 with regional assistance, if requested.

Section 2. PETITION PROCESSING

9-2-1. ADMINISTRATIVE PROCESSING

Upon receiving a valid petition, ATA-400 shall:

a. Assign an OE docket number to the petition composed of the last two digits of the calendar year in which the assignment is made, the symbol "AWA" to indicate Washington Headquarters, the symbol "OE" to indicate obstruction evaluation, and a serial number. Serial numbers run consecutively within each calendar year.

b. If the petition is invalid, notify the petitioner of such.

c. If the petition is valid, notify the sponsor, the petitioner, the FAA region concerned, and, if appropriate, the FCC that the determination is not and will not become final pending disposition of the petition.

d. Distribute a copy of a valid petition and the associated determination to the Spectrum Assignment and Engineering Division, ASR-100, Flight Procedures Standards Branch, AFS-420, Design and Operations Criteria Division, AAS-100; and the National Flight Procedures Office, AVN-100 for their examination.

9-2-2. RECOMMENDATIONS

Based upon the results of the examination of the petition and further coordination with ASR-100, AFS-420, AAS-100; AVN-100, and, as appropriate, AGC, ATA-400 shall recommend to ATA-1 whether to grant or deny the review and if granted, whether the review should be on the basis of written materials or public hearing, and whether the review should include a public comment period.

9-2-3. DISTRIBUTION OF NOTICES OF GRANT REVIEW

ATA-400 shall distribute ATA-1's decision in writing to the petitioner, the sponsor, interested parties of record, and the FCC, if appropriate. A notice of grant of review shall advise whether the review will be based upon written materials or a public hearing.

9-2-4. REVIEW BASED ON WRITTEN MATERIALS

When a review is granted on the basis of written materials, the notice of review shall describe the specific issues that are to be considered and may solicit written comments from interested parties. The review shall include an analysis of all pertinent information including the Regional ATD manager's recommendation report, the aeronautical study case file, information received from briefings, submissions by interested parties, and other relevant facts obtained from other knowledgeable sources.

9-2-5. REVIEW BASED ON PUBLIC HEARINGS

Hearings held on proposed construction or alteration to determine the effect on the safety of air navigation and the efficient use of navigable airspace are fact-finding in nature. As a fact-finding procedure, each hearing is non-adversarial, and there are no formal pleadings or adverse parties.

a. Notice - When a review is granted on the basis of a public hearing, the notice of review will state the FAA official who is to be the presiding officer at the hearing.

b. Responsibility - Upon the designation of a presiding officer, ATA-400 shall serve as technical assistant and staff to the presiding officer. ATA-400 shall assist the presiding official in the pre-coordination and issuance of further notices and orders pertaining to the hearing, arrange for hearing room space, recorders, record keeping, and other tasks incidental to the hearing.

c. Rules of Practice - Rules of practice for public hearings are set forth in Subpart E of part 77.

9-2-6. REGIONAL PARTICIPATION

When a discretionary review is granted, ATA-400 shall request the Manager of the appropriate regional ATD to submit a written summary report and recommendation in accordance with Section 77.37(c)(1). The summary report and recommendation shall include the following:

a. The original or certified true copy of the aeronautical study case file.

b. A full description of structure/project.

c. The obstruction standards exceeded and to what extent.

d. A narrative summary of the aeronautical study including, as appropriate, information and data of the effect on:

1. Airports.
2. Airport approaches.
3. Runway Protection Zones.
4. Airport traffic patterns.
5. Approach slope ratios.
6. Departure slope ratios.
7. Instrument approach procedures.
8. Instrument departure routes.
9. Transition procedures.
10. Radar procedures.
11. Airway and approved off-airway routes.
12. VFR.
13. Any related airspace actions.
14 Any other necessary information.

e. A recommendation as to the disposition of the petition (e.g., to affirm, revise, or reverse the determination).

f. Checklist for attachments - Include, as applicable, but do not limit to:

1. FAA Form 7460-1 or other form of notice.
2. Copies of all correspondence sent to the sponsor.
3. Public notice of the aeronautical study.
4. Comments received as a result of circularization for public comment.
5. Notification of informal meetings.
6. Summary of informal meetings.
7. Instrument approach charts.
8. Local airport traffic pattern data.
9. Instrument departure procedures.
10. FAA Form 5010-1, FAA Master Airport Record.
11. FAA Form 8260 series.
12. Letters of agreement.
13. Operations letters.
14. Any other information requested.

9-2-7. FINAL DECISION

Based on a review of written materials received or evidence gathered during a public hearing, ATA-400 shall draft and coordinate a document for ATA-1's signature that will either affirm, reverse, or revise the regional determination.

9-2-8. DISTRIBUTION OF DECISION

Copies of the final decision shall be distributed by ATA-400 to the petitioner(s), sponsor, interested parties of record, regional ATD, and FCC, if appropriate.

PART 3
AIRPORT AIRSPACE ANALYSIS

Part 3. AIRPORT AIRSPACE ANALYSIS

Chapter 10. BASIC

Section 1. POLICY

10-1-1. PURPOSE

a. This part provides guidelines, procedures, and standards that supplement those contained in 14 CFR part 157, Notice of Construction, Alteration, Activation, and Deactivation of Airports.

b. These guidelines, procedures, and standards shall be used in determining the effect construction, alteration, activation, or deactivation of an airport will have on the safe and efficient use of the navigable airspace by aircraft.

10-1-2. AUTHORITY

The authority for managing the Airports Program is delegated to the regional Airports Division manager and may be re-delegated to the Airports District Offices (ADO). Airport personnel shall administer the Airports Program with the coordinated assistance of Air Traffic, Airway Facilities, Flight Standards, and Flight Procedures personnel.

10-1-3. AIRPORT PROGRAMS

a. Airport development/improvement projects are initiated under the authority of several laws relating to Federal airport financial assistance programs. There are certain similarities in processing federally assisted and non-federally-assisted airport development improvement projects, including airport layout plan reviews. However, a significant difference is that on a federally assisted project the FAA must formally approve the airspace for the projects that receive federal assistance.

b. Airport Improvement Program (AIP) - AIP projects, including airport layout plans, are processed similarly to non-AIP projects, except that the airspace for the airport study results in either an agency approval or disapproval of the project.

c. Disposal or Conveyance of Federal Surplus Real Property for Public Airport Purposes - The FAA is required to officially endorse the site before property interest in land owned and controlled by the United States is conveyed to a public agency for public airport purposes. Airspace cases are handled in the same manner as proposals for other federally assisted airports.

d. Military/National Aeronautics and Space Administration (NASA) Airport Programs – 49 U.S.C, Section 44502(c) provides that the DoD and NASA shall not acquire, establish, or construct any military airport, military landing area, or missile or rocket site, or substantially alter any runway layout unless reasonable prior notice is given to the FAA. This permits the FAA to "...advise the appropriate committees of Congress and other interested departments, agencies, and instrumentalities of the government on the effects" of such projects "upon the use of airspace by aircraft."

NOTE-
See Chapter 13 for the procedures for processing these proposals.

e. Part 157 Proposals-Pursuant to appropriate sections of the Federal Aviation Act of 1958, as amended, part 157 was adopted to require notice to the Administrator by persons proposing to construct, alter, activate, or deactivate a civil or joint-use (civil/military) airport for which Federal funds have not been requested. Such notice is required so that a study can be made and the proponent can be advised as to the proposal's effect on the use of the navigable airspace by aircraft.

f. All airport proposals on a public-use airports not requiring notice under part 157 that may require notice under part 77.

g. Passenger Facility Charge (PFC) - Part 158 program projects are required to be on an approved ALP and are processed similarly to AIP projects.

10-1-4. FUNDING RESPONSIBILITY

Each participating office shall note airport projects or airport layout plan changes which would, if accomplished, lead to the relocation, replacement, or modification of air traffic control, or air navigation and communications facilities. Such conditions shall be identified in the review process and appropriate recommendations made regarding funding responsibilities as related to current FAA policy on facility relocation associated with airport improvements or changes (see FAA Order 6030.1 and AC 150/5300-7, FAA Policy On Facility Relocations Occasioned By Airport Imporovements Or Changes).

10-1-5. RESPONSIBILITY

a. The Airports Division, or designated representative, is responsible for the overall Airports Program, initiating the coordination of airspace studies of airport proposals; conducting the necessary circularization; consolidating and resolving comments; and developing and forwarding the FAA determination to the airport sponsor/proponent. Where applicable, the airports division personnel shall forward documents regarding potential noise problems to the airport proponent/sponsor for resolution.

b. The ATD is responsible for evaluating the proposal from the standpoint of safe and efficient use of airspace by aircraft. In addition, based on existing and/or contemplated traffic patterns and procedures, the ATD manager shall be responsible for identifying potential noise problems and advising the Airports Office accordingly.

c. The FPO is responsible for evaluating proposals to determine impacts on instrument procedures and whether aircraft insrument operations can be conducted safely.

d. The Flight Standards Division is responsible for reviewing proposals to determine the safety of aeronautical operations, and of persons and property on the ground.

e. The flight standards district office (FSDO) is responsible for reviewing part 157 proposals for seaplane bases and heliports.

f. The Airway Facilities Division is responsible for:

1. Reviewing engineering studies on airport proposals to evaluate their effects upon commissioned and/or proposed NAVAIDs.

2. Conducting electromagnetic studies to evaluate the effect existing and/or proposed objects will have upon air navigation and communications facilities.

3. Reviewing and evaluating line-of-site (shadow) studies on existing and/or proposed objects to determine impact on control tower visibility.

4. Highlighting frequency management problems and reserving frequencies.

Section 2. AIRPORT STUDY

10-2-1. PURPOSE

a. The purpose of an aeronautical study is to determine what effect the proposal may have on compliance with Airports Programs, the safe and efficient utilization of the navigable airspace by aircraft, and the safety of persons and property on the ground.

b. A complete study consists of an airspace analysis, a flight safety review, and a review of the proposals' potential effect on air traffic control operations and air navigation facilities.

c. Each phase of the airport aeronautical study requires complete and accurate data to enable the FAA to provide the best possible advice regarding the merits of the proposal on the NAS.

10-2-2. STUDY NUMBER ASSIGNMENT

Regional Airports Division personnel shall assign a nonrule airports (NRA) aeronautical study number to each airport case in accordance with paragraph 2-6-2. Construction or alteration of navigation and communication aids may either be handled by the specific Airway Facility Division as a nonrule (NR) aeronautical study or by the specific Airports Division personnel as a NRA case.

10-2-3. PROPOSALS SUBJECT TO AERONAUTICAL STUDY

To the extent required, conduct an aeronautical study of the following:

a. Airport proposals submitted under the provisions of part 157. Airport proposals on public-use airports, not requiring notice under part 157, may require notice under part 77.

b. Construction safety plans as appropriate for Airport Improvement Program requests for aid and the Airports Regional Capital Improvement Program.

c. Notices of existing airports where prior notice of the airport construction or alteration was not provided as required by part 157.

d. Disposal and Conveyance of Federal surplus and non-surplus real property for public airport purposes.

e. Airport layout plans, including consideration of the effect of structures which may restrict control tower line-of-sight capability and effects upon electronic and visual aids to air navigation.

f. Military proposals for military airports used only by the armed forces.

g. Military proposals on joint-use (civil/military) airports.

h. Proposed designation of instrument runways.

i. Airport site selection feasibility studies and recommendations.

j. Modification of airport design standards.

k. Any other airport case when deemed necessary to assess the safe and efficient use of the navigable airspace by aircraft and/or the safety of persons and property on the ground.

Section 3. AIRPORT STANDARDS

10-3-1. DESIGN STANDARDS

a. For Federally obligated airports, it is the responsibility of the airport proponent/sponsor/planner to comply with FAA airport design standards.

b. For non-Federally obligated airports or National Plan of Integrated Airport Systems (NPIAS) airports, it should be encouraged that the airport proponent/sponsor/planner comply with FAA airport design standards.

c. It should be noted when airport design standards are combined with appropriate state and local zoning ordinances, the resultant effect should:

1. Assure the lowest possible operational altitudes for aircraft;

2. Protect the economic investment in the airport; and

3. Promote safety in the areas affected by the airport by assuring, through proper development, compatible land use.

10-3-2. AIRPORT SPACING GUIDELINES AND TRAFFIC PATTERN AIRSPACE AREAS

a. The following guidelines are to be used as aids when evaluating airport proposals. The guidelines may also be used to determine airspace requirements to accommodate a given operation under a given condition, areas of potential air traffic conflict for aircraft having certain operational and performance characteristics, and the degree of aircraft operational flight compatibility with other airports in a given area. These guidelines are not to be construed as authorizations for aircraft operations contrary to any Code of Federal Regulations, nor are the dimensions to be construed as air traffic separation standards.

b. Aircraft Approach Categories - The factor used to categorize the following aircraft was taken from part 97. This factor is based on 1.3 times the stall speed with aircraft in landing configuration at maximum certificate landing weight.

1. Category A - Speed less than 91 knots. This category includes civil single-engine aircraft, light twins, and some of the heavier twins.

2. Category B - Speed 91 knots or greater but less than 121 knots.

3. Category C - Speed 121 knots or greater but less than 141 knots.

4. Category D - Speed 141 knots or greater but less than 166 knots.

5. Category E - Speed 166 knots or greater. This category includes, for the most part, those military, experimental, and some civil aircraft having extremely high speeds and critical performance characteristics.

c. IFR Radar Airspace.

1. Air traffic control airspace requirements for a specific runway or airport are generally dictated by the approach category of the aircraft that will use the airport and the direction of the associated instrument approaches and departures. Based on these factors, the following rectangular airspace areas were developed as general guides for the planning or siting of new airports and the designation of instrument runways when IFR radar control procedures are contemplated or programmed for a single airport operation, or under certain conditions, multiple airport operations. No provisions are made for holding or for procedure turns within the airspace areas.

(a) Airports that are regularly used by Category C aircraft or larger: 10 miles in the departure direction, 15 miles in the direction from which approaches will be made, and 5 miles either side of the extended runway centerline.

(b) Airports which are regularly used by Category B and smaller aircraft: 5 miles in the departure direction, 10 miles in the direction from which approaches will be made, and 4 miles either side of the extended runway centerline.

(c) In metropolitan areas requiring more than one airport: the primary instrument runways at all airports should be aligned in the same general direction to allow maximum spacing between airspace areas.

(d) At airports having parallel approaches: the rectangular airspace areas should be applied to

each runway. Should the instrument runways at an airport have bi-directional instrument approach capabilities, the total length of the larger airspace areas should be increased to 30 miles for Category C and D aircraft, and to 20 miles for Category A and B aircraft in the smaller airspace areas.

2. These airspace dimensions will not, nor are they intended to, contain sufficient airspace to provide for completely independent IFR operations. Normally, these areas will provide for reasonable operational efficiency if the traffic pattern airspace areas of adjacent airports do not overlap. However, in large metropolitan areas where there is an extremely heavy mix of en route and terminal traffic, reasonable operational efficiency may not result even though the airspace areas do not overlap. Such situations require a thorough review of the procedural potential of the area, as well as alternate site considerations. In conducting studies where complete radar environments call for the larger airspace areas, and such areas abut each other but do not overlap, there is adequate space for:

(a) Approach and departure on the runway centerline.

(b) Two additional tracks offset from and parallel to the runway centerline. A minimum of 4 miles is provided between adjacent tracks of different areas (see FIG 10-3-2).

3. Where two smaller areas are adjacent but do not overlap, an additional 1-mile spacing is required on two of the longitudinal sides (see NO TAG).

4. When the anticipated traffic volume at an existing or proposed airport requires additional airspace for greater airspace-use efficiency and operational flexibility, expand the airspace, where available, by providing a 5-mile buffer area between the adjacent airports involved. This additional airspace will provide two additional tracks offset from and parallel to the runway centerlines within the airspace areas of the adjacent airports and one additional track for each airport within the 5-mile buffer area. A minimum of 3 miles is provided between each track paralleling the runway centerline and each additional track in the buffer area. A 3-mile no transgression area is also provided between the two airports (see FIG 10-3-3).

5. If additional airspace is required in the smaller areas for greater airspace-use efficiency and flexible operation, the procedures for determining the additional airspace are identical to those used for the larger areas, except that the smaller airspace should be used in lieu of the larger airspace areas. The 1-mile additional spacing should also be applied, as outlined in subparagraph b.3. above, in addition to the 5-mile buffer area, as outlined in subparagraph b.4. above (see FIG 10-3-4).

d. IFR Nonradar Airspace - A wide range of procedures is available for airspace requirements associated with instrument approach procedures at IFR airports without radar services. Therefore, no attempt has been made to describe these requirements in detail. However, should it become necessary to determine the airspace requirements at such airports, apply the appropriate primary airspace areas and "aircraft approach categories" discussed in subparagraph a. above. Additional information is contained in AC 150/5300-13, Airport Design.

e. VFR Airspace - A primary objective in an airport/airspace study is to determine whether compatible VFR traffic patterns may be developed for a new airport or when altering a runway layout at an existing airport located in proximately to other airports. Because flight tracks and climb/descent profiles vary when operating in a VFR traffic pattern, the following guidelines are offered for use in these studies:

1. Traffic pattern airspace (see section 6-3-8) of one airport may touch but should not overlap the traffic pattern airspace of another airport;

2. Traffic pattern airspace should be enlarged as described in section 6-3-11 when more than four aircraft of the same category operate in a VFR traffic pattern at the same time.

10-3-3. DESIGNATION OF INSTRUMENT RUNWAYS, CHANGES OF AIRPORT STATUS VFR TO IFR AND LOWERING MINIMUMS

Requests for designation of instrument runways, which relate to installation or qualification for precision landing aids, and proposals for a change in airport status from VFR to IFR, or lowering instrument approach minimums usually take one of the following forms:

a. In cases involving Federally obligated airports, the Airports Division shall be responsible for coordinating, corresponding directly with the proponents, and formulating the official determination.

b. In cases requesting an instrument procedure not involving a Federally obligated airport, the FPO shall coordinate directly with the proponent.

c. In cases requesting the installation of a NAVAID not involving a Federally obligated airport, the Airway Facilities Division is responsible for coordinating, corresponding directly with the proponent, and formulating the official determination.

d. A proposal submitted under part 157 (FAA Form 7480-1) not involving a request for an instrument procedure or an installation of a NAVAID, the appropriate Airports Division shall be responsible for coordinating, corresponding directly with the proponent, and formulating the official determination, regardless of which division receives the proposal.

e. A change to the Airport Layout Plan (ALP) - The Flight Procedures Office shall be responsible for coordinating the requests for instrument procedures not involving a Federally obligated airport. Coordination of requests for installation of NAVAIDs shall be in accordance with part 4 of this Order. The Airports Office shall be responsible for coordinating submittals under part 157 and all other construction on a public-use airport, and changes to approved ALPs. Designation of instrument runways on all Federally obligated airports shall be the responsibility of the Airports Division and will be treated in the same manner as a revision to the ALP. Regardless of where the coordination begins, Air Traffic, Airway Facilities, Flight Standards, Airports, and Flight Procedures must have an opportunity to review and comment on the proposal. No division shall require dual reporting of such a proposal. The responsible coordinating division shall correspond directly with the proponent and formulate the official determination.

10-3-4. AIRSPACE FEASIBILITY STUDY

Before expending funds for acquisition of real property, development of the ALP, or plans and specifications for new airports and major airfield improvements, feasibility studies or preliminary airport site analyses are encouraged. Normally, preliminary airport site analyses are made on all Federal agreement projects involving airport site selections. Analyses of this nature allow the agency to evaluate the proposals and advise the proponents as to their feasibility from a safety and airspace use standpoint in addition to other related matters. Guidance for conducting these airport studies is contained in AC 150/5070-6A, Airport Master Plans. That AC describes the major considerations when selecting a site for a new airport for which Federal aid is anticipated. Airport studies of this nature are coordinated in the same manner as Federal agreement proposals, except that the proposals are not circularized to the public unless specifically requested by the proponent.

10-3-5. ONSITE EVALUATION

The intent of the FAA is to achieve safe airport operations and to fulfill its responsibilities of assuring that unsafe conditions will not exist. Therefore, if there is an indication of unsafe conditions or information to evaluate the proposal cannot be obtained from the proponent, an onsite evaluation of the proposal shall be considered before issuing a determination. Such an evaluation may be necessary if the proposal would be located in a congested area or the study indicates the presence of obstructions that may affect the safe and efficient use of the airspace. An onsite evaluation may also be necessary if information pertaining to the proposal is insufficient for arriving at a determination. Airports, Air Traffic, Flight Procedures, Airway Facilities, and Flight Standards personnel shall assist in the evaluation as necessitated by the situation requiring evaluation.

10-3-6. FORMULATION OF FAA DETERMINATION

The FAA determination shall be a composite of the airspace review and the comments and findings received from other interested FAA offices. Should there be a disagreement in the airspace findings or between other comments received, the disagreement shall be resolved before formulating the FAA determination.

IFR-RADAR AIRPORT AIRSPACE REQUIREMENTS FOR CATEGORY C AND D AIRCRAFT (ADJACENT LARGER AREAS)

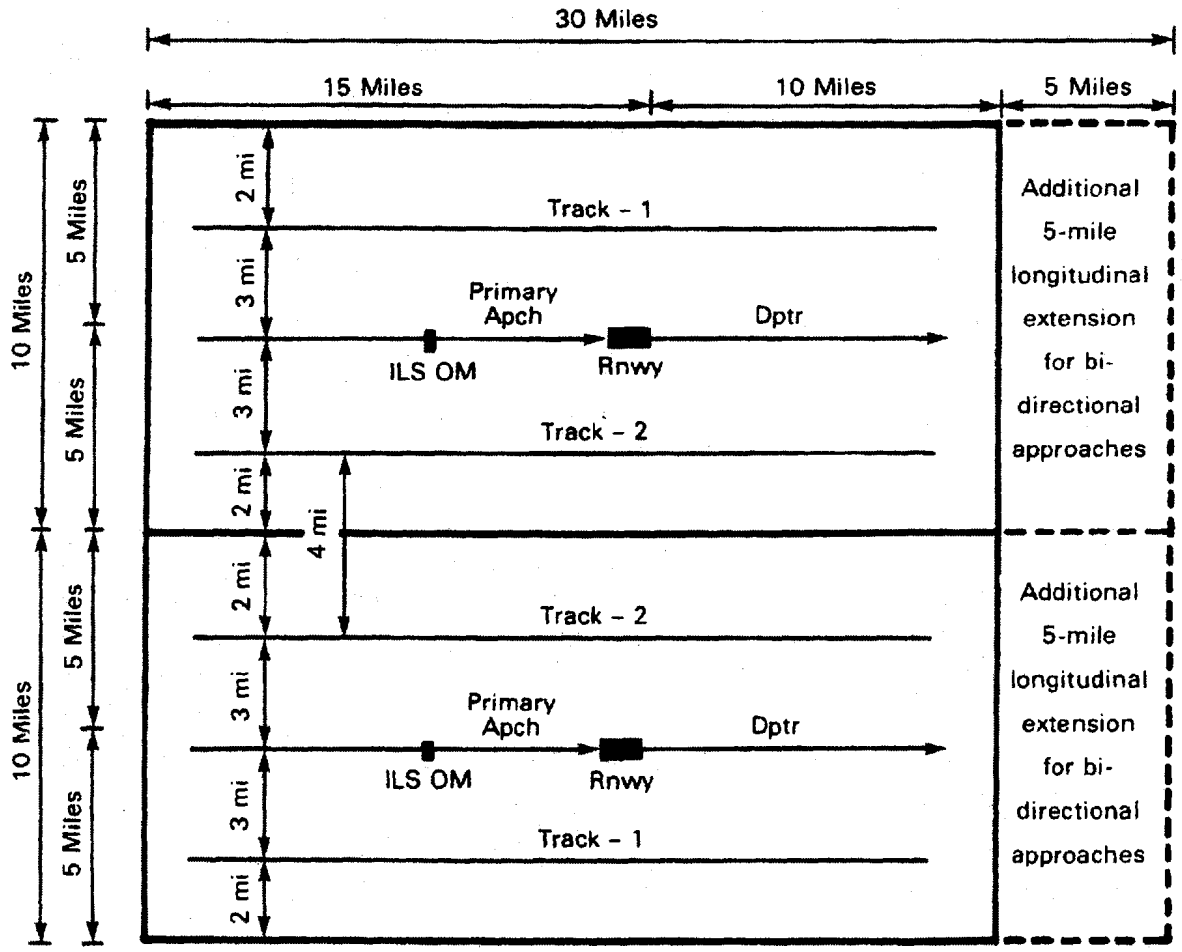


FIG 10-3-1

IFR-RADAR AIRPORT AIRSPACE REQUIREMENTS FOR CATEGORY A AND B AIRCRAFT (ADJACENT LARGER AREAS)

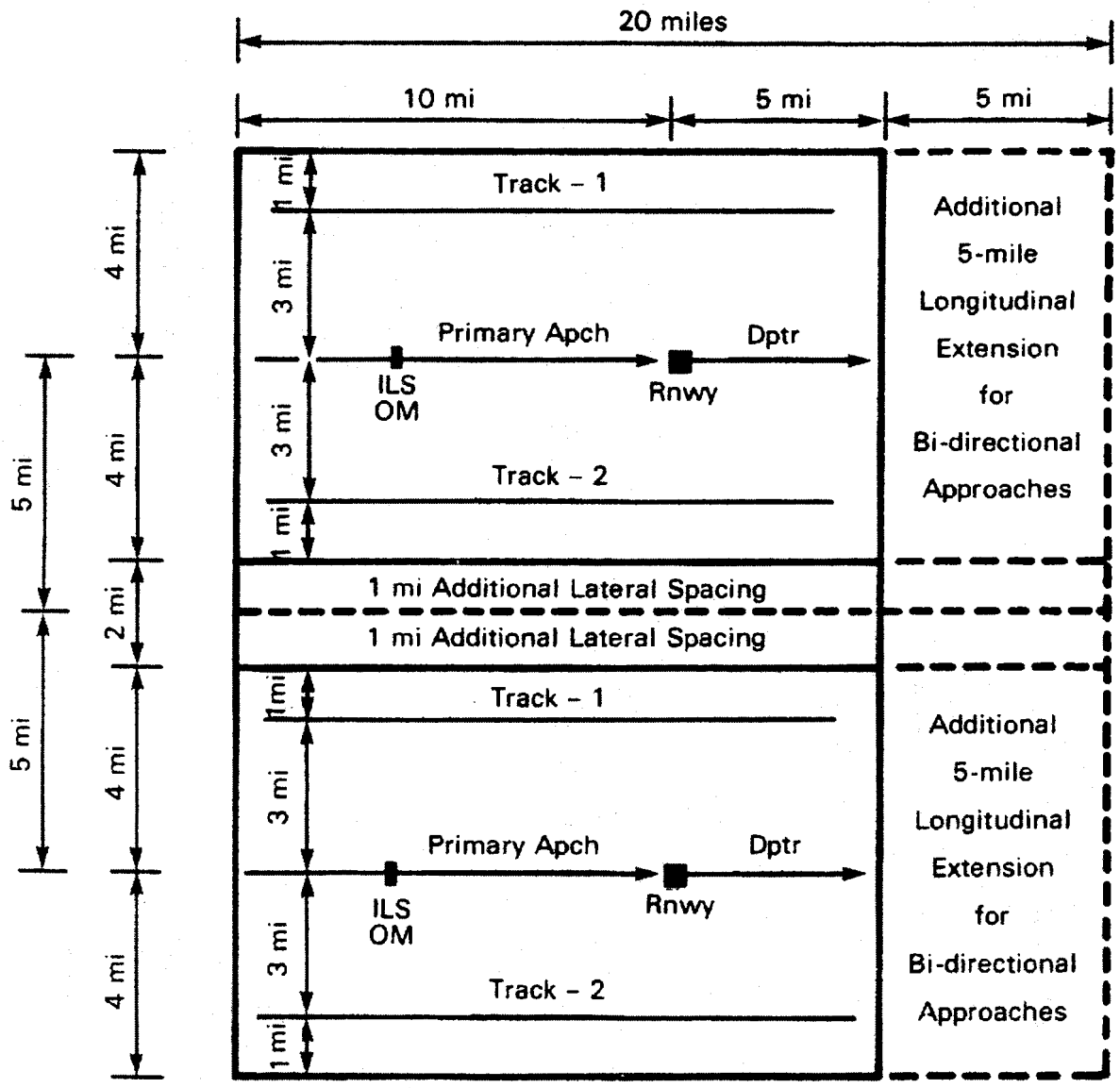


FIG 10-3-2

IFR-RADAR AIRPORT AIRSPACE REQUIREMENTS FOR CATEGORY A AND B AIRCRAFT (HIGH VOLUME ADDITIONAL AIRSPACE, SMALLER AREAS)

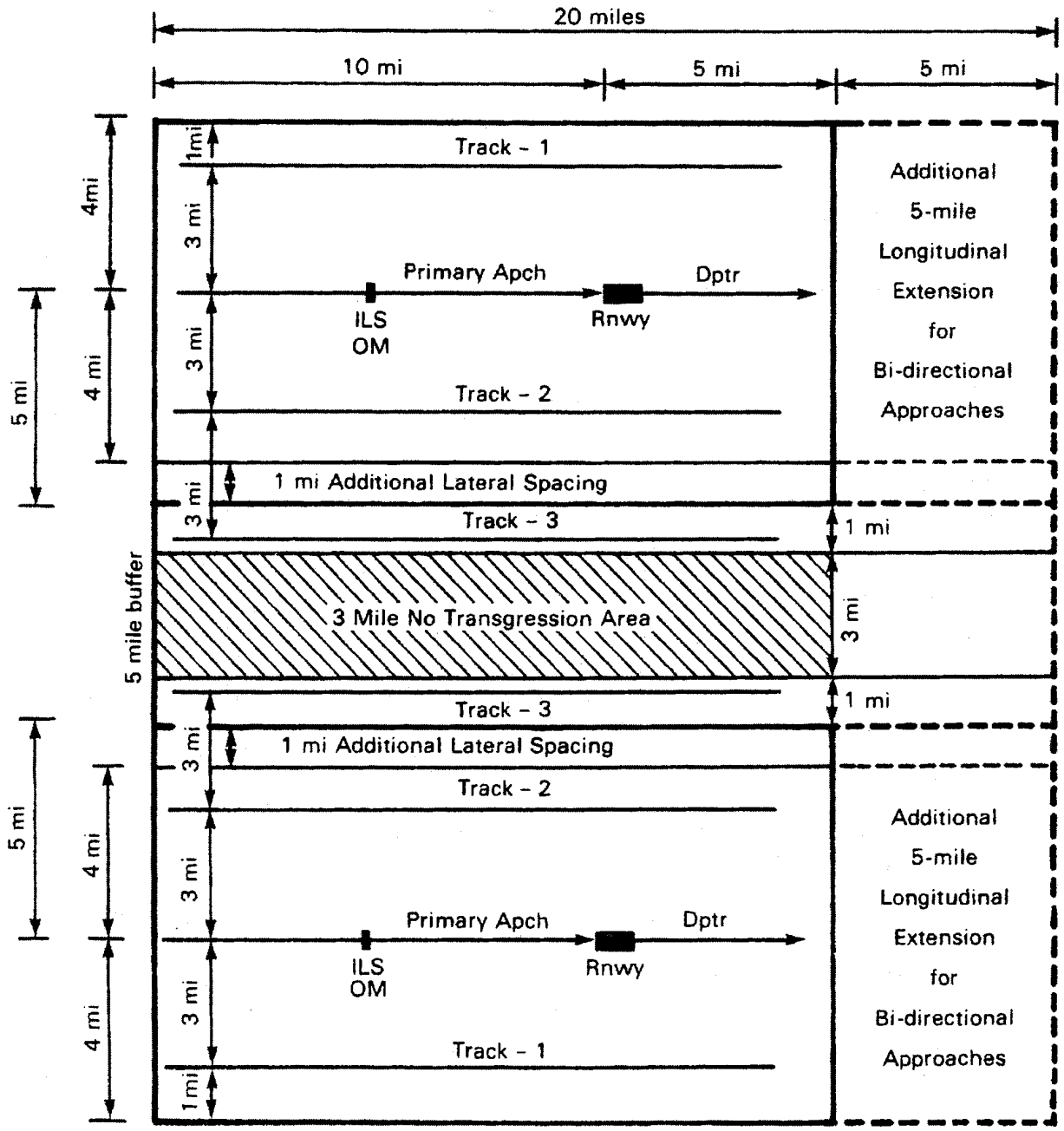


FIG 10-3-3

IFR-RADAR AIRPORT AIRSPACE REQUIREMENTS FOR CATEGORY C AND D AIRCRAFT (HIGH VOLUME ADDITIONAL AIRSPACE, LARGER AREAS)

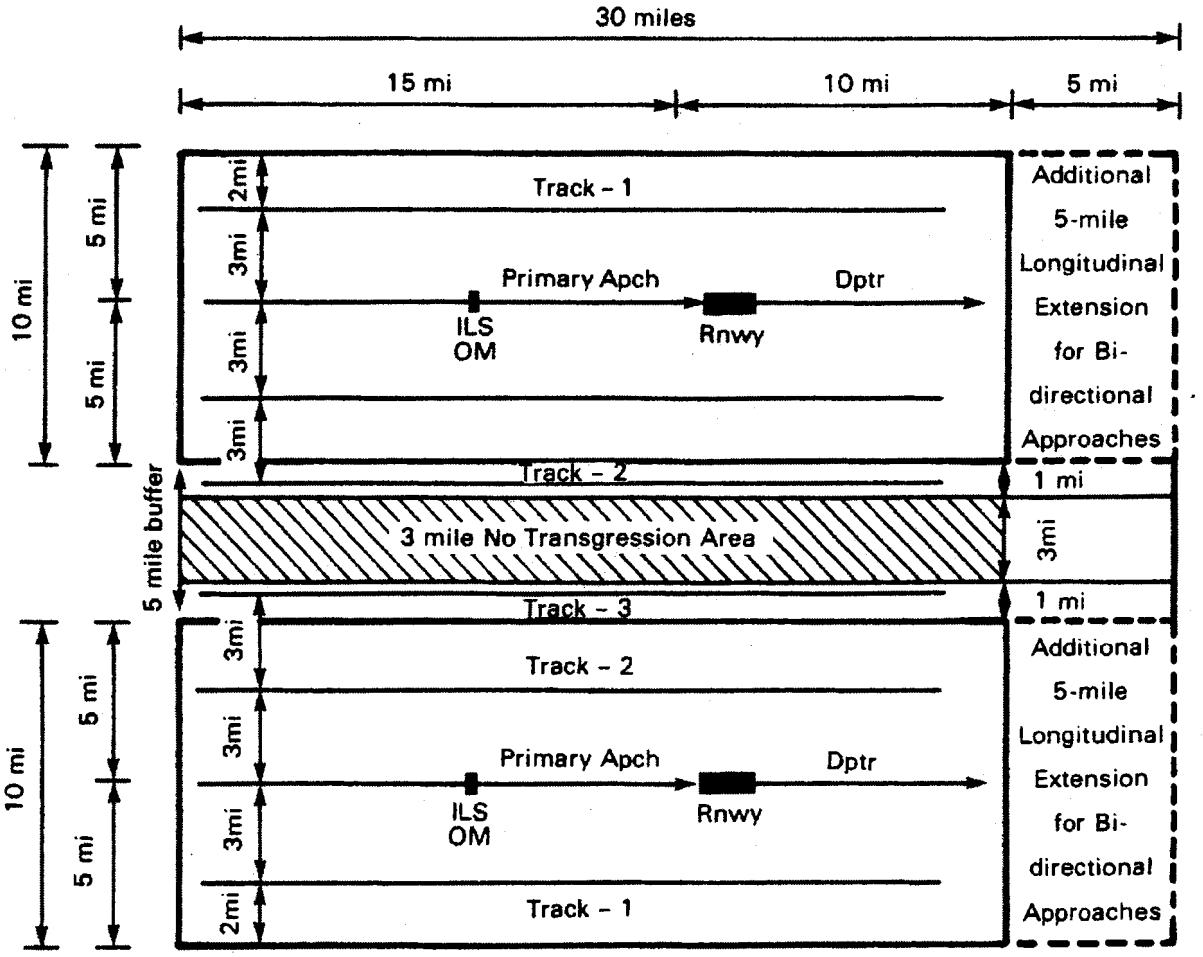
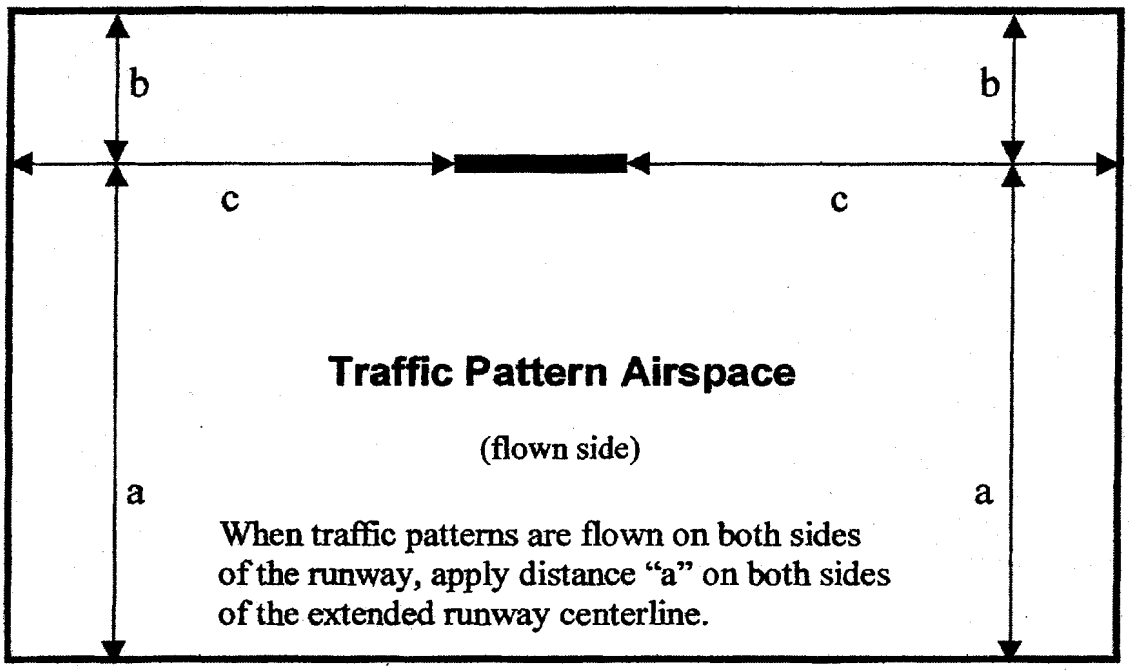


FIG 10-3-4

TRAFFIC PATTERN AIRSPACE



Aircraft Category	Distance (nautical miles)			
	a	b	c	d*
A	1.25	.25	1.25	.375
B	1.5	.25	1.5	.5
C	2.25	.5	2.25	.875
D	4.0	.5	3.0	1.0

* Increase distance "c" by adding distance specified in "d" for each aircraft over four (of the same category) anticipated to be operating in the traffic pattern at the same time.

FIG 10-3-5

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 shall not be published in the NFDD, and they shall not be depicted on aeronautical charts or in the Airport/Facility Directory (A/FD).

10-4-2. RESPONSIBILITY

As part of the Air Traffic Airspace Management Program, ATA-100 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 predicted 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 shall 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 shall be shown in the same color as the airport symbol.

Chapter 11. EVALUATING AERONAUTICAL EFFECT

Section 1. GENERAL

11-1-1. EXISTING AND PROPOSED OBJECTS

Use the guidelines in Chapter 10 to evaluate the effects of objects on the airport proposal.

11-1-2. AIRPORT TRAFFIC PATTERNS

Traffic patterns shall be established by the FAA only at those airports where the provisions of part 91 do not meet aircraft airspace requirements. When the airspace review indicates the need, traffic patterns may be established by special rule in part 93, or as outlined in this order when necessary to ensure compatibility of aircraft operations with adjacent airports, or for reasons of obstructions, terrain, traffic separation, or noise abatement. Use the guidelines in paragraph 10-3-2 to evaluate whether the traffic pattern associated with an airport proposal would conflict with operations at any other airport. Also, evaluate the traffic pattern effect on instrument approach procedures and the need for establishment of traffic pattern altitudes for aircraft separation. The regional ATD normally reviews proposals for traffic pattern conflicts.

11-1-3. INSTRUMENT FLIGHT PROCEDURES

a. Existing and proposed structures or objects must be evaluated for their effect on the airport proposal in reference to instrument procedures. FPOs normally conduct this by applying the standards and criteria contained in the 8260 Order series to ascertain if the airport proposal would adversely affect existing or planned instrument approach procedures. Use the same guidelines to evaluate the compatibility of any existing or proposed instrument approach procedure with the airport proposal.

b. Air Traffic and Flight Procedures personnel shall be especially alert to ensure aircraft separation when the traffic pattern associated with an airport proposal would overlap the airspace encompassed by a standard instrument approach procedure (IAP) for an adjacent airport. When this occurs, Air Traffic will recommend actions to ensure that there is at least 500 feet vertical separation between the traffic pattern altitude and the altitude associated with the affected portion of the adjacent instrument approach procedure. If heavy jets are involved, ensure at least 1,000 feet vertical separation. These same vertical separation guidelines must be applied when evaluating a proposed IAP when the airspace required would overlap the traffic pattern airspace at an adjacent airport.

11-1-4. AIR TRAFFIC CONTROL PROCEDURES

The extent that an airport proposal or proposed instrument approach procedure may adversely affect air traffic control (ATC) procedures may be a sufficient reason to object to or disaprove a proposal. The proposal must be thoroughly examined to determine if it would adversely affect ATC procedures by requiring a restriction on the air traffic flow, or the proposal may limit the flexibility of entry or exit to or from affected traffic patterns or airport areas. The need for establishment of, or existing noise abatement procedures may amplify such problems. When a proposed instrument approach procedure would be adjacent to the area of an instrument approach procedure to another airport, determine whether simultaneous approaches would have an adverse effect on new IAP or ATC procedures and on the requirement for instrument approaches to the adjacent airport. Should a proposed instrument approach procedure be located in a radar environment, determine the radar coverage and ATC capability to provide radar air traffic control service.

11-1-5. SAFETY OF PERSONS AND PROPERTY ON THE GROUND

In accordance with 40103(b)(2)(B), FAA personnel must evaluate the effect of a proposal on the safety of persons and property on the ground. Consideration must be given to the proximity of cities and towns, as well as flight patterns over heavily populated areas, schools, homes, hospitals, sports stadiums, outdoor theaters, and shopping centers. The evaluation must also include the effect of changes in flight operations

required by the proposal and the need for special air traffic rules. In evaluating the compatibility of proposed airports and the surrounding terrain, consider the type of aircraft anticipated to use the airport, their operational performance capability, the effective runway lengths, and whether a reasonable level of safety of persons and property on the ground can be expected. Flight Standards and Airports normally conduct reviews to determine that the safety of persons and property on the ground are protected.

11-1-6. NOISE CONSIDERATION

Part 157 does not specify that noise factors be considered, however, the FAA policy to evaluate noise factors in airport airspace analysis studies should be preserved where necessary in the public interest as part of the overall FAA noise abatement program.

a. The Air Traffic Office shall identify potential noise problem areas based on existing and/or contemplated traffic patterns and procedures. When a noise problem is anticipated, advise the airports office accordingly with recommendations and/or alternatives, such as nonstandard traffic patterns or special departure and arrival procedures, etc.

b. When an airport proposal is circularized, the Airports Office may receive comments concerning potential noise, environmental, or ecological problems.

11-1-7. AERONAUTICAL ACTIVITY

The type of aeronautical activity expected at an airport is an important consideration in the airport analysis process. The following types of activity should be considered:

a. Will the proposed operations be conducted in accordance with visual or instrument flight rules?

b. What is the expected volume of operations?

c. How many and what type aircraft will be based on the proposed airport? Be aware that a large number of aircraft may be based at a private-use airport that could generate a significant amount of traffic.

d. What is the most demanding aircraft the airport will accommodate?

11-1-8. WIND ROSE DATA

a. Visual Flight Rules - Wind conditions affect aircraft in varying degrees. In landing and takeoff, the smaller aircraft are more affected by wind, particularly crosswind components. Therefore, when studying a runway proposal, evaluate the consistency between the proposed runway alignment and the wind rose data to determine whether operations can be conducted safely.

b. Instrument Flight Rules - When evaluating a proposal to designate a single instrument landing runway at an airport, consider the consistency between this designation and the low visibility wind rose.

11-1-9. HELICOPTER INGRESS-ENGRESS ROUTES

Proposed heliports require evaluation of ingress and egress information by Flight Standards. Information supplied by AVN may be used for determining whether specific ingress-egress routes to and from heliports and helipads may be necessary to assure an adequate level of safety with respect to obstructions and/or congested areas.

Additionally, consider existing air traffic operations in proximity to a proposed heliport site and the need for specific ingress-egress routes.

11-1-10. DISPLACED THRESHOLDS AND CHANGING THE RUNWAY END

Consideration should be given to displacing a proposed runway threshold when proposed and existing objects, and/or terrain obstruct the airspace necessary for landing on or taking off from the runway. Consider changing the location of the proposed runway end only when no feasible alternatives exist (see AC 150/5300-13, Appendix 2).

11-1-11. EXISTING AIRPORTS

Evaluation on the effect of existing airports shall be made in the same manner as for other non-Federally Assisted Airport proposals under the provisions of 49 U.S.C. Section 44718. Such studies may be conducted on those airports for which there is no record of a previous aeronautical study, or on any airport when deemed necessary or appropriate.

Section 2. PROCESSING OF AIRPORT PROPOSALS BY REGIONAL AIRPORTS OFFICES

11-2-1. PROPOSALS

Airport proposals received by any FAA office shall be forwarded to the appropriate Airports Office for initial processing and study.

NOTE-
Notification under part 157 is not required for projects on Federally-assisted airports.

a. General - The Airports Office, after receipt of a proposal, will check the information submitted for correctness, clarity, completeness, and proper detail. The Airports office will verify critical data or require proponents to verify any data deemed critical. The proponent may need to be contacted if insufficient information is submitted or if significant errors appear in the submission. The Airports Office shall maintain a record by list, map, or other method so that the status of new proposals may be easily correlated with existing airports, airports under construction, or other airport proposals.

b. Establishment of New Airports - Initial review concerning the proposed construction of new airports shall include but is not limited to the following:

1. Determining conformance of the proposal with agency design criteria;

2. Identifying the objects that exceed the obstruction criteria of part 77;

3. Anticipating the operational use of the airport, including the number and type of aeronautical operations and the number of based aircraft;

4. Ascertaining whether the airport is for private or public use;

5. Identifying runway and taxiway layout in relation to compass rose data, existing or proposed obstructions, or other airports;

6. Identifying known or anticipated controversial aspects of the proposal;

7. Identifying potential noise aspects;

8. Identifying possible conflict with airport improvement and/or development or other agency plans. The Airports Division, in the NRA proposal processing, will identify all seaplane bases that may be impacted by part 157 proposals or other development on public use airports. If the airspace study reveals that a seaplane base is adversely impacted, the Airports Division will notify the seaplane base owner of the NRA proposal and the potential conflict; and

9. Obtaining runway threshold coordinates and elevations.

c. Alteration of Existing Airports - The nature and magnitude of an existing airport alteration will determine the extent of processing and analysis required. Alteration, such as new runway construction, runway realignment projects, runway extension; runway upgrading, change in status, such as VFR to IFR use, and widening of runways or taxiway/ramp areas normally require the same type of processing and study as that required for new airport construction proposals.

d. Deactivation and Abandonment of Airports -

1. Airport owners/sponsors are required to notify the FAA concerning the deactivation, discontinued use, or abandonment of an airport, runway, landing strip, or associated taxiway. On partial or specific runway deactivation proposals, a description with a sketch or layout plan and the anticipated operational changes should be forwarded together with any other pertinent information needed to update agency records.

2. When it is believed that an airport is abandoned or unreported and appropriate notification has not been received, the Airports Office, after making a reasonable effort to obtain such notification, shall advise the Air Traffic Office of the situation by memorandum. The memorandum should contain a statement that the airport is considered either abandoned or unreported. Forward a copy of the memorandum to the airport owner or sponsor, to ATA-100, and to the Airport Safety Data Branch, AAS-330.

e. Construction safety plans are received as appropriate for Airport Improvement Program requests for aid and the Airports Regional Capital Improvement Program.

f. Other Airport Notices - Occasionally, an airport owner/sponsor will make alterations or changes to the airport without filling notice in accordance with part 157. Generally, this information will be obtained through the airport safety data program (FAA Form 5010) and after-the-fact. From a legal standpoint, this constitutes notice to the FAA and appropriate action is necessary. The Airports Office shall initiate a study of such information received in the same manner as if the notice had been received under part 157 requirements.

11-2-2. AIRPORT LAYOUT PLANS (ALP)

ALPs generally show the location, character, dimensions, details of the airport, and the work to be done. The extent of information needed for any specific airport development will vary depending on the scope and character of the project, plus the anticipated role and category of the airport. Detailed information on the development of ALPs is contained in AC 150/5070-6, Airport Master Plans, and AC 150/5300-13, Airport Design.

a. Non-Federally Assisted Airports - Airports personnel will take into consideration an ALP or plan on file in developing a determination with reference to the safe and efficient use of airspace.

b. Federally Assisted Airports - Projects at Federally assisted airports require review based on considerations relating to the safe and efficient utilization of airspace, factors affecting the control of air traffic, conformance with FAA design criteria, and Federal grant assurances or conditions of a Federal property conveyance. The product of this review is derived from analysis of information supplied in the ALP. A formal or tentative determination may be given depending on the complexity of the proposal or the timing of the request. The review and subsequent determination shall be made as expeditiously as possible to facilitate processing of the project request. Normally a project is not placed under grant nor Federal property conveyed until a favorable determination is made and the ALP approved.

c. Extent of Review - A review is normally required for all proposals involving new construction or relocation of runways, taxiways, ramp areas, holding or run-up apron projects, airport and runway lighting and marking, fire and rescue building locations, and other projects affecting, or potentially affecting, the movement of aircraft. At all public-use airports, projects which conform to a previously approved non-objectionable airport layout plan for the construction or resurfacing of existing airport paving, site preparation work, or paving to overlie existing unpaved landing strips may be omitted from the normal review process. For an airport that has a construction safety plan, the plan needs to undergo the review process with appropriate FAA offices (see AC 150/5370-2, Operational Safety On Airports During Construction).

11-2-3. NON PART 157 PROPOSED CONSTRUCTION OR ALTERATION ON NON-OBLIGATED PUBLIC-USE AIRPORTS

Sponsors/proponents of non-part 157 proposals for construction or alteration on public-use airports are required to file notice with the FAA in accordance with part 77.13 (a)(5). The appropriate Airports Office will process these proposals in accordance with procedures established for part 157 proposals. Generally, these proposals will be submitted on FAA Form 7460-1 along with appropriate drawings and necessary supporting documentation. The procedures contained in part 2 of this order are not applicable to such proposals. However the information contained in part 2 may be helpful to airports personnel in applying the obstructions standards of Sections 77.23(a)(2), 77.23(a)(5), 77.25, 77.28, and 77.29.

11-2-4. FAA COORDINATION

Upon receipt of a part 157 proposal or a change to an ALP, the appropriate Airports Office shall assign an aeronautical study number, ensure that the proposal is complete and correct, review the proposal from an airport's planning viewpoint and the effect on airport programs, enter the proposal into the OE/AAA automation program, and forward a proposal package with comments to the appropriate FAA offices (e.g., Air Traffic, Flight Procedures, Flight Standards, and Airway Facilities Offices) for processing. Other organizations to consider in the review process are (if applicable) the Airport Traffic Control Tower (ATCT), System Management Office (SMO), Civil Aviation Security Field Office (CASFO), Military representative and Airports Certification Branch.

Flight Standards or the Flight Standards District Office (FSDO) will be sent all part 157 proposals for seaplane bases and heliports depending on regional preference. Comments will be provided either to the originating Airports Office or to its respective divisional offices depending on regional procedures. Additional internal coordination shall be accomplished, as appropriate, by the responsible division offices.

a. Part 157 - Include a copy of the FAA Form 7480-1 and comments on the effect of existing or proposed man-made objects on file with the FAA, plus the effect of natural growth and terrain. Direct particular attention to, and comment on object proposals that would exceed the obstruction standards of part 77. Also, comment if the review indicated a potential noise problem and, if applicable, the effect of the proposal on the safety of persons and property on the ground. Also, enclose, as appropriate, sketches and other data required for the aeronautical study and determination. Include a plot of the proposed runway alignments, associated taxiways or seaplane alignments, and any obstructions on U.S. Geological Survey quadrangle map or equivalent.

b. ALPs - Forward a copy of the ALP and include, when appropriate, an analysis of and rationale for the plan, as well as the various stages of construction, if applicable. Include information on the location of structures that may adversely affect the flight or movement of aircraft, cause electromagnetic interference to NAVAIDs, communication facilities, or derogate the line-of-sight visibility from a control tower. Should review of the plan reveal a potential noise problem, comment to this effect. Comment, as applicable, on the proximity of urban congestion and any potential problem related to the safety of persons and property on the ground. If the layout plan is a revision of one previously approved, summarize the changes for which an airspace determination is required. Also, include comments on objects that would exceed the obstruction standards of part 77 and any other Airports comments that may be appropriate.

c. Federally Assisted Airport Proposals - Transmit by letter a description of the work to be done in the proposed project. If the project is in conformance with an approved ALP, comment to this effect. If the project is at variance with the ALP, comment accordingly and forward a proposed revision to the ALP or an appropriate programming sketch that depicts the location and nature of the proposed work. Also, in the latter event, or if it is a new proposal, forward information on the appropriate items set forth in subparagraph b above.

d. Disposal or Conveyance of Federal Surplus or Non Surplus Property - Process proposals by public agencies to acquire property interest in land owned and controlled by the United States for public airport purposes as set forth in subparagraph c.

NOTE-
Military representative notification - The military representative may review all new landing area proposals (airports/heliports/seaplane bases), all proposals that have changes to existing landing areas, and all ALPs. Normally, the notification will be through the OE/AAA computer program, unless the military representative requests a hard copy. The military will review proposals, indicated by Airports for review, to determine impacts on military training routes (MTR), MOAs, and restricted areas.

11-2-5. NEGOTIATION WITH SPONSOR

a. During the course of a study, the Airports Office may find it necessary to negotiate with the sponsor to change a proposal. This may be due to a safety problem, efficient use of the airport, etc. After coordination by and agreement with the interested FAA offices (e.g., Air Traffic, Flight Procedures, Flight Standards, and Airway Facilities), Military representative negotiate with the sponsor for changes to the proposal as necessary. Advise interested FAA offices of the results of the negotiation.

b. When an airport proposal poses a problem with respect to the safe and efficient use of airspace by aircraft or with respect to the safety of persons and property on the ground, negotiate with the sponsor to revise the proposal, if feasible, so as to resolve the problem. Should a case involve a proposal for a new airport that would create problems not resolved by revisions to the proposal, negotiate with the sponsor for a relocation of the proposal to a new site to resolve the problem.

11-2-6. CIRCULARIZATION

The Airports Office should circularize airport proposals in accordance with nonrulemaking procedures as necessary to obtain comments from

aeronautical interests, municipal, county and state groups, civic groups, military representatives, and FAA facilities and offices on proposals located within their areas of responsibility. All controversial proposals and those that have a potential adverse effect on the users of the airspace should be included in the circularization process. However, do not circularize a proposal that may compromise the sponsor's position in land acquisition negotiations.

11-2-7. EVALUATE COMMENTS AND AERONAUTICAL EFFECT

The Airports Office shall examine comments received in response to coordination and evaluate their validity as related to the safe and efficient use of airspace and to the safety of persons or property on the ground. If the Airports Office's determination contains additional items and/or alterations of the responses previously received from the other FAA offices, request the appropriate Air Traffic, Flight Procedures, Flight Standards, and Airway Facilities Offices to assist in evaluating the validity of the determination. The guidelines in Chapter 12 will assist in evaluating the aeronautical effect of airport proposals.

11-2-8. INFORMAL AIRSPACE MEETINGS

The appropriate Airports Office, with the assistance of the Air Traffic Office, may convene an informal airspace meeting with interested parties as set forth in part 1 of this order. The informal airspace meeting provides the opportunity to gather additional facts relevant to the aeronautical effect of the proposal, provides interested persons an opportunity to discuss aeronautical objections to the proposal, and provides the FAA with the opportunity to negotiate a resolution to objectionable aspects of the proposal.

11-2-9. ISSUE DETERMINATION

Upon completion of the airspace study, the Airports Office shall develop and issue the FAA determination by letter to the airport sponsor in accordance with the guidelines in Chapter 12. Disapprove the request if a previous airport study determination was objectionable and remains uncorrected, or if the determination listed provisions that have not been complied with by the airport owner or sponsor. The FAA determination does not constitute a commitment to provide Federal financial assistance to implement any development contained in the proposal. Also, if the proposal is not objectionable but would exceed part 77 obstruction standards, notify the sponsor of what obstruction marking and lighting would be required or recommended. Additionally, advise the sponsor that a separate notice will be required for any construction equipment, such as temporary cranes, whose working limits would exceed the height and lateral dimensions of the proposed object.

Section 3. PROCESSING OF AIRPORT PROPOSALS BY REGIONAL FLIGHT STANDARDS OFFICES

11-3-1. EFFECT ON SAFETY OF FLIGHT

The appropriate Flight Standards Office shall perform a flight safety review of heliport and seaplane base proposals to determine whether aircraft operations can be conducted safely. Flight Standards will review a modification of standard to proposals as appropriate except for modification to the Runway Obstacle Free Area (ROFA), Obstacle Free Zone (OFZ), Taxiway Safety Area (TSA), Taxiway Obstacle Free Area (TOFA), or penetrations to the threshold siting surface or part 77 criteria. Also, the Flight Standards Office will review any proposal with runways, taxiways, and/or ramp surfaces underlying threshold-siting surfaces and proposals for declared distance concepts. Upon completion of the review, the appropriate Flight Standards Office shall submit its report to the responsible Airports Office. The report shall state whether or not safe operations can be conducted or what conditions are needed to ensure safe operations. Information provided by AVN may be used when conducting these reviews.

11-3-2. EFFECT ON SAFETY OF PERSONS AND PROPERTY ON THE GROUND

FAA Order 1000.1, Policy Statement of the FAA, states that the agency will pursue a regulatory policy that recognizes the primary right of the individual to accept personal risk. However, the agency balances this right against society's interest in the safety of the individual, and limits the individual's right to incur risk when the exercise of that right creates a risk for others. Therefore, airport aeronautical studies must consider, for example, the proposal's proximity to cities or towns, and its runway alignment with reference to heavily populated areas, schools, hospitals, sports stadiums, and shopping centers, etc.

11-3-3. ONSITE EVALUATIONS

a. Heliports - All proposals for the establishment of heliports must be given an onsite operational evaluation by operations specialists or inspectors, preferably those who are qualified on helicopters. Proposed heliports to be located in congested areas, and/or on a roof-top, should be evaluated by helicopter-qualified operations inspectors. Included in the process is the development of recommendations for assignment of ingress and egress routes, where necessary.

b. Non-Federal Agreement Airport Proposal - The Flight Standards Office performing a flight safety review will use information submitted with the FAA Form 7480-1 and any other information as may be available, such as charts, aerial photographs, etc. A flight check or an onsite inspection may be advantageous if the proposal is controversial or additional information is needed.

c. Federally Assisted Airport Proposal - The Flight Standards Office should:

1. Review the proposal from the standpoint of safety of flight operations.

2. Conduct an on-site evaluation.

3. Advise the Air Traffic Office when obstructions and/or terrain that prove to cause significant safety problems are identified.

d. The FSDO reviews part 157 seaplane base and heliport proposals.

Section 4. PROCESSING OF AIRPORT PROPOSALS BY REGIONAL FLIGHT PROCEDURES OFFICES

11-4-1. EFFECT ON INSTRUMENT PROCEDURES

a. The appropriate FPO shall determine the feasibility of instrument approach procedures, ensure that required instrument procedures are formulated, flight inspected, and published to coincide with the appropriate aeronautical charting date.

b. The appropriate FPO shall review proposals to determine any impact to existing and proposed instrument approach procedures. When the proposed airport underlies an existing or proposed instrument approach procedure the FPO will notify the appropriate Air Traffic Office.

11-4-2. CHANGE OF AIRPORT STATUS FROM VFR TO IFR

a. Establishment of Instrument Procedures - Requests for instrument approach procedures must be forwarded to the appropriate FPO. The FPO must effect coordination with the appropriate Air Traffic, Airports, and Airway Facilities Offices, as well as other offices of interest. The request for instrument approach procedures should normally be disappoved if the change in the airport status study indicates a safety problem.

b. Establishment of NAVAID - When an airport status is to be changed from VFR to IFR, notify the public by means of the nonrulemaking circular associated with the establishment of the NAVAID being installed to support the procedure.

c. Existing NAVAID - If the flight procedure is to be based upon an existing NAVAID, the public notification may be accomplished in the NPRM associated with changes to controlled airspace. If no change in airspace is required, it is recommended that the public be notified through the non-rulemaking circularization process.

d. No NAVAID Required - Public notification will be accomplished with the rulemaking action for controlled airspace.

11-4-3. EVALUATION OF INSTRUMENT RUNWAY DESIGNATIONS

The appropriate FPO shall evaluate the runway or runways to be used in the proposed instrument procedure. Consideration should be given to airport data, expected users, conflicts with IFR traffic, location of existing and proposed NAVAIDs, availability of weather information, and probable minimums.

Section 5. PROCESSING OF AIRPORT PROPOSALS BY REGIONAL AIRWAY FACILITIES OFFICES

11-5-1. ELECTROMAGNETIC OR LINE-OF-SIGHT INTERFERENCE

The Airway Facilities Office shall study airport proposals to determine if there is a possibility of electromagnetic or line-of-sight interference. Use the guidance in paragraph 6-3-3 to determine the extent of any adverse effect. At locations with an ATCT, a shadow study is required to determine if part of the aircraft operating area would be shielded from view by the control tower. In either case, when a potential problem exists, request the Airports Office to negotiate a resolution with the sponsor. If this is not possible, then proceed with the study and submit findings to the Airports Office.

11-5-2. EVALUATION OF INSTRUMENT RUNWAY DESIGNATION

The designation of an instrument landing runway may be associated with a precision type landing aid. Conduct a study of a proposal to designate an instrument landing runway to determine the feasibility of siting various components in accordance with established siting criteria. Forward comments and recommendations to Airports. Should program approval be received for the installation of an instrument landing system to serve a runway which has not been designated as an instrument landing runway, send a letter to the Airports Office requesting a study for the runway to be so designated. Include data in the letter concerning the siting of the various components, their heights, and any other comments that may be appropriate.

11-5-3. CHANGE IN AIRPORT STATUS FROM VFR TO IFR

The Airway Facilities Office shall review all proposed airport status changes to ensure that there is no effect on its functional responsibilities. Forward the study results to the FPO or Airports Division Offices, as appropriate.

11-5-4. AIRPORT PROPOSALS

Proposals vary in complexity from a single runway airport to a major air carrier airport. When NAVID facilities are part of the ALP, the Airway Facilities Office shall conduct a study to evaluate the feasibility of siting and installing the proposed facilities as well as to evaluate the effect of the proposal on existing NAVIDs. Conduct a shadow study, based on necessary data provided by the airport owner to ensure that existing or proposed structures, or natural objects, do not derogate the airport traffic control tower line-of-sight visibility of the proposed runway or taxiway. Forward the results of the study to the Airports Office.

Section 6. PROCESSING OF AIRPORT PROPOSALS BY REGIONAL AIR TRAFFIC OFFICES

11-6-1. EFFECT ON AIR TRAFFIC CONTROL OPERATIONS

The Air Traffic Office shall conduct an airspace review to evaluate the effect on the safe and efficient utilization of airspace by aircraft and the effect that such proposals may have on the movement and control of air traffic, associated resources (personnel, facilities and equipment), and ATC program planning.

a. The depth of the review shall commensurate with the location, complexity, and timing of the proposed development. The range of the study may vary from no need to review (e.g., the closing of an airport reported for record purposes) to a large effort required to process and study a proposal for a new major air carrier airport to serve a high density terminal area.

b. An airspace review shall be conducted for activation, deactivation or alteration of any landing area, reported in compliance with part 157 or an airport owner's federal obligations, for military construction projects, and at any other time deemed necessary for assessing the utilization of airspace. Include studies associated with existing airports and with disposal or conveyance of Federal property for public airport purposes, as appropriate.

c. Upon completion of the airspace review, forward the response (via the OE/AAA automation program, electronic mail, or memorandum) to the responsible Airports Office. The airspace response shall recommend approval or disapproval of the use of the airspace associated with the proposal. This response shall be in the form of no objection without conditions, no objection provided certain conditions are met, or objectionable. If the recommendation of the finding to the proposed use of the associated airspace is objectionable or to disapprove the proposal, clearly state the reasons why. If the finding is conditional, also clearly state the conditions. Care must be exercised when issuing conditional findings. When the conditions are such that a substantial adverse effect would result if not corrected (such as the blocked view to a portion of the movement area from the airport traffic control tower), then an objectionable or disapproval finding should be recommended. Include a statement that the FAA will reconsider the proposal after provisions are made to resolve the objectionable conditions.

11-6-2. COORDINATION

The reviewing Air Traffic Office shall coordinate airport proposals with other air traffic offices and facilities as appropriate.

a. Projects contemplated at airports served by an ATCT or flight service station must be coordinated with the facility manager or his/her representative prior to arriving at a finding. Documentation of the coordination performed shall be entered in the case file. The ATCT responds on the proposal to the regional ATD in accordance with local procedures.

b. Military Airport Proposals which are not part of the Military Construction Program (MCP) are normally submitted to regional air traffic offices through the regional military representatives. Those proposals shall be processed in the same manner as civil proposals except that the air traffic office is responsible for coordinating the proposals with the Airports, Flight Standards, and Airway Facilities Offices. The air traffic office is also responsible for any coordination necessary with the military regarding the proposal and issuance of the regional determination.

c. The Airports Office will coordinate and negotiate with the airport owner/sponsor to resolve problems with proposals on civil, public use airports. The Airports Office may request the air traffic office to assist in the negotiation if the problem relates to the safe and efficient utilization of the airspace.

11-6-3. AIRPORT TRAFFIC PATTERNS

a. If the appropriate VFR or IFR traffic pattern airspace area requirements overlap or if airspace requirements cannot be developed to accommodate the category and volume of aircraft anticipated at an existing or planned airport, the airport, in all cases, need not be found

objectionable from an airspace utilization standpoint if adjustments to traffic patterns (such as establishing non-standard traffic patterns, assigning specific traffic pattern altitudes, and/or developing special operational procedures) would mitigate the conflict. Such action may reduce the capacity, operational flexibility, and compatibility of the airports involved. The air traffic office shall determine if airspace areas overlap. If the airport proposal's traffic pattern conflicts with the pattern of an adjacent airport and the conflict could be eliminated by adjusting only the proposal's pattern, the air traffic office will specify the traffic pattern to be used as a condition of the proposal's determination.

b. If an adjacent traffic pattern needs to be adjusted to solve a conflict and the pattern adjustment can be made safely, the Airports Office will request assistance from the Air Traffic Office in negotiating with the adjacent airport owner/manager for agreement in writing to the traffic pattern adjustment. If a non-standard traffic pattern adjustment is made at a public-use airport with other than a full-time control tower, then visual indicators at the airport are required, in accordance with AC 150/5340-5, Segmented Circle Airport Marker System. If night operations are conducted or planned at the airport, then floodlighting of the segmented circle is necessary.

c. The traffic pattern airspace associated with an airport proposal may not overlap the traffic pattern of an adjacent airport.

11-6-4. PART 77 REVIEW

Review proposed structures and existing terrain or objects that exceed part 77 obstruction standards to determine the extent of adverse effect and recommend marking/lighting if needed. If the review indicates obstructions that are potential hazards to the airport proposal, forward the airspace finding to the Airports Office. The airspace use associated with a new airport or airport alteration proposal should normally be considered as objectionable (or disapproved for AIP) if the study discloses an adverse effect that cannot be mitigated.

11-6-5. DESIGNATION OF INSTRUMENT RUNWAY/CHANGE IN AIRPORT STATUS VFR TO IFR

The processing required by air traffic offices depends upon the action necessary for establishment of the instrument approach procedure. This can involve the establishment of NAVAIDs, nonrule or rulemaking circularization and associated actions, the need for communications, weather reporting, and the capability of providing air traffic control service. In conducting the airspace review, determine the viability of establishing a reasonable instrument approach procedure and the acceptability of the airport environment for the proposed procedure. Also, evaluate the effect of the proposed procedure on existing or proposed IFR or VFR aeronautical operations at the airport in question and/or adjacent airports. Be particularly alert to previously issued "no objection" determinations which include a provision/condition for VFR only operations. Forward the finding to the responsible office. Airports shall coordinate and circularize all VFR to IFR changes for all part 157 proposals and airport layout plans (see paragraph 11-2-9).

11-6-6. ONSITE EVALUATION

The need for onsite evaluations will be determined by the airspace review results. Onsite evaluations may be especially necessary when the review indicates the presence of unsafe conditions. The Air Traffic office should assist the Airports, Flight Standards, and FPOs in the onsite evaluation, as appropriate.

NOTE-
Noise consideration, see paragraph 11-1-6.

Chapter 12. AIRPORT DETERMINATIONS

Section 1. GENERAL

12-1-1. RESPONSIBILITY

The Airports Office is responsible for formulating and issuing the official determination. That determination shall incorporate the division's responses and other pertinent issues. If the official determination differs from the responses as a result of the airspace coordination, the Airports Office shall obtain a concurrence from the appropriate, responsible FPO, Air Traffic, Airway Facilities, and Flight Standards divisions. The Airports Office shall also assure that each determination issued conforms to established policy, procedures, and guidelines. Controversial proposals may require special handling, but no determination shall be issued which would be contrary to agency policy until the matter has been coordinated with and approved by the Associate Administrator for Airports, and the Associate Administrator for Air Traffic.

12-1-2. TERMINOLOGY

The following terminology shall be used in FAA determinations:

a. Part 157 Airports -

1. "No Objection" to the proposal - A "no objection" determination concludes that the proposal will not adversely affect the safe and efficient use of airspace by aircraft and will not adversely affect the people or property on the ground.

2. "Conditional No Objection" to the proposal - A "conditional no objection" determination concludes the proposal will not adversely affect the safe and efficient use of navigable airspace by aircraft provided certain conditions are met (specify the conditions).

3. "Objection" to the proposal - An "objection" determination will specify the FAA's reasons for issuing such a determination.

b. ALP - An ALP is a graphic depiction of the existing and future airport facilities showing the clearance and dimensional requirements to meet applicable standards. The ALP serves as a record of aeronautical requirements and is used by the FAA in its review of proposals that may affect the navigable airspace or other missions of the FAA.

1. Approved - An approved ALP is one that has met all the applicable requirements as set forth the appropriate FAA documents. In order for an ALP to be unconditionally approved, the appropriate FAA offices must have reviewed and approved the location, type, and dimension of all proposed development. In addition, all proposed development shall have been subject to the appropriate environmental processing and have written approval by the FAA.

2. Conditional Approval - The conditional approval of an ALP is one that has met all the applicable requirements. An ALP that has been conditionally approved is one where the proposed development has received conceptual approval by the appropriate FAA office. The proposed development has not received approval as to the final location, type, and dimension of all proposed development. New structures would require the submission of FAA Form 7460-1. In addition, where the appropriate environmental processing has not occurred, a conditional ALP approval would be required.

12-1-3. CONDITIONAL DETERMINATIONS

When the airport study results in a conditional determination, then clearly set forth the conditions in the determinations to avoid any misunderstanding.

a. IFR/VFR Status - If the intent of a conditional determination is to restrict or defer the establishment of an instrument approach procedure because of conflict with other IFR procedures in a particular area or to restrict aircraft operations to VFR weather conditions, then these conditions should be clearly defined in the determination to avoid possible misunderstanding. For example, the phrase "VFR operations only" should not be used when the intent is to restrict the establishment of an instrument approach procedure but not necessarily restrict IFR departures. If the intent is to restrict all IFR operations, the determination should identify specific weather conditions rather

than relate to VFR operations, or it should be written to specifically prohibit IFR operations.

b. Traffic Patterns - If there is a need to establish specific airport traffic patterns to ensure compatibility of aircraft operations with adjacent airports, or for other reasons, set forth the specific traffic pattern requirement as a condition.

c. Runway Thresholds - When the determination concerns a proposed runway construction, and existing objects will obstruct the airspace needed for arrivals or departures, and if the obstructions cannot be removed or mitigated due to lack of control by the airport sponsor or other compelling reasons, the conditions can stipulate displacement of the runway threshold or changing the location of the runway end to provide clearance over the obstructions. If you use this condition, ensure that the remaining runway length is sufficient to safely accommodate the most critical aircraft expected to use the runway. Perhaps it may be feasible, or more desirable, for the obstructions to be removed rather than shorten the runway. If so, you may give the airport sponsor this option. However, when the study indicates the runway threshold can safely be displaced or the runway end changed, use the following wording in the determination's conditions:

1. "The runway threshold is displaced and properly marked and lighted so as to provide obstacle clearance in accordance with appropriate airport design standards."

2. "The runway end is changed and properly marked and lighted so as to clearly indicate that portion of runway which is closed to pilots for takeoff and landing."

d. Ingress-Egress Routes - When the determination concerns a heliport, it may be necessary to specify ingress-egress routes in the conditions placed on the determination (see paragraph 11-1-9).

e. Other Conditions - Specify in the determination any other items which are feasible and necessary to assure the safe and efficient use of the airspace by aircraft and the safety of persons and property on the ground.

12-1-4. EXPIRATION DATES

a. The establishment of a expiration date shall be included in the determinations as appropriate. Expiration dates (normally 18 months) allow for the orderly planning of airports by providing realistic time limitations for the completion of airport projects. The expiration date may be extended if a proponent's reason for not completing the project by the specified time is valid. When establishing expiration dates on determinations issued under part 157, include the following statement: "In order to avoid placing any unfair restrictions on users of the navigable airspace, this determination is valid until [date]. Should the facility not be operational by this date, an extension of the determination must be obtained."

b. Expiration dates generally are not appropriate for ALP approvals and airspace approvals of other planning projects.

12-1-5. STATEMENT IN DETERMINATIONS

a. No Objections or Conditional - Include the following statement in the determination forwarded to the proponent:

1. "This determination does not constitute FAA approval or disapproval of the physical development involved in the proposal. It is a determination 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."

2. "In making this determination, the FAA has considered matters such as the effects the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA), and known natural objects within the affected area would have on the airport proposal."

3. "The FAA cannot prevent the construction of structures near an airport. The airport environs can only be protected through such means as local zoning ordinances, acquisitions of property in fee title or aviation easements, letters of agreement, or other means."

b. Objectionable - Include the following statement in the determination forwarded to the proponent: "This is a determination 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. In making this determination, the FAA has considered matters such as the effect the proposal would have on existing or planned traffic patterns of neighboring airports, the effects it would have on the existing airspace structure and projected programs of the FAA, the effects it would have on the safety of persons and property on the ground, and the effects that existing or proposed manmade objects (on file with the FAA) and natural objects within the affected area would have on the airport proposal."

c. Notice of Completion - Include a reminder that the sponsor is required to notify the nearest Airport District Office (ADO) or regional office within 15 days after completion of the project. For a part 157 airport, this is accomplished by returning the FAA Form 5010-5 to the appropriate Airport office.

12-1-6. AIRPORT MASTER RECORD

When appropriate, enclose within the determination, FAA Form 5010, Airport Master Record, and include a statement in the determination letter providing the sponsor guidance on its use.

12-1-7. ADVISE FEDERAL AGREEMENT AIRPORT SPONSORS

When a determination is sent to the sponsor, include the following additional statement:

"This determination does not constitute a commitment of Federal funds and does not indicate that the proposed development is environmentally acceptable in accordance with applicable federal laws. An environmental finding is a prerequisite to any major airport development project when Federal aid will be granted for the project. This approval is given subject to the condition that the proposed airport development identified below shall not be undertaken without prior written environmental approval by the FAA. These items include [list items] (see FAA Order 5050.4A, Chapter 3, for more information)."

12-1-8. DISSEMINATION OF STUDY RESULTS

The Airports Office shall make available to FAA offices that participated in the study a copy of each determination issued. Include a copy to AAS-330 for part 157 proposals. AAS-330 shall be provided a copy of the entire airspace determination when the FAA Form 5010-5, is returned from the proponent. Additionally, the results of an airport study circularized outside the FAA or discussed in an informal meeting should be disseminated by the Airports Office to those persons/offices on the circular distribution list, attendees at the informal airspace meeting, and any other interested person, as soon as feasible after the sponsor has been notified. Outside of agency distribution shall be in the form of a notice "To All Concerned." Include in the notice the aeronautical study number together with a brief summary of the factors on which the determination was based and a recital of any statement included in the determination. In addition, if a conditional statement concerning environmental acceptability has been included in the determination to the proponent, include a similar statement in the notice.

12-1-9. REVIEW OF SENSITIVE OR CONTROVERSIAL CASES AND PART 157 DETERMINATIONS

a. Interested persons may, at least 15 days in advance of the determination void date, petition the FAA official who issued the determination to:

1. Revise the determination based on new facts that change the basis on which it was made; or

2. Extend the determination void date. Determinations will be furnished to the proponent, aviation officials of the state concerned, and, when appropriate, local political bodies and other interested persons.

b. The petition must be based on aeronautical issues and will not be accepted after airport construction has begun. The appropriate regional office should attempt to resolve the issue(s) in the following manner:

1. Informal Meeting - The Airports Office should hold a special informal airspace meeting with all interested parties when requested.

Emphasize that the scope of an airport study analysis is limited, and that the FAA's determination is based on the safe and efficient use of navigable airspace by aircraft and the safety of persons and property on the ground (see paragraph 12-1-5). The Air Traffic Office shall assist in the meeting when requested by Airports.

2. Reevaluate - If any new factors regarding the safe and efficient use of the airspace become known as a result of the informal meeting then re-evaluate the airport proposal. Affirm or revise the original determination as appropriate.

3. Public Hearing - The regulations provide no right to, or procedures for, a public hearing regarding airport matters. An airport airspace determination is only advisory and for the FAA's own use. Circularization and, where required, informal airspace meetings should be sufficient to provide interested persons a forum to present their views. When Federal funds are, or will be involved in the airport or its development, there is a right to a public hearing on site location, but no similar right exists to a hearing on airspace matters. If a party is emphatic in their demand for a public hearing ATA-1, through the regional ATD, should be notified and there shall be no implication made that a hearing may be granted. It is general policy not to grant such hearings. However, should circumstances dictate otherwise, ATA-1 would direct the conduct of the hearing to be informal in nature, not within the scope of the Administrative Procedures Act, and the subject matter would be limited to the scope of the airspace analysis (i.e., the safe and efficient use of navigable airspace by aircraft).

12-1-10. DISPOSAL OF FEDERAL SURPLUS REAL PROPERTY FOR PUBLIC AIRPORT PURPOSES

a. Site Endorsement - The FAA shall study and officially endorse the site before property interest in land owned and controlled by the United States is conveyed to a public agency for public airport purposes.

b. Processing Procedures - Surplus Federal property cases shall be processed in the same manner as Federal airport proposals.

Chapter 13. MILITARY, NASA, AND OTHER AGENCY AIRPORT PROPOSALS

Section 1. General

13-1-1. PRIOR NOTICE TO FAA

49 U.S.C. Section 44718 provides, in part, that the Department of Defense (DoD), the National Aeronautics and Space Administration (NASA), or other agencies shall 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 ATA-400 for review and processing. ATA-400 shall coordinate with appropriate Headquarters ATP, Flight Technologies and Procedures, and Spectrum Policy and Management Offices prior to forwarding the proposal to the regional office for study. Any problems with the proposal at the Headquarters level should be resolved prior to requesting regional input.

13-1-4. REGIONAL OFFICE REVIEW

ATA-400 will then forward the projects to the appropriate regional office for processing in the same manner as civil airport proposals, except that regional ATD are responsible for the study. The determination and recommendation on the proposal, plus all pertinent comments and related material, shall be forwarded to ATA-400 by the regional ATD. The official FAA determination shall be formulated by ATA-400 after review and any required inter-services coordination and forwarded to DoD, NASA, or other agencies as appropriate. A copy of the determination shall be forwarded to the affected regional 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 office. These proposals shall 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 shall coordinate with the ATD, Flight Standards Division, Airway Facilities Division, FPO, and other offices as required for formulation of the official FAA determination. The determination shall be issued to the appropriate regional military representative with a copy to ATA-400.

b. When a controversial proposal is referred to Washington Headquarters for resolution, the airspace finding and official agency determination shall be formulated by the AAS-100 in coordination with ATA-400 and other offices, as required, and forwarded to the appropriate regional military representatives through the regional office.

PART 4
TERMINAL AND EN ROUTE AIRSPACE

Part 4. TERMINAL AND EN ROUTE AIRSPACE

Chapter 14. DESIGNATION OF AIRSPACE CLASSES

Section 1. GENERAL

14-1-1. PURPOSE

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

14-1-2. DEFINITIONS

a. CONTROLLED AIRSPACE - An airspace of defined dimensions within which ATC service is provided to IFR flights and to VFR flights in accordance with the airspace classification (The below listed airspace areas are depicted in NO TAG).

1. Controlled airspace is a generic term that covers Class A, Class B, Class C, Class D, and Class E airspace areas.

2. Controlled airspace is also that airspace within which all aircraft operators are subject to certain pilot qualifications, operating rules, and equipment requirements in 14 CFR part 91 (for specific operating requirements, please refer to 14 CFR part 91). For IFR operations in any class of controlled airspace, a pilot must file an IFR flight plan and receive an appropriate ATC clearance. Each Class B, Class C, and Class D airspace area designated for an airport contains at least one primary airport around which the airspace is designated (for specific designations and descriptions of the airspace classes, please refer to 14 CFR part 71).

3. Controlled airspace in the United States is designated as follows:

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

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

(c) CLASS C AIRSPACE AREA - Generally, that airspace from the surface to 4,000 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower, are serviced by a radar approach control, and that have a certain number of IFR operations or passenger enplanements. Although the configuration of each Class C area is individually tailored, the airspace usually consists of a surface area with a 5 NM radius, an outer circle with a 10 NM radius that extends from 1,200 feet to 4,000 feet above the airport elevation. Each person must establish two-way radio communications with the ATC facility providing air traffic services prior to entering the airspace and thereafter maintain those communications while within the airspace.

(d) CLASS D AIRSPACE AREA - Generally, that airspace from the surface to 2,500 feet above the airport elevation (charted in MSL) surrounding those airports that have an operational control tower. The configuration of each Class D airspace area is individually tailored and when instrument procedures are published, the airspace will normally be designed to contain the procedures. Arrival extensions for instrument approach procedures may be Class D or Class E airspace. Unless otherwise authorized, each person must establish two-way radio communications with the ATC facility providing

air traffic services prior to entering the airspace and thereafter maintain those communications while in the airspace. No separation services are provided to VFR aircraft.

(e) CLASS E AIRSPACE AREA - Generally, if the airspace is not Class A, Class B, Class C, or Class D, and it is controlled airspace, it is Class E airspace. The types of Class E airspace areas are:

(1) Surface Area Designated for an Airport - When designated as a surface area for an airport, the airspace will be configured to contain all instrument procedures.

(2) Extension to a Surface Area - There are Class E airspace areas that serve as extensions to Class B, Class C, and Class D surface areas designated for an airport. Such airspace provides controlled airspace to contain standard instrument approach procedures without imposing a communications requirement on pilots operating under VFR.

(3) Airspace Used for Transition - There are Class E airspace areas beginning at either 700 or 1,200 feet AGL used to transition to/from the terminal or en route environment.

(4) En Route Domestic Areas - There are Class E airspace areas that extend upward from a specified altitude and are en route domestic airspace areas that provide controlled airspace in those areas where there is a requirement to provide IFR en route ATC services but the Federal airway system is inadequate.

(5) Federal Airways - The Federal airways are Class E airspace areas and, unless otherwise specified, extend upward from 1,200 feet to, but not including, 18,000 feet MSL. The colored airways are green, red, amber, and blue. The VOR airways are classified as Domestic, Alaskan, and Hawaiian.

(6) Unless designated at a lower altitude, Class E airspace begins at 14,500 feet MSL to, but not including 18,000 feet MSL overlying: the 48 contiguous States including the waters within 12 miles from the coast of the 48 contiguous States; the District of Columbia; Alaska, including the waters within 12 miles from the coast of Alaska, and that airspace above FL 600; excluding the Alaska peninsula west of long. 160°00'00"W., and the airspace below 1,500 feet above the surface of the earth unless specifically so designated.

b. Offshore/Control Airspace Areas - Airspace areas beyond 12NM from the coast of the United States, wherein ATC services are provided.

c. UNCONTROLLED AIRSPACE -

1. CLASS G AIRSPACE AREA - Airspace that has not been designated as Class A, Class B, Class C, Class D, or Class E airspace.

14-1-3. GOVERNING CRITERIA

Controlled airspace in terminal areas shall be designated, modified, or discontinued in accordance with the policy, procedures, and criteria contained herein.

14-1-4. MILES

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

EXAMPLE-
3.62 miles would be considered to be 3.7 miles.

14-1-5. AIRSPACE LEGAL DESCRIPTION

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

1. On line one:

(a) FAA routing symbol of the region.

(b) Two letter abbreviation of the state.

(c) Type of airspace.

2. On line two: Enter the name of the airport and, if different, preceded by the name of the city.

3. If applicable, on line three: Enter the geographic coordinates for the reference used to describe the airspace, that is, geographic position, airport reference point, NAVAID, etc.

4. If applicable, on subsequent lines: Enter any NAVAID or airport, including geographic coordinates, used in the legal description.

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, the way to distinguish between the classes is to separate the description of basic radius from the extension description by using a semi-colon.

NOTE-
Do not include a vertical limit for any extension(s) that will become Class E airspace. See FIG 14-1-1 for examples of airspace legal descriptions.

EXAMPLES OF AIRSPACE LEGAL DESCRIPTIONS

ANE MA B BOSTON, MA
Logan International Airport (Primary Airport)
(lat. 42°21'51"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.

ASW LA C SHREVEPORT REGIONAL AIRPORT, LA
Shreveport Regional Airport, LA
(lat.32°26'48"N, long.93°49'33"W)

Barksdale AFB, LA
(lat.32°30'07"N, long.93°39'46"W)

That airspace extending upward from the surface to and including 4,300 feet MSL within a 5-mile radius of the Shreveport Regional Airport, and that airspace extending upward from 1,600 feet MSL to and including 4,300 feet MSL within a 10-mile radius of the airport, excluding that airspace designated as the Barksdale AFB, LA, Class C airspace area east of the points where the 10-mile radius from Shreveport Regional Airport intersects the 10-mile radius from Barksdale AFB.

AEA VA D MANASSAS MUNICIPAL

Harry P. Davis Airport, Manassas, VA
(lat.38°43'17"N, long,77°30'56"W)

That airspace extending upward from the surface to and including 2,000 feet MSL within a 4-mile radius of the Manassas Municipal/Harry P. Davis Airport; and that airspace extending upward from the surface within 2.6 miles either side of a bearing 025° from the airport extending from the 4-mile radius to 7.5 miles northeast of the airport and excluding that airspace within the Washington Tri-Area Class B area.

FIG 14-1-1

Chapter 15. CLASS B AIRSPACE

Section 1. General

15-1-1. PURPOSE

a. The primary purpose of a Class B airspace area is to reduce the potential for midair collisions in the airspace surrounding airports with high density air traffic operations. Aircraft operating in these airspace areas are subject to certain operating rules and equipment requirements.

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

15-1-2. REGIONAL EVALUATION

a. Regional ATD shall bi-annually evaluate existing and candidate Class B 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 shall follow the applicable procedures in this order.

c. Additionally, any planned modifications to, or establishments of, Class B airspace areas shall be coordinated with ATA-400 prior to any public announcement.

Section 2. CLASS B AIRSPACE STANDARDS

15-2-1. CRITERIA

a. The criteria for considering a given airport as a candidate for a Class B airspace designation must be based on factors that include the volume of aircraft and 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 new Class B airspace candidate, the following criteria must be met:

1. The primary airport serves at least 3.5 million passengers enplaned annually; or

2. The primary airport has a total airport operations count of 300,000 (of which 50 percent are air carriers).

NOTE-
Operation counts are available from the Office of Aviation Policy, APO-110. Enplaned passenger counts may be obtained by contacting the Office of Airport Planning and Programming Division, APP-400. Current validated counts are normally available in mid-October of the current year for the previous year.

15-2-2. DESIGNATION

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

15-2-3. CONFIGURATION

a. General Design - Simplification of the Class B airspace area configuration is a prime requisite. Its vertical and lateral limits should be standardized and shall be designed to contain all instrument procedures within Class B airspace. The number of sub-areas should be kept to a minimum.

b. Lateral Limits - This airspace should be initially designed in a circular configuration centered on the primary airport. Describe the airspace area using NAVAIDs as references where available on the primary airport in the following order of preference: VORTAC, VOR/DME, etc.

1. The outer limits of the airspace shall not exceed a 30 NM radius from the primary airport.

2. This 30 NM radius will generally be divided into three concentric circles: an inner 10 NM radius, a middle 20 NM radius, and an outer 30 NM radius.

3. The inner 10 NM radius area may be subdivided based on operational needs, runway alignment, adjacent regulatory airspace, or adjacent airports.

4. The areas between 10 to 20 NM and 20 to 30 NM may be vertically subdivided because of terrain or other regulatory airspace.

c. Vertical Limits - The upper limit of the airspace normally should not exceed 10,000 feet MSL. The inner 10 NM area shall normally extend from the surface to the upper limits of the airspace. This segment may be adjusted to coincide with runway alignment, adjacent airports, other regulatory airspace, etc., but shall encompass, as a minimum, all final approach fixes and minimum altitudes at the final approach fix. The floor of the area between 10 and 20 NM shall be predicated on a 300-foot per NM gradient for 10 NM. This segment will normally have a floor between 2,800 feet and 3,000 feet above airport elevation. This floor shall remain constant for that segment, but may be adjusted considering terrain and adjacent regulatory airspace. However, segmentation should be held to an absolute minimum. The floor of the area between 20 and 30 NM shall be at an altitude consistent with approach control arrival and departure procedures. It is expected that this floor would normally be between 5,000 and 6,000 feet above airport elevation. In the segment between 20 and 30 NM, exclusions are permitted to accommodate adjacent regulatory airspace and/or terrain.

d. Variations - Any variation from the standard configuration shall be addressed in the staff study.

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

Section 3. CLASS B AIRSPACE PROCESSING

15-3-1. RESPONSIBILITIES

a. The ATA-400 Manager is responsible for oversight of the Class B airspace designation/ modification process. All NPRMs and final rules shall be issued by ATA-400. ATA-400 will provide assistance, as needed, to the regions in developing Class B airspace actions

b. The regional ATD is responsible for coordination to determine Class B airspace candidacy, or the need for modifications to an existing area. As part of this responsibility, the ATD shall perform an analysis of the Class B airspace candidate and document the analysis in a staff study. Preparation of the staff study may be delegated to the facility.

15-3-2. STAFF STUDY

The staff study shall be in the format detailed in Order 1800.2, Evaluations, Appraisals, and Staff Studies. At a minimum, the staff study shall include the following:

a. A written description and the graphic depiction of the proposed area.

b. Graphic depiction(s) and analysis of the following:

1. Existing routes with associated altitudes that VFR traffic use while operating en route through the area or transitioning to all affected airports (charted VFR flyways).

2. Proposed VFR Flyways, with associated altitudes that would be charted to accommodate VFR aircraft desiring to transit the Class B airspace area (see Order 7210.3, Chapter 11).

3. A redundant boundary description including VOR/DME and latitude and longitude points outlining the proposed Class B area. In addition, where possible, include geographical features.

4. Routes with associated altitudes that IFR traffic use to conduct en route operations through the area being analyzed.

5. IFR departure and arrival traffic flows, including SIAPs, instrument departure procedures, STARs, and preferential arrival and departure routes associated with each runway configuration.

c. A narrative discussion and rationale of the following:

1. Number of aircraft based and types of operations conducted at affected airports.

2. Numbers of VFR operations that receive ATC service, that are denied service, and that circumnavigate the present terminal airspace configuration. Include any anticipated increase or decrease in these numbers if a Class B airspace configuration is modified or so designated.

3. Average delay in minutes now experienced by VFR operations in obtaining ATC services, and any anticipated increase or decrease in this number.

4. The facility's ability to provide ATC service to IFR and VFR traffic within the boundaries of its delegated airspace.

d. Analyses of staffing options, and issues, such as:

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

2. Major proposals/comments submitted by user groups and an analysis and/or disposition of each.

3. Impact on air traffic and air navigation facilities including new or modified control positions required, if any, and new or relocation of navigational aids/communication equipment.

e. Environmental considerations.

f. Conclusions - Include a discussion on how the proposed establishment or modification will enhance safety and the efficiency of airspace management.

15-3-3. AIRSPACE USERS COORDINATION

a. Pre-NPRM - The regional ATD shall ensure that user input is sought and considered prior to formulating any planned Class B airspace area design.

1. An ad hoc advisory committee, composed of representatives of local airspace users, shall be formed to present input or recommendations to the FAA regarding the proposed design of the Class B

airspace area. The regional ATD should provide advice and assistance on technical matters to the committee as needed.

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

3. Based on the results of the region's analysis and the staff study, the regional ATD shall determine whether the effort should be continued to NPRM or terminated. The regional ATD will forward the proposal, all pertinent documentation (including advisory committee and informal airspace meeting input), and the region's recommendations, to ATA-400 for further action. If it is determined to proceed with the rulemaking process, ATA-400 will prepare the NPRM.

b. Post-NPRM - The regional ATD shall:

1. Review all comments received in response to the NPRM and informal airspace meeting(s).

2. Coordinate with the concerned facility to address all substantive aeronautical comments.

3. Forward a discussion of how each substantive comment was addressed, along with the region's recommendation for final action on the proposal, to ATA-400.

Chapter 16. CLASS C AIRSPACE

Section 1. GENERAL

16-1-1. PURPOSE

Class C airspace areas are designed to improve aviation safety by reducing the risk of midair collisions in the terminal area and enhance the management of air traffic operations therein.

16-1-2. NONRULEMAKING ALTERNATIVES

Before initiating rulemaking actions to establish Class C airspace, exhaust all nonrulemaking alternatives that provide for an acceptable level of safety and are consistent with the objectives of standardization and simplification. Such alternatives include, for example, the following actions:

a. Improved radar services.

b. Pilot/controller education programs and aviation education safety seminars.

16-1-3. REGIONAL EVALUATION

a. Regional ATD shall bi-annually evaluate existing and candidate Class C airspace areas using the information contained in this chapter as a guideline.

b. If the conclusion of an evaluation indicates that airspace establishment or modifications should be made, regions shall follow the applicable procedures in this order.

c. Additionally, any planned modifications to or establishments of Class C airspace areas shall be coordinated with ATA-400 prior to any public announcement.

16-1-4. CLASS C AIRSPACE

a. A provision may be incorporated in part-time Class C airspace 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 shall be issued which provides the following statement in the specific airspace designation: "This Class C airspace 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 shall be carried in the following publications as applicable:

1. The Airport/Facility Directory for the contiguous United States, Puerto Rico, and Virgin Islands.

2. United States Flight Information Publication Supplement Alaska.

3. The Pacific Chart Supplement.

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 office. The regional ATD shall assure that such action is justified and in the public interest.

Section 2. CLASS C AIRSPACE STANDARDS

16-2-1. CRITERIA

a. The criteria for considering a given airport as a candidate for Class C designation must be based on factors which include 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 in the terminal area hub; or

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

NOTE-
Operations counts are available from the Office of Aviation Policy, APO-110 Enplaned passenger counts may be obtained by contacting the Office of Airport Planning and Programming Division, APP-400. Current validated counts are normally available in mid-October of the current year for the previous year.

16-2-2. DESIGNATION

Class C airspace area locations shall include a single primary airport around which the Class C airspace is designated.

16-2-3. CONFIGURATION

a. General Design - Simplification and standardization of Class C airspace areas are prime requisites. Lateral and vertical limits shall be in accordance with the following, to the extent possible.

b. Lateral Limits - Class C airspace areas should initially be designed as two circles centered on the airport reference point. The inner circle should have a 5 NM radius, and the outer circle should have 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 this area.

c. Vertical Limits - The ceiling of a Class C airspace should be 4,000 feet above the primary airport's field elevation. The airspace within the 5 NM circle shall extend down to the surface. The airspace between the 5 and the 10 NM circle(s) shall extend no lower than 1,200 feet AGL.

d. Variations - Any variation from the standard configuration identified shall be addressed in the appropriate staff study. (The number of sub-areas shall 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

Class C airspace areas may be designated full-time or part-time. If part-time, the effective time shall be stated in local time.

Section 3. CLASS C AIRSPACE PROCESSING

16-3-1. RESPONSIBILITIES

a. The ATA-400 Manager is responsible for oversight of the Class C airspace designation/modification process. All NPRMs and final rules shall be issued by ATA-400. ATA-400 will provide assistance, as needed, to the regions in developing Class C airspace actions.

b. The regional ATD is responsible for coordination to determine Class C airspace candidacy, or the need for modifications to an existing area. As part of this responsibility, the ATD shall perform an analysis of the Class C airspace candidate and document the analysis in a staff study. Preparation of the staff study may be delegated to the facility.

16-3-2. STAFF STUDY

The staff study shall be in the format detailed in Order 1800.2. At a minimum, the staff study shall include the following:

a. Traffic volume, density, and breakdown by category.

b. Geographical features, adjacent airspace, and ATC facilities.

c. A description of the terminal area including:

1. VFR traffic flow into, out of, and through the area.

2. IFR traffic flow in the affected en route structure including transition routes.

3. IFR traffic flow in conjunction with runway configuration, SIAPs, instrument departure procedures, STARs, and preferential arrival and departure routes.

4. The names and locations of satellite airports and a breakdown of air traffic at each, by category.

5. A general description of air traffic operations in the area.

d. A complete analysis of:

1. Major proposals submitted by users.

2. Near midair collision assessment.

3. The advantages and disadvantages of Class C airspace establishment.

4. Any budgetary impact on air traffic control and air navigation facilities, e.g., new or modified control positions, new or modified communications equipment, the capability of the facility to provide Class C services to the extent possible at minimum cost, and installation of new or relocation of existing navigational aids.

5. An assessment of the economic impact on users.

e. A statement regarding the actions taken to comply with paragraph 16-1-2.

f. The conclusions reached based on the analysis of the options and issues. The need to enhance safety shall be the main factor in evaluating the options and issues.

16-3-3. AIRSPACE USERS COORDINATION

a. Pre-NPRM - The regional ATD shall ensure that user input is sought and considered prior to formulating any planned Class C airspace area design.

1. An ad hoc advisory committee, composed of representatives of local airspace users, shall be formed to present input or recommendations to the FAA regarding the proposed design of the Class C airspace area. The regional ATD should provide advice and assistance on technical matters to the committee as needed.

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

3. Based on the results of the region's analysis and the staff study, the regional ATD shall determine whether the effort should be continued to NPRM or terminated. The regional ATD will forward the proposal, all pertinent documentation (including advisory committee and informal airspace meeting input), and the region's recommendations, to ATA-400 for further action. If it is determined to proceed with the rulemaking process, ATA-400 will prepare the NPRM.

b. Post-NPRM - The regional ATD shall:

1. Review all comments received in response to the NPRM and informal airspace meeting(s).

2. Coordinate with the concerned facility to address all substantive aeronautical comments.

3. Forward a discussion of how each substantive comment was addressed, along with the region's recommendation for final action on the proposal to ATA-400.

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. Regional ATD 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 airspace and identified as either Class E 2, E 3 or E 4, see Order 7400.9, Airspace Designations and Reporting Points.

c. The designation of navigable airspace outside of the United States is the responsibility of ATA-400 (e.g., U.S. territories).

17-1-2. REGIONAL EVALUATION

a. Regional ATD shall bi-anually 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 shall 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. Shall be designated where a FAA control tower is in operation.

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

c. Shall 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 shall be stated in universal time (UTC).

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 shall 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 shall be carried in the following publications as applicable:

1. The Airport/Facility Directory for the contiguous United States, Puerto Rico, and Virgin Islands.

2. United States Flight Information Publication Supplement Alaska.

3. The Pacific Chart Supplement.

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 office. The regional ATD shall assure that such action is justified and in the public interest.

Section 2. CLASS D AIRSPACE STANDARDS

17-2-1. CONFIGURATION

a. A Class D airspace area shall be of sufficient size to:

1. Allow for safe and efficient handling of operations.

2. Contain IFR arrival operations while between the surface and 1,000 feet above the surface and IFR departure operations while between the surface and the base of adjacent controlled airspace.

b. Size and shape may vary to provide for 1 and 2 above. The emphasis is that a Class D area shall be sized to contain the intended operations.

17-2-2. AIRPORT REFERENCE POINT/GEOGRAPHIC POSITION

The Class D airspace boundary should normally be based on the airport reference point (ARP) or the geographic position (GP) of the primary airport. The ARP/GP is the center of the airport expressed in coordinates and should be incorporated into the surface area's legal description.

NOTE-
Under certain conditions, the ARP/GP can change. If this occurs, the airspace should be reviewed to ensure the instrument procedures are still contained within existing airspace.

17-2-3. SATELLITE AIRPORTS

a. Using shelves and/or cutouts to the extent practicable, exclude satellite airports from the Class D airspace area (see FIG 17-2-3).

b. Satellite airports within arrival extensions may be excluded using the actual dimensions of the TERPs trapezoid.

c. Do not exclude airports inside the TERPs primary obstruction clearance area of the procedure(s) for which the surface area is being constructed or when the exclusion would adversely affect IFR operations.

17-2-4. ADJOINING CLASS D AIRSPACE AREAS

Designate separate Class D airspace area for airports in proximity to each other. A common boundary line shall be used so that the airspace areas do not overlap. When operationally advantageous, the common boundary separating adjacent Class D areas may be eliminated if the areas are contained in an existing Class B or Class C airspace area controlled by the same IFR ATC facility.

17-2-5. DETERMINING CLASS D AREA SIZE

The size of a Class D area, and any necessary extensions, is determined by the use of a 200 feet per NM climb gradient and information obtained from the person responsible for developing instrument procedures (see FIG 17-2-1).

NOTE-
Normally, the person responsible for developing instrument procedures for civil and U.S. Army airports is a FAA Aviation Standards Airspace Evaluation Specialist. A military representative handles all other military procedures.

17-2-6. DEPARTURES

a. When diverse departures are authorized, design the Class D area using a radius of 3.5 NM plus the distance from the ARP/GP to the departure end of the outermost runway (see FIG 17-2-1).

b. When specific departure routes are required, the routes will determine the shape of the Class D area. Use the 200 feet per NM climb gradient procedure in subparagraph a. above and FIG 17-2-2 plus 1.8 NM either side of the track(s) to be flown.

c. In areas with rising terrain, apply the procedures reflected in FIG 17-2-2.

17-2-7. ARRIVAL EXTENSION

a. A Class D area arrival extension shall be established to the point where an IFR flight on an instrument approach can be expected to descend to less than 1,000 feet above the surface.

b. When multiple approach procedures are established using the same initial approach course, but with different 1,000-foot points, the extension length shall be based on the approach requiring the greatest distance. Consistent with safety and operational feasibility, if an adjustment to the 1,000-foot point can be made to eliminate or shorten an extension, the specialist shall coordinate with the person responsible for developing the instrument approach to request the adjustment.

c. Currently, it is not mandatory that all existing instrument approach procedures be modified to accommodate this new policy.

d. The width of the extension shall be equal to the width of the TERPs primary obstruction clearance area at the point where an IFR flight on an instrument approach can be expected to descend to an altitude below 1,000 feet above the surface. However, if the primary area widens between the point where the flight leaves 1,000 feet and the airport, the widened portion of the primary area located outside the basic surface area radius shall be used for the extension. These extensions shall, in all cases, extend to a minimum of 1 NM on each side of the centerline.

e. If all arrival extensions are 2 NM or less, they will remain part of the basic Class D area. However, if any extension is greater than 2 NM, then all extensions will be Class E airspace.

17-2-8. VERTICAL LIMITS

Class D areas should normally extend upward from the surface up to and including 2,500 feet AGL. The altitude shall be converted to MSL and rounded to the nearest 100 feet. However, in a low density or non-turbo aircraft traffic environment, a vertical limit of 2,500 feet AGL may be excessive and a lower altitude should be used.

NOTE-
The nearest 100 feet means that 49 feet and below shall be rounded down and 50 feet and above shall be rounded up.

17-2-9. COMMUNICATIONS

Communications capability must exist with aircraft, that normally operate within the Class D Surface Area down to the runway surface of the primary airport (the airport upon which the surface area is designated). This communication may be either direct from the ATC facility having jurisdiction over the area or by rapid relay through other communications facilities which are acceptable to the ATC facility having that jurisdiction.

17-2-10. WEATHER OBSERVATIONS AND REPORTING

a. Weather observations shall be taken at the primary airport during the times and dates the Class D airspace is active. A federally certified weather observer or a federally commissioned automated weather observing system (this includes all weather reporting systems) can take the weather observation. The weather observer shall take routine (hourly) and special observations. An automated weather observing system can provide continuous weather observations.

b. Scheduled record and special observations from weather observers or automated weather reporting systems shall be made available to the ATC facility(s) having control jurisdiction over the Class D designated surface area. This can be accomplished through Automated Flight Service Station/Flight Service Station (AFSS/FSS), Longline Dissemination, National Weather Service (NWS), or other FAA-approved sources. Facilities that require weather reports from satellite airports may enter into a letter of agreement (LOA) with the associated AFSS/FSS, airline/contract observer, airport management, etc.

NOTE-
[1] At ATC sites where non-Federal employees perform weather duties, the appropriate FAA office shall 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 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 shall 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 shall be issued, as described above, and rulemaking action initiated to revoke the Surface Area, as appropriate.

c. The FPO needs to be kept informed of any planned action, especially when instrument approach procedures (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; e.g., minimums may be raised, or procedure may be canceled.

EXAMPLES OF SATELLITE AIRPORTS EXCLUDED FROM CLASS D AIRSPACE AREAS

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 shall:

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.

FIG 17-2-1

RISING TERRAIN

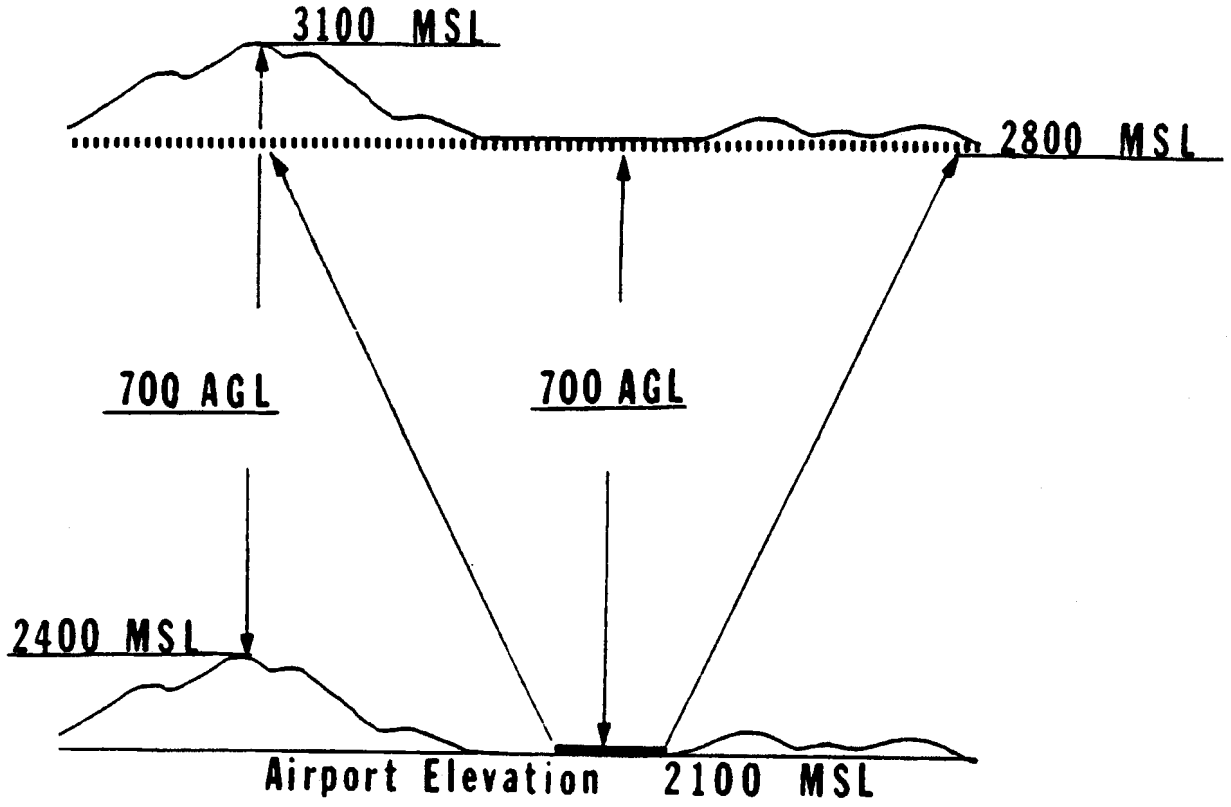


FIG 17-2-2

EXAMPLES OF SATELLITE AIRPORTS EXCLUDED FROM SURFACE AREA AIRSPACE AREAS

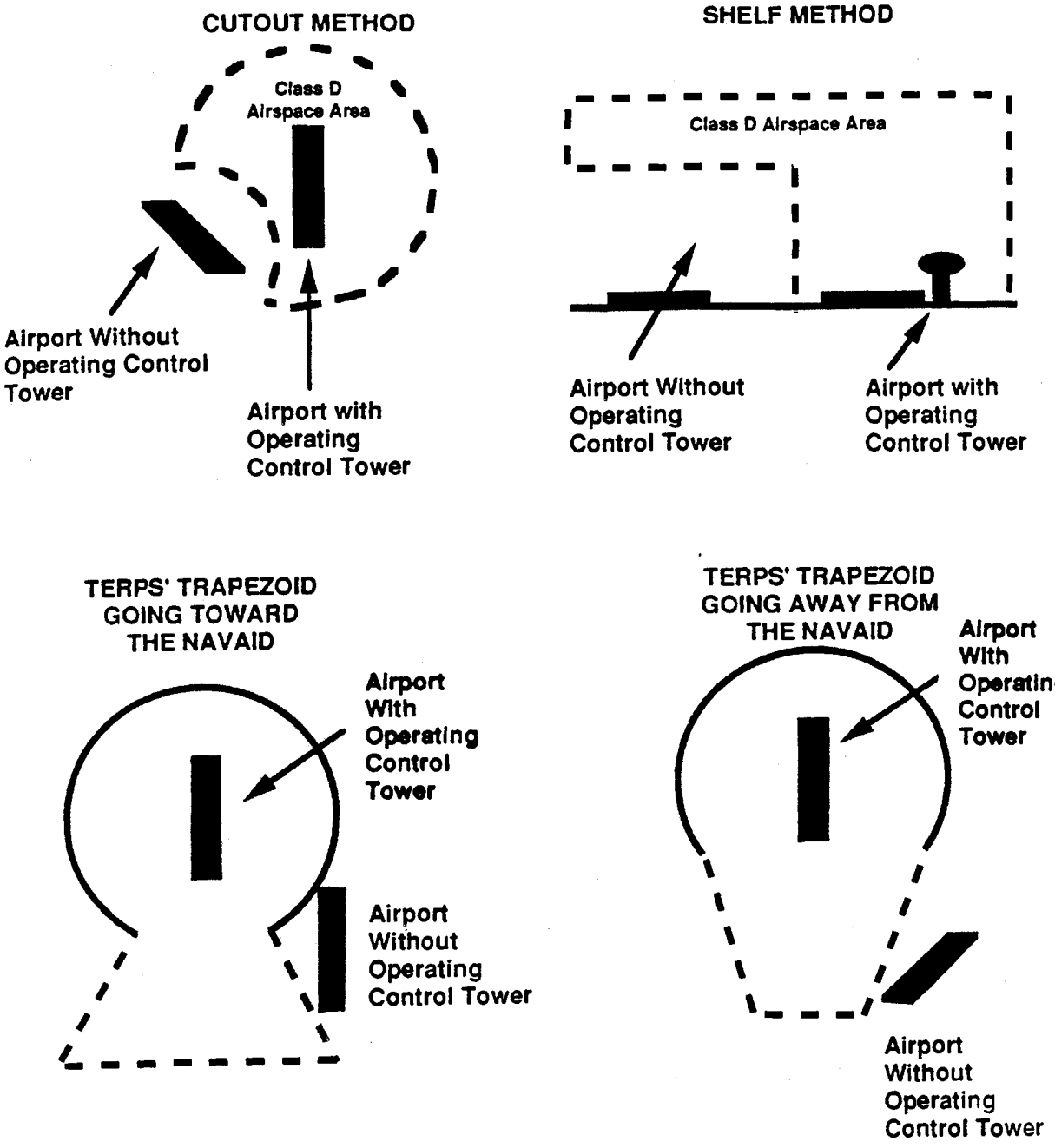


FIG 17-2-3

Chapter 18. CLASS E AIRSPACE

Section 1. GENERAL

18-1-1. INTRODUCTION

Class E airspace consists of general controlled airspace.

NOTE-
Class E airspace surface areas are designated in Order 7400.9. Airspace designated as E-2, E-3, and E-4 must meet the criteria in Chapter 17 of this order

18-1-2. PURPOSE

If the communication and weather requirements described in paragraphs 17-2-9 and 17-2-10 are met, Class E2 airspace shall be designated to accommodate:

a. IFR arrival, departure, holding, and en route operations not protected by other controlled airspace.

b. Instrument approach procedures.

c. Special Instrument approach procedures.

Section 2. TRANSITIONAL AIRSPACE

18-2-1. PURPOSE

Transitional areas, Class E-5, are designated to serve terminal and en route aircraft operations such as:

a. Transitioning to/from terminal and en route.

b. Transiting between airways and routes.

c. En route climbs or descents.

d. Holding.

e. Radar vectors.

f. Providing for course changes.

g. When the route under consideration is almost all within existing Class E-5 airspace and small additions would complete the coverage.

h. En route training operations.

18-2-2. 700/1,200 FOOT CLASS E AIRSPACE

Class E-5 700/1200-foot airspace areas are used for transitioning aircraft to/from the terminal or en route environment.

18-2-3. 700-FOOT CLASS E AIRSPACE

A Class E-5 airspace area with a base of 700 feet above the surface shall be designated to accommodate arriving IFR operations below 1,500 feet above the surface and departing IFR operations until they reach 1,200 feet above the surface.

18-2-4. 1,200-FOOT CLASS E AIRSPACE

Where sufficient controlled airspace does not exist, designate a 1,200 foot Class E-5 airspace area to accommodate arriving IFR operations at 1,500 feet and higher above the surface and departing IFR operations from the point they reach 1,200 feet above the surface until reaching overlying or adjacent controlled airspace.

18-2-5. CLASS E AIRSPACE FLOORS ABOVE 1,200 FEET

Class E-5 airspace areas may be established with MSL floors above 1,200 feet AGL. Normally floors will be at least 300 feet below the minimum IFR altitude.

18-2-6. COORDINATION OF MISSED APPROACH ALTITUDES

Coordination shall be initiated with the appropriate FPO or military representatives to adjust missed approach altitudes upward to at least 1,500 feet above the terrain at locations where existing procedures specify lower altitudes and such action can be accomplished without penalty to overall IFR operations or without exceeding TERPS criteria.

Section 3. TRANSITIONAL AIRSPACE AREA CRITERIA

18-3-1. DEPARTURE AREA

a. The configuration of Class E airspace for departures is based on either specific or diverse departure routings and determines whether the Class E airspace will be circular or oriented in one or more specific direction(s).

b. A climb gradient of 200 feet per NM shall be applied to determine the size of all Class E airspace for departures, and when necessary departure extensions. Specific departure areas with a base of 700 feet require the airspace 1.8 NM each side of the track centerline. Departure areas with a base of 1,200 feet require 4 NM each side of the track centerline.

c. When a surface area does not exist, the climb gradient shall be applied from the departure end of the outermost runway to determine the width of the 700-foot Class E airspace and the beginning of the 1,200-foot Class E airspace.

d. The lateral boundary of a 1,200-foot Class E airspace that overlies the waters within 12 NM of the coast of the 48 contiguous states and Alaska, excluding the Alaskan Peninsula west of longitude 160 degrees, shall terminate at 12 NM.

e. In the western states where the floor of controlled airspace is 14,500 MSL or 1,500 AGL, the 1200-foot airspace should be route oriented and normally only necessary between the 700-foot Class E airspace and the closest adjacent existing controlled airspace.

NOTE-
Where diverse departures are authorized, the 700-foot Class E airspace will normally be a 2.5 NM radius beyond the radius of the basic surface areas. This standard does not apply to surface areas associated with Class C airspace.

18-3-2. LENGTHY DEPARTURE CLASS E AIRSPACE EXTENSIONS

If lengthy Class E airspace extensions are established for departing flights, they shall include the additional airspace within lines diverging at angles of 4.5 degrees from the centerline of the route radial beginning at the associated NAVAID. In planning such extensions, the same frequency protection considerations involved in airway planning must be included.

NOTE-
The 4.5-degree angle leaves an 8 NM wide area at 51 NM from the associated NAVAID.

18-3-3. ARRIVAL AREA

The point at which a flight can be expected to leave 1,500 feet above the surface on an instrument approach and the width of the primary obstruction clearance area shall be obtained from the office responsible for developing the instrument approach.

18-3-4. ARRIVAL EXTENSION

Class E airspace extension with a base of 1,200 feet above the surface and 4 NM each side of the track centerline shall be established to contain the flight path of arriving IFR flights at altitudes at least 1,500 feet or higher above the surface.

a. To determine length of an arrival extension, one needs:

1. The point at which a flight can be expected to leave 1,000 feet above the surface; and

2. The airspace needed to contain arriving IFR operations at 1,000 feet and higher above the surface.

b. The extension length shall be based on the approach requiring the greatest distance when multiple approach procedures (e.g., NDB/ILS) are established using the same approach course but with different final approach altitudes.

c. The width of the extension shall be equal to the width of the TERPS primary obstruction clearance area at the point where an IFR flight on an instrument approach can be expected to descend to less than 1,000 feet above the surface. However, if the primary area widens between the point where the flight leaves 1,000 feet and the airport, the widest portion of the primary area shall be used for the extension. Extensions shall, in all cases, extend to a minimum of 1 NM on each side of the centerline, although the primary obstruction clearance area extends less than 1 NM from the centerline.

d. The extension width shall be based on the approach requiring the greatest width when

multiple approach procedures (e.g., NDB/ILS) are established using the same approach course.

18-3-5. PROCEDURE TURN PROTECTION

Class E airspace extensions shall be established for the protection of low altitude procedure turn areas as follows:

a. Procedure turns authorized to a distance of 5 NM or less:

1. The boundary on the procedure turn side is 7 NM from, and parallel to, the approach course.

2. The boundary on the side opposite the procedure turn side is 3 NM from, and parallel to, the approach course.

3. The outer limit is established at 10 NM outbound from the procedure turn fix.

b. Procedure turns authorized to a distance greater than 5 NM:

1. The boundary on the procedure turn side is 8 NM from, and parallel to, the approach course.

2. The boundary on the side opposite the procedure turn is 4 NM from, and parallel to, the approach course.

3. The outer limit is established at 16 NM outbound from the procedure turn fix. This length is extended 1 NM and the width is widened .2 (2/10) of a NM for each NM beyond 10 NM that the procedure turn is authorized.

18-3-6. DETERMINING BASE ALTITUDES

In determining the base altitude of Class E airspace designated to encompass procedure turns, it is only necessary to consider governing terrain within the TERPS primary obstruction clearance area, excluding the entry zone, rather than terrain within the entire rectangular areas specified above.

Chapter 19. OTHER AIRSPACE AREAS

Section 1. GENERAL

19-1-1. EN ROUTE DOMESTIC AIRSPACE AREAS

a. En Route Domestic Airspace Areas consist of Class E airspace that extends upward from a specified altitude to provide controlled airspace in those areas where there is a requirement to provide IFR en route ATC services but the Federal airway structure is inadequate. En Route Domestic Airspace Areas may be designated to serve en route operations when there is a requirement to provide ATC service but the desired routing does not qualify for airway designation. Consideration may also be given to designation of En Route Domestic Airspace Areas when:

1. The NAVAIDs are not suitable for inclusion in the airway system, but are approved under part 171, are placed in continuous operation, and are available for public use; or

2. Navigation is by means of radar vectoring. En route Domestic Airspace Areas are listed in Order 7400.9.

b. En Route domestic Airspace Areas are designated under 14 CFR Section 71.71 and are listed in Order 7400.9.

19-1-2. OFFSHORE/CONTROL AIRSPACE AREAS

a. Offshore/Control Airspace Areas are locations designated in international airspace (between the U.S. 12-mile territorial limit and the CTA/FIR boundary, and within areas of domestic radio navigational signal or ATC radar coverage) wherein domestic ATC procedures may be used for separation purposes.

b. These areas provide controlled airspace where there is a requirement to provide IFR en route ATC services, and to permit the application of domestic ATC procedures in that airspace.

c. Class A Offshore/Control Airspace Areas are identified as "High" (e.g., Atlantic High; Control 1154H). Class E areas are identified as "Low" (e.g., Gulf of Mexico Low, Control 1141L).

d. Since there is no standard established for offshore routes NAVAID spacing, such spacing should be determined on a regional, site-by-site basis.

e. In determining which configuration to use, consider user requirements, NAVAID quality and dependability, radar vectoring capabilities, transition to/from offshore airspace areas, requirements of other users for adjacent airspace, and possible future requirements for controlled airspace.

f. Offshore/Control areas that require use of one NAVAID for an extended distance should be based on L/MF facilities so that lower MEAs can be established.

NOTE-
Care should be exercised in relocating NAVAIDs on which offshore airspace areas are based so that the desired offshore airspace configuration can be retained.

g. Where Offshore/Control Class E airspace is extended to the domestic/oceanic boundary, the diverging lines shall terminate at their intersection with the domestic/oceanic boundary.

19-1-3. DESIGNATION

Offshore control airspace areas are designated in Sections 71.33 and 71.71. These areas are listed in Order 7400.9.

19-1-4. PROCESSING

Offshore airspace area rulemaking actions are processed by ATA-400. Regions may process those domestic cases that are ancillary to a terminal airspace action with approval of ATA-400.

Chapter 20. AIR NAVIGATIONAL ROUTES

Section 1. GENERAL

20-1-1. PURPOSE

a. This chapter prescribes procedures and criteria for the designation/establishment of Air Traffic Service (ATS) routes.

b. An ATS route is defined as a route designed for the management of air traffic operations or for the provision of air traffic services.

c. An ATS route may be a low/medium frequency (L/MF) (which includes colored Federal airways), Very High Frequency Omnidirectional Range (VOR) Federal airways (which includes jet routes), or an area navigation (RNAV) route.

d. Criteria and procedures for the development of an air navigation route(s) are contained in FAA Orders 8260.3, Terminal Instrument Procedures, and 8260.19, Flight Procedures and Airspace, unless otherwise specified.

20-1-2. CONTROLLED AIRSPACE

a. ATS routes shall only be established in controlled airspace.

b. Where necessary, regions shall initiate the required action to designated controlled airspace of sufficient dimension to encompass the airspace to be protected and any associated course changes for ATS routes. This information shall be forwarded to ATA-400 for processing.

20-1-3. WHEN TO DESIGNATE AIR NAVIGATION ROUTES

ATS routes should be designated to serve en route operations when:

a. The route is predicated upon NAVAIDs that are suitable for inclusion in the system.

b. The benefits of the designation should outweigh any adverse effects to other airspace users, and:

1. The route is a normal extension of an existing airway; or

2. Users will benefit from charted information pertaining to navigational guidance, minimum en route altitudes, and changeover points.

20-1-4. RESPONSIBILITIES

a. Regional ATD:

1. Shall coordinate ATS routes with appropriate offices to determine if operational requirements and air traffic warrant a rulemaking action (e.g., ATC facilities, adjacent regional offices, and regional Frequency Management Offices).

2. Early coordination should be effected with Flight Operations to ensure timeliness of input.

3. Shall maintain a program of systematic review of all ATS routes in their respective regions and initiate action to designate or adjust these routes as necessary.

b. Regional FPO shall process ATS routes requests in accordance with appropriate FAA orders.

20-1-5. ROUTE IDENTIFICATION

Dual designation of ATS routes shall be avoided. All alpha-numeric ATS route identifications shall be assigned by ATA-400 as follows:

a. Identify ATS routes based on L/MF NAVAIDs by color names (e.g. Amber, Blue, Green, and Red) followed by a number designation.

1. Designate those routes extending east and west as Green or Red.

2. Designate those extending north and south as Amber or Blue.

b. Identify ATS routes based on VOR NAVAIDs as follows:

1. Route lettering shall be as follows:

(a) The letter "V" will prefix low altitude ATS routes below FL180.

(b) The letter "J" will prefix high altitude ATS routes at FL180 through FL450.

2. Route numbering shall be as follows:

(a)Assign odd numbers for those ATS routes extending east and west.

(b)Assign even numbers for those ATS routes extending north and south.

c. Identify RNAV ATS routes as follows:

1. With an "R" suffix.

2. Route numbering shall follow the guidelines detailed in paragraph 20-1-5.b.1.a and b.2.

20-1-6. CHANGEOVER POINTS

When it is anticipated that the location of a changeover point will affect the lateral extent of an airway, en route domestic airspace area, offshore airspace area, or airspace to be protected for a jet route, the ATD shall include the location in the proposal.

20-1-7. BASE ALTITUDES

a. The base of an ATS route shall 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:

1. The 500-foot buffer would result in the loss of a cardinal altitude; or

2. A definite operational advantage would exist.

b. The route floor should conform, as closely as possible to the floor of transitional airspace.

20-1-8. MINIMUM EN ROUTE ALTITUDES (MEA)

a. Procedures for establishing MEAs are set forth in Orders 8260.3, TERPS, and 8260.19, Flight Procedures and Airspace.

b. When rounding off MEA to the nearest hundred feet results in vertical separation of not less than 451/251 feet between the floor of controlled airspace and the MEA, such separation is considered in compliance with the 500/300 feet specified.

c. The criteria for surface area size shown in FIG 17-2-1 and FIG 17-2-2 shall be used for determining airspace required for climb from the surface to 500/300 feet below the MEA/MOCA.

d. Use the criteria and procedures contained in appropriate FAA Orders for determining the airspace required for climb from one MEA to 500 feet below the higher MEA.

20-1-9. PROCEDURAL REQUIREMENTS

Procedural requirements may dictate designation of airspace lower than 500 feet below the MEA or MRA in certain en route radar vectoring areas or when necessary to accommodate climb or descent operations. Such airspace shall not be designated for the specific purpose of including a MOCA unless use of the MOCA is procedurally required.

20-1-10. ACTION TO RAISE BASE OF TRANSITIONAL AREAS

When action is initiated to raise the base of transitional airspace associated with a route segment, care shall be taken to designate, in accordance with applicable criteria, sufficient airspace to encompass IFR procedures prescribed for airports which underlie the route. Additionally, care shall be taken to ensure that controlled airspace, such as transition airspace or lower floor of control area, is provided for aircraft climbing from one minimum en route altitude to a higher one.

Section 2. FLIGHT INSPECTION REQUIREMENTS

20-2-1. REQUEST FOR FLIGHT INSPECTION DATA

Regional ATD shall be responsible for providing the appropriate Aviation System Standards Office with a copy of the NPRM relating to new or revised ATS routes. Requests for flight inspection data (e.g., MEA, COP, etc.) for ATS routes shall be initiated by the regional ATD (see paragraph 2-5-4 of this order for actions that will be processed direct to final rule without an NPRM).

20-2-2. FLIGHT INSPECTION DATA DISTRIBUTION

a. The appropriate Aviation Standards Office shall forward flight inspection data regarding ATS routes to ATA-100 on FAA Form 8260-16.

b. ATA-100 shall notify ATA-400 and provide notification or the results of the flight inspection.

20-2-3. FLIGHT INSPECTION REQUESTS

A requirement for a flight inspection evaluation should be coordinated with the regional Frequency Management Office prior to requesting flight inspection review.

20-2-4. FLIGHT INSPECTION REPORT

Upon completion of the requested action, a flight inspection report will be forwarded to the originating office and will indicate whether the flight inspection results were satisfactory or unsatisfactory. If unsatisfactory, appropriate corrective action should be accomplished and the flight inspection request resubmitted.

Section 3. LOW/MEDIUM FREQUENCY and VOR AIRWAYS

20-3-1. NAVAID SPACING

a. ATS routes are based on NAVAIDs which normally are spaced no farther apart than 80 NM. They may be based on more widely spaced NAVAIDs if a usable signal can be provided and frequency protection afforded for the distance required (see Order 9840.1, U.S. National Aviation Handbook for the VOR/DME/TACAN Systems).

b. NAVAID spacing for L/MF airways has no standard but is determined on an individual basis.

20-3-2. VERTICAL AND LATERAL EXTENT

The standard vertical and lateral extent of these airways is specified in 14 CFR Section 71.75. Nonstandard dimensions may be specified as required except as limited by any flight inspection limitations and by paragraph 20-1-7 of this order.

20-3-3. WIDTH REDUCTIONS

a. Width reductions are not applicable to L/MF airways.

b. For ATS routes other than L/MF, a reduced airway width of 3 NM on one or both sides of the centerline may be established from the NAVAID to the point where 4.5 degree intersecting lines equal 3 NM (14 CFR Section 71.75). Normally, lines perpendicular to the airway centerline determine the ends of the reduced portion. If required, the ends of the reduced portion may be defined differently. A reduced width is permissible to obtain additional traffic capacity and flexibility through the use of multiple routes and to avoid encroachment on special use airspace or other essential maneuvering areas. Width reductions are considered the exception rather than the rule and are approved only where adequate air navigation guidance and justification exist.

Section 4. JET ROUTES

20-4-1. DESIGNATION

Jet routes extend from FL 180 to FL 450, inclusive, and are designated to indicate frequently used routings. Jet routes may also be designated for route continuity where such designation would clearly facilitate description of the intended route of flight.

NOTE-
"T" class NAVAIDs (e.g., TVOR) shall not be used to designate jet routes.

20-4-2. NAVAID SPACING

Jet routes are normally based on "H" class NAVAIDs spaced no farther apart than 260 NM or non-VOR/DME area navigation system performance. They may be based on more widely spaced NAVAIDs if a usable signal can be provided (e.g., GPS) and frequency protection afforded for the distance required.

20-4-3. JET ROUTE WIDTH

Jet routes have no specified width however, alignment should be planned using protected airspace specified for VOR airways in Section 71.75 or any flight inspection limitation to prevent overlapping special use airspace or the airspace to be protected for other jet routes.

Section 5. AREA NAVIGATION ROUTES

20-5-1. DISCUSSION

a. a. RNAV systems permit navigation via a selected course to a predefined point without having to fly directly toward or away from a navigational aid. Several different types of airborne systems are capable of accurate navigation on an area basis.

b. b. RNAV aircraft are required to have the capability of operating along and within the lateral confines of VOR routes and airways. Therefore, current procedures and separation criteria remain the same for all RNAV aircraft cleared to operate along the conventional VOR route structure.

c. c. One item to be considered between area navigation and the present VOR/DME system is the effect of slant range error on aircraft position. Aircraft operating along the conventional VOR route structure are affected by DME slant range error in a relative manner and are primarily affected longitudinally since flightpaths are normally directly to or from ground stations. RNAV aircraft may be affected laterally as well as longitudinally since they do not have the disadvantage of having to operate directly to or from ground stations.

d. d. RNAV operations will use established and designated routes, up to and including FL 450, unless air traffic control radar is used to monitor navigation accuracy and aircraft separation.

e. e. A user must demonstrate that the equipment complies with accuracy criteria and must receive approval before the equipment can be used in the ATC system.

20-5-2. WAYPOINT CRITERIA

a. In accordance with paragraph 3-3-4, of this order, obtain five-letter pronounceable waypoint name/codes approval from ATA-100.

b. All magnetic bearings, distances between waypoints, and geographical coordinates of waypoints shall be validated by NOAA.

c. Each waypoint shall be defined by geographical coordinates (e.g., degrees, minutes, seconds, hundredths of a second).

d. RNAV waypoints are used not only for navigation reference, but also for ATC operational fixes in much the same manner as VOR/DME ground stations and intersections are used in the conventional VOR structure. Waypoints are to be established along RNAV routes at:

1. The end points of RNAV routes;

2. Route turn points; and

3. All holding fixes.

4. At any other point of operational benefit, such as route junction points where required for route clarity.

20-5-3. LATERAL PROTECTED AIRSPACE CRITERIA FOR RNAV EN ROUTE SEGMENTS

a. The criteria contained in this section are applicable to all established or designated RNAV routes except those portions of instrument departure procedures and Standard Terminal Arrival Routes (STARs) appropriate to the instrument departure procedures and STAR criteria. The lateral extent of RNAV routes designated in part 71 is coincident with the lateral protected airspace derived from this criteria.

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

20-5-4. EN ROUTE TURN PROTECTION CRITERIA

Additional lateral airspace to be protected for course changes along RNAV routes at and above FL 180 shall be in accordance with Order 7130.2. The airspace to be protected on the overflown side of the route centerline during course changes of more than 15 degrees along RNAV routes below FL 180 shall be the lateral route width or 4 NM, whichever is greater, applied until the pilot reports on course. In effect, this means that the lateral dimensions of reduced route widths do not constitute fully protected airspace for aircraft during such course changes.

PART 5
SPECIAL USE AIRSPACE

Part 5. SPECIAL USE AIRSPACE

Chapter 21. GENERAL

Section 1. POLICY

21-1-1. PURPOSE

In addition to the policy guidelines and procedures detailed in part 1 of this order, this part prescribes specific policies and procedures for handling special use airspace (SUA) cases.

21-1-2. SCOPE

The primary purpose of the SUA program is to establish/designate airspace in the interest of National Defense, security and/or welfare. Charted SUA identifies to other airspace users where these activities occur.

21-1-3. DEFINITION AND TYPES

a. SUA is airspace of defined dimensions wherein activities must be confined because of their nature, or wherein limitations may be imposed upon aircraft operations that are not a part of those activities.

b. The types of SUA areas are Prohibited Areas, Restricted Areas, Military Operations Areas (MOA), Warning Areas, Alert Areas, and Controlled Firing Areas (CFA).

21-1-4. CATEGORIES

There are two categories of SUA: regulatory (rulemaking) and nonregulatory (nonrulemaking). Prohibited areas and restricted areas are regulatory actions that are implemented by a formal amendment to part 73. MOAs, warning area, alert areas, and CFAs are nonregulatory actions.

21-1-5. SUA APPROVAL AUTHORITY

FAA Headquarters is the final approval authority for all permanent and temporary SUA, except CFA's. CFA approval authority is delegated to the regional ATD. The regional ATD shall forward those proposals recommended for approval (except CFA) to FAA Headquarters for a final determination.

NOTE-
Final approval of Warning Areas is shared with other agencies per Executive Order 10854. Warning Area proposals, except controlling or using agency changes, must be coordinated with the Department of State and the Department of Defense for concurrence. ATA-400 is responsible for accomplishing this coordination.

21-1-6. MINIMUM NUMBERS AND VOLUME

The dimensions and times of use of SUA shall be the minimum required for containing the proposed activities, including safety zones required by military authority. When it is determined that a specified SUA area is no longer required, the using agency, or the appropriate military authority, shall inform the regional ATD that action may be initiated to return the airspace to the NAS.

21-1-7. OPTIMUM USE OF AIRSPACE

a. To ensure the optimum use of airspace, using agencies shall, where mission requirements permit, make their assigned SUA available for the activities of other military units on a shared-use basis.

b. SUA should be located to impose minimum impact on nonparticipating aircraft and ATC operations. This should be balanced with consideration of the proponent's requirements. To the extent practical, SUA should be located to avoid airways/jet routes, major terminal areas, and known high volume VFR routes.

c. Consider subdividing large SUA areas, where feasible, in order to facilitate the real-time release of the airspace when activation of the entire area is not required by the user.

NOTE-
Policies concerning airspace utilization for military operations are contained in Order 7610.4, Special Military Operations, Chapter 9.

21-1-8. JOINT-USE POLICY

a. Under the "joint-use" concept, SUA is released to the controlling agency and becomes available for access by nonparticipating aircraft during periods when the airspace is not needed by the using agency for its designated purpose.

b. Restricted areas, warning areas, and MOAs shall be designated as "joint-use" unless it is demonstrated that this would result in derogation

to the using agency's mission. For certain SUA areas, joint use may be impractical because of the area's small size, geographic location, or high level of use in such areas. In these cases, the airspace proposal package must include specific justification of why joint-use is not appropriate.

c. Joint-use does not apply to prohibited areas. Alert areas and CFAs are essentially joint-use because nonparticipating aircraft may transit these areas without limitation.

d. Joint-use procedures shall be specified in a joint use "Letter of Procedure" or "Letter of Agreement" between the using agency and the controlling agency. These letters should include provisions for the real-time activation/deactivation of the airspace, where such capabilities exist. They should also provide for the timely notification to the controlling agency when the scheduled activity has changed, been canceled, or was completed for the day.

e. Using agencies shall ensure that joint-use SUA is returned to the controlling agency during periods when the airspace is not needed nor being used for its designated purpose.

21-1-9. ENVIRONMENTAL ANALYSIS

SUA actions are subject to environmental impact analysis in accordance with the National Environmental Policy Act of 1969 (NEPA). Guidance for the environmental analysis of SUA proposals is contained in FAA Order 1050.1, Policies and Procedures for Considering Environmental Impacts, other relevant FAA directives, the FAA/DoD Memorandum of Understanding Concerning Special Use Airspace Environmental Assessment, and other applicable regulations and statutes.

21-1-10. CONTROLLING AGENCY

The controlling agency is the FAA ATC facility that exercises control of the airspace when an SUA area is not activated. A military ATC facility may be assigned as the controlling agency, subject to the concurrence of the regional ATD and the concerned ARTCC. A controlling agency shall be designated for each joint-use SUA area.

21-1-11. USING AGENCY

a. The using agency is the military unit or other organization whose activity established the requirement for the SUA. The using agency is responsible for ensuring that:

1. The airspace is used only for its designated purpose.

2. Proper scheduling procedures are established and utilized.

3. The controlling agency is kept informed of changes in scheduled activity, to include the completion of activities for the day.

4. A point of contact is made available to enable the controlling agency to verify schedules, and coordinate access for emergencies, weather diversions, etc.

REFERENCE-
Order 7610.4, Chapter 9, Military Operations Requirements.

b. Restricted area and MOA using agencies are responsible for submitting Restricted Area/MOA Annual Utilization Reports in accordance with Section 7 of this chapter.

c. An ATC facility may be designated as the using agency for joint-use areas when that facility has been granted priority for use of the airspace in a joint-use letter of procedure or letter of agreement.

21-1-12. WAIVERS

The establishment of SUA does not, in itself, waive compliance with any part of the Code of Federal Regulations. DoD has been granted a number of waivers, exemptions, and authorizations to accomplish specific missions. Information about current waivers, exemptions, and authorizations granted for military operations may be obtained from FAA Headquarters, Airspace and Rules Division, ATA-400 or the Office of Rulemaking (ARM).

21-1-13. PUBLIC NOTICE PROCEDURES

Public notice procedures invite the public to comment on the impact of SUA proposals on the safe and efficient use of the navigable airspace. In addition to the public notice procedures described in chapter 2 of this order, SUA proposals are subject to the following:

a. All nonregulatory SUA proposals shall be circularized, and an NPRM shall be issued for all

regulatory SUA proposals, except for those actions that clearly have no impact on aviation and are not controversial. A nonrulemaking circular or NPRM is not normally required for following types of proposals:

1. Changes to the using or controlling agency.

2. Editorial changes to correct typographical errors.

3. Internal subdivision of an existing area to enhance real-time, joint use (provided there is no change to the existing external boundaries) times of use, or type/level of activities.

4. Actions that lessen the burden on the flying public by revoking or reducing the size or times of use of SUA.

b. SUA nonrulemaking circulars are prepared and distributed by the regional ATD. FAA Headquarters prepares SUA NPRMs. Normally, circulars and NPRMs provide a minimum of 45 days for public comment.

c. When comments or coordination show that the proposal may be controversial, or there is a need to obtain additional information relevant to the proposal, an informal airspace meeting may be considered (see chapter 2 of this order).

21-1-14. SUA NONRULEMAKING CIRCULARS

a. Prepare and distribute SUA nonrulemaking circulars as specified in chapter 2 of this order and the additional requirements in this paragraph. Ensure wide dissemination to the potentially affected aviation user community. Send one copy of each SUA circular to ATA-400 and to the appropriate regional military representative(s).

b. CONTENT - Circulars should contain sufficient information to assist interested persons in preparing comments on the aeronautical impact of the proposal. SUA circulars should include:

1. A brief narrative that:

(a) Describes the purpose of the proposed airspace, the types of activities to be conducted, and the expected frequency of those activities. If the proposal modifies existing SUA, describe the changes and explain the desired result. For temporary MOA proposals, include a brief summary of the planned exercise or mission scenario.

(b) Discusses measures planned to minimize impact on nonparticipating aircraft, such as airport exclusions, joint-use procedures, limited activation times, etc. If there are known plans to provide real time area status information and/or traffic advisory services for nonparticipating pilots, include this information in the circular.

2. A complete description of the proposed area consisting of boundaries, altitudes, times of use, controlling agency, and using agency.

3. A copy of a sectional aeronautical chart depicting the boundaries of the proposed area.

4. The name and address (provided by the proponent) of the person to whom comments on the environmental and land-use aspects of the proposal may be submitted.

NOTE-
Do not include statements in the circular that certify NEPA compliance or state that environmental studies are complete. The proponent and/or FAA must consider environmental issues raised in response to the circular before a final determination is made on the proposal.

5. The issue date of the circular and the specific date that the comment period ends. Provide at least 45-days for public comment.

NOTE-
When selecting the comment closing date, consider the time needed for the preparation, printing and release of the circular, plus a representative mailing time, in order to afford the public the maximum time to submit comments.

c. SPECIAL DISTRIBUTION - In addition to the distribution requirements in Chapter 2, send copies of SUA nonrulemaking circulars to:

1. State transportation, aviation, and environmental departments (or the state clearing house if requested by the state).

2. Local government authorities, civic organizations, interest groups, or individuals that may not have an aeronautical interest, but are expected to become involved in a specific proposal.

3. Public libraries within the affected area requesting that the circular be displayed for public information.

4. Persons or organizations that have requested to be added to the circularization list.

NOTE-
[1] The regional ATD determines special distribution requirements in accordance with regional policies and considering the type of proposal, the potential for controversy, and the extent of possible aeronautical impact.

[2] If the proposed airspace overlaps regional geographical boundaries or airspace jurisdictions, coordinate as required with adjacent regional offices to ensure distribution of circulars to all appropriate parties.

21-1-15. CHARTING AND PUBLICATION REQUIREMENTS

a. All SUA areas except CFAs, temporary MOAs, and temporary restricted areas, shall be depicted on aeronautical charts, and published as required in aeronautical publications.

b. Approved SUA actions normally become effective on the U.S. 56-day, en route chart cycle publication dates (see part 1 of this order).

EXCEPTION-
Effective dates for temporary restricted areas, temporary MOAs, and CFAs are determined by mission requirements instead of the 56-day en route, charting date cycle.

c. Temporary areas shall be described in part 4, Graphic Notices, of the Notices to Airmen (NOTAM) Publication. Normally, publication of the graphic notice will begin two issues prior to the exercise start date and will continue through completion of the exercise. The notice shall include the area's legal description, effective dates, and a chart depicting the area boundaries. For large exercises, a brief narrative describing the exercise scenario, activities, numbers and types of aircraft involved, and the availability of in-flight activity status information for nonparticipating pilots should be included.

NOTE-
Submit temporary SUA graphic notice information, along with the airspace proposal package, to ATA-400 by the cutoff dates specified in the appropriate chapter of this order. All graphics submitted must be of high quality and in camera ready form. Facsimile copies are not suitable. ATA-400 will process and coordinate the notice with the Air Traffic Publications Branch, ATA-10, for publication in the NOTAM Publication. Do not submit temporary SUA graphic notices directly to ATA-10.

d. When a SUA action becomes effective before it appears on the affected sectional chart(s), a description and map of the area will be published in part 4 of the NOTAM Publication. This information will be carried in the NOTAM Publication until the change has appeared on the affected sectional chart(s). ATA-400 is responsible for complying with this requirement.

NOTE-
[1] Minor editorial corrections to a SUA description or changes to the using or controlling agencies, will not be published in the NOTAM Publication.

[2] In addition to the above, SUA designations or amendments that occur after publication of the latest sectional chart(s) will be listed in the "Aeronautical Chart Bulletin" section of the appropriate A/FD. This information will be carried in the A/FD until the change is published on the affected sectional chart(s).

21-1-16. CERTIFICATION OF SUA GEOGRAPHIC POSITIONAL DATA

a. Geographic positional data for all permanent and temporary SUA boundaries (except CFAs) must be certified for accuracy by the NOS before publication and charting. ATA-400 shall submit proposed positional data to NOS for certification. Latitude and longitude positions used in SUA descriptions shall be based on the current North American Datum.

b. ATA-400 shall forward any corrections or recommended changes made by NOS to the regional ATD. The regional ATD will forward the NOS changes to the regional military representative, or civil proponent, for review. The regional military representative/civil proponent will inform the regional ATD of its concurrence with NOS changes or reason for nonconcurrence. The regional ATD will advise FAA Headquarters of the proponent's conclusions. A record of this coordination shall be included in the airspace case file.

21-1-17. LEAD REGION

a. The regional office that is responsible for the geographical area containing the affected airspace processes the SUA proposal. When a proposal overlaps regional office geographical jurisdictions, the concerned regional ATD shall coordinate to determine which office will serve as the lead region for processing the proposal. Coordination between regions is also required when the affected geographical area, and the ATC facility to be designated as controlling agency, are under the jurisdiction of different regional offices.

b. Concerned regions shall ensure that:

1. All affected ATC facilities review the proposal and provide input to the aeronautical study, as required.

2. For nonregulatory proposals, distribution of nonrulemaking circulars includes interested parties in each regional jurisdiction, as necessary.

c. The airspace package submitted to headquarters shall include documentation of regional coordination, affected ATC facility comments and copies of public comments received.

Section 2. SUA LEGAL DESCRIPTIONS

21-2-1. GENERAL

a. The legal description is the official airspace definition used for NAS database and charting purposes. This section provides guidelines and formats for preparing SUA legal descriptions. See TBL 21-2-1 for examples of regulatory and nonregulatory SUA legal descriptions.

b. All bearings and radials used in SUA legal descriptions are true from point of origin.

c. Mileage used in the description shall be expressed in nautical miles (NM).

d. Descriptions of approved SUA, except temporary areas and CFA's, are compiled and published once a year in FAA Order 7400.8, Special Use Airspace. Updates to the order are not published between editions and the listings are considered current only as of the date specified in the order. For this reason Order 7400.8 should be used as a general reference only and should not be relied upon as a sole source when accurate positional data are needed (e.g., video maps, letters of agreement, etc). For up-to-date descriptions of SUA areas, contact ATA-400 or ATA-100.

21-2-2. LATERAL BOUNDARIES

a. SUA lateral boundaries are normally defined by geographic (latitude/longitude) coordinates. All coordinates shall be expressed in a "degrees, minutes, and seconds" format. Do not round off, or convert seconds to tenths of minutes (enter 00' and 00" to specifically reflect the "zero" minutes and "zero" seconds places respectively). See TBL 21-2-1 for examples.

b. Other methods may be used to define boundaries if necessary to simplify the description, such as defining the boundaries by reference to a NAVAID radial/DME. When a NAVAID is used as a reference point, include its geographic location in degrees, minutes, and seconds.

c. To aid pilots in area identification, boundaries may be aligned along a prominent terrain feature such as rivers, highways, railroad tracks, etc., provided the feature is clearly discernable from the air.

d. Except for temporary SUA areas, boundaries shall not be described as "along the boundary" of another designated airspace area.

e. Where feasible, consider subdividing large SUA areas to enhance joint use of the airspace.

21-2-3. VERTICAL LIMITS

a. For areas that contain aircraft operations exclusively, altitudes at or above 18,000 feet MSL shall be expressed as flight levels (FL).

b. For areas that contain other than aircraft operations, altitudes above 18,000 feet MSL shall be expressed in feet above MSL.

c. Where terrain considerations or other factors would make the use of an MSL altitude impractical, the floor of the area may be described in feet above ground level (AGL).

d. In describing SUA ceilings, unless otherwise specified in the description, the word "to" an altitude or flight level means "to and including" that altitude or flight level. If the upper vertical limit does not include the altitude or flight level, the ceiling shall be stated as "to but not including" the altitude or flight level.

e. Do not designate variable altitudes to describe the floor or the ceiling of an SUA area. When there is a requirement for the altitude of the floor or ceiling to change based on time of use, or geographic position within the SUA area, etc.; the differing sections shall be established as separate subdivisions.

EXCEPTION-
The floor of an area may be described using a combination of MSL and AGL altitudes if necessary due to terrain or operational considerations. For example, "5,000 feet MSL or 3,000 feet AGL, whichever is higher."

f. In limited situations, and provided a specific operational requirement exists, the same altitude may be used to describe both the ceiling of one SUA subdivision and the floor of an overlying subdivision. In this case, the same ATC facility shall be designated as the controlling agency for both subdivisions.

g. Where feasible consider stratification of SUA areas to enhance joint-use of the airspace.

21-2-4. TIMES OF USE

a. The times of use indicate the period during which the using agency is authorized to schedule and use a SUA area. These times should reflect when normal operations are expected to occur. In determining the times of use, the proponent should select the minimum period needed to meet the using agency's requirements. The goal is to capture the majority of the day-to-day activities. When the using agency has a requirement for intermittent, less frequent use of the airspace (outside the specific published time-period), a provision to activate the airspace by NOTAM may be stated in the SUA legal description.

NOTE-
The times of use should be based on the intended typical use of the area. These times are depicted on aeronautical charts to assist other airspace users in determining the most likely periods of area activation.

b. Times of use are stated using the options, or combination of options, shown below:

1. Specific hours/days. Local time using the 24-hour clock, and days of the week. If the time of use will change significantly on a seasonal basis, or mission requirements call for specific time blocks, variable times of use may be designated.

EXAMPLE-
a. "0700 - 2200, Monday – Friday."
b. "Sep – Apr, 0800 – 1700 Monday – Friday; and May – Aug. 0600 – 2400 Monday – Friday."
c. "0800 – 0930 and 1300 – 1600 Monday – Friday."
d. "0700 – 1600, daily."

NOTE-
[1] As used in SUA legal descriptions, the term "daily" means 7 days per week.

[2] If the SUA area overlaps more than one local time zone, state the predominant time zone in the description, for example: "0700 – 1800 central time; Monday – Friday."

2. Continuous. Use only when justification exists for utilization 24 hours a day, 365 days a year.

EXCEPTION-
"Continuous" may also be used when the area will be utilized 24 hours per day over a specific period, such as "Continuous, Monday – Friday;" or "Continuous, April – June."

3. NOTAM activation. Use "By NOTAM" or "Other Times by NOTAM" to indicate when a NOTAM must be issued in order to activate the area. NOTAM options are:

(a) "Other times by NOTAM." Used along with specific times to provide for activation of the area outside the specified times of use that were established according to b. (1), above.

EXAMPLE-
"0700-1900 local time, Monday – Friday - other times by NOTAM."

(b) "By NOTAM," along with specific times from b (1), above: Used when issuance of a NOTAM is required prior to activating the area during the specified hours.

EXAMPLE-
[1] "By NOTAM 0700-1800 local time, Monday – Friday."
[2] "0700-1800 local time, Monday – Friday, by NOTAM 4 hours in advance."

(c) "By NOTAM" without specific times: Used when anticipated usage times cannot be specifically determined, or when the nature of the user's mission requires infrequent or erratic use.

(d) The NOTAM provision shall apply to the entire area and not only a portion thereof. If times of use will vary from one portion of the area to another, the dissimilar portions should be subdivided or redesignated as separate areas.

(e) NOTAMs should be issued as far in advance as feasible to ensure widest dissemination of the information to airspace users. Normally, the minimum advance notice should be at least 4 hours prior to the activation time.

NOTE-
Under no circumstances may SUA be activated by a NOTAM unless the words "By NOTAM" or "other times by NOTAM" are stated in the area's legal description.

4. Sunrise to sunset. This option should be reserved for cases where seasonal sunrise/sunset time variations make publication of specific clock times impractical.

5. Intermittent. Must include an associated time-period or "by NOTAM" provision. In any case, intermittent shall not be used for restricted areas without a "by NOTAM" provision.

EXAMPLE-
a. "Intermittent, 0700 - 2200, Monday – Friday."
b. "Intermittent by NOTAM at least 4 hours in advance."

21-2-5. CONTROLLING AGENCY

The ATC facility designated as the controlling agency (see paragraph 21-1-10).

NOTE-
A controlling agency is not designated for prohibited areas, alert areas, or controlled firing areas.

21-2-6. USING AGENCY

The agency, organization, or military command designated as the using agency (see paragraph 21-1-11).

21-2-7. SUA LEGAL DESCRIPTION AMENDMENTS

All changes to a published SUA legal description must be made through the appropriate regulatory or non-regulatory procedures described in this order. This includes minor changes, editorial corrections, internal subdivisions of an existing area, changes of the controlling or using agency, or reducing the area's dimensions or times of use.

EXAMPLES OF SPECIAL USE AIRSPACE LEGAL DESCRIPTIONS

REGULATORY SUA DESCRIPTION:

R-2305 Gila Bend, AZ
Boundaries - Beginning at lat. 32°50'25"N., long. 112°49'03"W.;
to lat. 32°50'52"N., long. 112°42'56"W.;
to lat. 32°49'00"N., long. 112°39'03"W.;
to lat. 32°29'00"N., long. 112°43'03"W.;
to lat. 32°29'00"N., long. 112°53'33"W.;
to the point of beginning.
Designated altitudes - Surface to FL 240.
Time of designation - 0700-2300 local time daily, other times by NOTAM.
Controlling agency - FAA, Albuquerque ARTCC.
Using agency - U.S. Air Force, 58th Fighter Wing, Luke AFB, AZ.

NONREGULATORY SUA DESCRIPTION:

Taiban MOA, NM
Boundaries - Beginning at lat. 34°34'36"N., long. 104°07'00"W.;
to lat. 34°33'00"N., long. 103°55'02"W.;
to lat. 34°10'00"N., long. 103°55'02"W.;
to lat. 34°10'00"N., long. 104°07'00"W.;
to the point of beginning.
Altitudes - 500 feet AGL to but not including FL 180.
Times of use - 0800-2400 Monday-Friday; other times by NOTAM.
Controlling agency - FAA, Albuquerque ARTCC.
Using agency - U.S. Air Force, Commander, 27th Fighter Wing, Cannon AFB, NM.

COORDINATE FORMAT - Do not round off latitude and longitude coordinates. Always use the full format consisting of degrees, minutes, and seconds, as follows:

Correct	Incorrect
40°06'00"N.	40°06'N.
104°35'30"W.	104°35.5'W.
39°00'00"N.	39°N.

TBL 21-2-1

Section 3. SUA PROPOSALS

21-3-1. GENERAL

This section describes the requirements for SUA proposals submitted to the FAA. SUA proposals must be based on a specific airspace requirement. The need for the proposed airspace must be definitive and sufficient grounds must be provided to justify any resultant imposition on nonparticipating aircraft and/or to afford priority to the SUA user. Before proposing the establishment of new SUA, proponents shall consider the use of existing SUA, or the modification of an existing area, to conduct their mission.

21-3-2. CLASSIFIED INFORMATION

Do not include classified information in the proposal package. If any information required by this section is classified, the regional military representative should contact the regional ATD to discuss the handling of that information.

21-3-3. PROPOSAL CONTENT

SUA proposal packages shall contain the following information, as applicable:

a. Proponent's Transmittal Letter - Summarize the proposal and provide a point of contact for further information.

b. Area Description - Using the guidelines in sections 1 and 2 of this chapter, describe the proposed area as follows:

1. Title - State type of area (Restricted area, warning area, etc.). For MOA proposals, include proposed name of the MOA.

2. Boundaries - A description of the proposed area's perimeter and any subdivisions (see paragraph 21-2-2).

NOTE-
All geographic coordinates shall be based on the current North American Datum (see paragraph 21-1-16).

3. Altitudes - State the floor and ceiling of the proposed area (see paragraph 21-2-3).

4. Times of use - State the times of use to be published for the area as determined in paragraph 21-2-4. Include an estimate of the expected area usage in number of hours per day and days per year. In cases where the unit plans to use the airspace during different blocks of time each day, but actual clock times may vary within the charted "times of use," describe those planned operations to provide as accurate a picture as possible of the projected daily use of the airspace.

5. Controlling agency - State the FAA or military ATC facility to be assigned as controlling agency for the proposed SUA.

NOTE-
A controlling agency is not designated for prohibited areas, alert areas, or controlled firing areas.

6. Using agency - State the organization to be designated as using agency for the airspace. Specify military service, unit or organization, and location. For non-military using agencies, specify the organization name and location.

c. Airspace Statement of Need and Justification-

1. Describe the purpose and need for the proposed airspace. Sufficient justification must be provided to support approval of the airspace. Additionally, any known or anticipated aeronautical impact on other airspace users must be addressed, including measures proposed, if any, to lessen the impact.

(a) For new SUA areas, explain why the requirement cannot be met by using existing SUA or by modifying an existing area. List SUA areas within a reasonable distance that were considered and explain why each area is not acceptable.

(b) For proposals to increase the dimensions or times of use of an existing area, explain the need for the increase.

2. State whether the area will be available for joint use. Provide justification for non-joint use areas.

d. Air Traffic Control Assigned Airspace (ATCAA) - State whether or not an ATCAA will be requested to support the proposed SUA. If yes, describe ATCAA dimensions and times of use.

NOTE-
ATCAA information is requested in the proposal solely to assist the FAA in evaluating the overall aeronautical impact of the SUA proposal. Requests to establish an ATCAA are coordinated directly with the ATC facility having jurisdiction over the airspace and are handled separately from the SUA proposal process.

e. Activities - List all activities to be conducted in the proposed SUA. Include the following information:

1. For areas that will contain aircraft operations:

(a) The number and types of aircraft that will normally use the area.

(b) A listing of the specific activities and the maximum altitudes required for each type of activity planned.

(c) State whether supersonic flight will be conducted.

(d) A chart depicting the location and the representative pattern of firing and/or ordnance delivery runs and weapons impact areas (if applicable).

2. For areas to contain surface-to-surface or surface-to-air weapons firing:

(a) Type weapon(s) to be fired.

(b) Maximum altitude required for each weapon listed.

(c) A chart of the proposed area depicting firing points, impact areas, firing fans and safety buffers for each type weapon used.

f. Environmental and land use information-

1. Furnish the name, organization, and mailing address of the person to whom comments on environmental and land use aspects of the proposal may be sent.

2. Proposals to establish SUA with a floor below 1200 feet AGL where there is underlying private or public use land, must include a statement that the proponent agrees to provide reasonable and timely aerial access to such land. Where applicable, describe provisions to be used to accommodate such access.

3. Proposals to designate the surface as the floor of a prohibited or restricted area shall include a statement explaining how the proponent will exercise control of the underlying surface (i.e., by ownership, lease, or agreement with the property owner). Do not submit a copy of the deed, lease, or control agreement.

NOTE-
Restricted areas that were designated with the surface as the floor prior to December 1, 1967 are exempt from the "own, lease, or control" requirement. The exemption status remains valid until amendment actions are taken which would expand the dimensions or times of use, or change the designated purpose of the area.

g. Communications and Radar-

1. If known, state whether radar and/or radio communications will be used to monitor the airspace. Identify the facility or agency that will provide radio and/or radar monitoring, e.g., range control, military radar unit (MRU), airborne radar unit (ARU), Fleet Area Control and Surveillance Facility (FACSFAC).

2. If a military ATC facility will be designated as the controlling agency for the airspace, indicate whether area status information and traffic advisories will be provided to nonparticipating pilots. If applicable, provide a VHF frequency to be depicted on aeronautical charts.

h. Safety Considerations - Include an explanation of the following items, if applicable:

1. Measures taken to ensure containment of the activity within the proposed area.

2. Procedures for handling malfunctions.

3. Ordnance trajectory envelopes.

4. When an aircraft activity could measurably affect the safety of persons or property on the surface, the proponent shall demonstrate that provisions have been made for their protection.

i. Coordination Summary - List ATC facilities, military units, and/or other organizations contacted in developing the proposal.

j. Area Chart - Submit an original sectional aeronautical chart depicting the boundaries of the proposed area and any subdivisions.

k. Environmental Documents - Unless provided separately, submit applicable environmental documents. If the environmental analysis is incomplete, indicate the status and estimated completion date.

l. Graphic Notice Information - For temporary MOA or temporary restricted area proposals, include the graphic notice information required by paragraph 21-1-15, above.

m. Other - Include any other information that should be considered by the FAA in making its determination on the proposal.

21-3-4. ABBREVIATED PROPOSALS

a. For certain SUA proposals, it is not necessary to include in the proposal package all of the items specified in paragraph 21-3-3, above. Proponents should consult with the regional ATD to determine if an abbreviated proposal may be submitted. Abbreviated proposals may be considered for:

1. Amendments of existing SUA to:

(a) Change the controlling or using agency;

(b) Reduce the dimensions or times of use;

(c) Subdivide or revoke the airspace; or

(d) Make minor editorial corrections to the legal description.

2. Recurring proposals for temporary airspace (e.g., annual exercises such as Quick Force, Pecos Thunder, etc.) provided the location is the same and activities are similar to previous exercises.

3. Renewal of an existing CFA.

b. The regional ATD may specify the contents of the abbreviated proposal. Suggested items include, as applicable:

1. The type, purpose, and reason(s) for the action.

2. The specific changes to be made in the area's legal description.

3. For recurring temporary MOAs or CFAs, written confirmation that the activities, times, altitudes, safety precautions, etc., are to be the same as for a previously approved area.

4. The proposed effective date.

5. A summary of proposal coordination accomplished.

6. Environmental documentation, or written re-evaluation/updates of environmental documents used to support a previous temporary MOA.

c. For proposals to revoke SUA provide the reason for the action and requested effective date.

Section 4. COORDINATION OF PROPOSALS

21-4-1. POLICY

The regional military representatives are the regional ATD points of contact for the coordination of the respective military service's SUA proposals at the FAA regional level. The regional ATD will handle all coordination of nonmilitary SUA proposals.

21-4-2. PROPOSAL PRE-COORDINATION

a. Before submitting a SUA proposal to the FAA regional ATD, military proponents will coordinate, at a minimum, with locally affected ATC facilities and military units, local FAA representatives or liaison officers (where assigned), and the ARTCC having jurisdiction over the affected airspace.

b. Inquiries received from nonmilitary sources requesting the establishment or amendment of SUA will be referred to the appropriate regional ATD for assistance.

21-4-3. ATC FACILITY COORDINATION

a. The proponent will coordinate with affected ATC facilities as needed to discuss the proposal. Proponents should provide the facility with specific information about the mission requirement, desired airspace parameters, and why existing SUA within a reasonable distance are not suitable to accommodate the requirement (see paragraph 21-3-1).

b. The ATC facility will review the proposal to evaluate its potential impact on aeronautical and facility operations. Following its review, the facility will inform the proponent whether the proposed airspace is operationally feasible, would adversely impact aeronautical or facility operations, or if the location is not acceptable to the FAA for aeronautical reasons. The facility may suggest alternative locations or negotiate the design of the proposed SUA area to resolve or lessen any adverse impacts.

c. Proponents are cautioned that ATC facility concurrence with the proposal represents just the facility's preliminary assessment of the aeronautical and ATC operational feasibility of the proposal. The proposal will still be subject to the further processing requirements of this order (e.g., aeronautical study, public comment period, and environmental analysis), and the development of a letter of agreement. Therefore, the facility's concurrence shall not be interpreted as the FAA's endorsement or as a final approval of the proposal.

21-4-4. SUBMISSION OF PROPOSALS

a. Submit SUA proposals to the appropriate FAA regional ATD for formal processing. Military SUA proposals shall be submitted to the regional ATD through the appropriate regional military representative. Before submitting the proposal to the ATD, the regional military representative will review the package to determine compliance with the requirements of this order and applicable military service policies.

b. Proponents shall promptly notify the regional ATD if there is a change in requirements that would alter the requested effective date, or cancel the need for the proposed airspace.

Section 5. REGIONAL ACTIONS

21-5-1. GENERAL

a. SUA proposals should be processed as expeditiously as possible, consistent with thorough analysis, public notice procedures, and environmental requirements. This is necessary to ensure that decisions are based on the most current data, and that limited funding and personnel resources are used efficiently. The proponent should receive a timely determination on the disposition of the proposal in order to conduct its mission or consider alternatives. Lengthy delays in processing the proposal may result in the need for a supplemental public comment period, and/or the revalidation of the aeronautical and environmental studies.

b. The regional ATD will notify the appropriate regional military representative, in writing, if a significant processing delay is anticipated or major problems arise.

21-5-2. REGIONAL PROCESSING REQUIREMENTS

This paragraph describes the basic SUA processing items accomplished at the regional level. The regional ATD may supplement or modify the sequence of these items as needed.

a. Assign a rulemaking docket number or nonrulemaking study number, as appropriate (see chapter 2 of this order).

NOTE-
When amending any part of the legal description of an existing SUA area, a docket number, or study number must be assigned. This includes minor changes, editorial corrections, and the reduction or revocation of the airspace.

b. Review the proposal package for content and compliance with the requirements of this order.

c. Task concerned ATC facilities to conduct an aeronautical study of the proposal (see section 6 of this chapter).

d. Determine if other airspace or airport actions are pending or on file at the region for possible conflict with the proposal.

e. Coordinate with other FAA offices (e.g., Airports, FPO, Flight Standards, etc.) as required for assistance in identifying impacts on airport development plans, aviation safety, and IFR/VFR operations.

f. Coordinate the proposal with adjacent regional office ATD, if necessary.

g. Circularize nonrulemaking proposals as specified in chapter 2, and chapter 21, section 1 of this order. Send an information copy of each circular to ATA-400.

h. For restricted area or prohibited area proposals, submit the proposal package to ATA-400 to initiate rulemaking action.

i. Determine if an informal airspace meeting will be held.

NOTE-
If informal airspace meetings or environmental public meetings are planned, and the schedule is known, include meeting information in the nonrulemaking circular, or in the rulemaking package for publication in the NPRM. Also, see meeting notification requirements in chapter 2 of this order.

j. Review all public comments received. Evaluate comments with respect to the proposal's effect on the safe and efficient utilization of airspace. All substantive aeronautical comments must be addressed in the final rule or nonrulemaking case file. Where required, consider the proposal's impact on the safety of persons and property on the ground. Provide copies of pertinent public comments to the concerned regional military representative.

k. Review aeronautical study results.

l. Evaluate aeronautical impacts identified through public comments, aeronautical study, or other sources. Coordinate with the proponent regarding ways to lessen aeronautical impact and/or resolve problem areas. As additional impacts are identified during the processing of the proposal, provide the information to the proponent.

m. Review environmental or land-use comments addressed to the FAA, then forward them to the proponent for consideration in appropriate environmental documents.

n. If, after the publication of an NPRM or a non-rulemaking circular, the proposal is modified by the proponent or to mitigate aeronautical or environmental impacts, determine if the changes are significant enough to necessitate a supplemental public comment period.

o. Coordinate with the regional ATD Environmental Specialist for review of the

proponent's environmental documents (see paragraph 21-5-4, below).

p. Determine whether to recommend FAA headquarters approval of the proposal, or disapprove the proposal at the regional level (see paragraphs 21-5-6 and 21-5-7, below).

21-5-3. AERONAUTICAL IMPACT CONSIDERATION

There is no set formula for balancing the various competing user requirements for the use of airspace. If approval of the SUA proposal would result in an adverse aeronautical impact, every effort shall be made to seek equitable solutions to resolve or minimize the adverse aeronautical effects. If the aeronautical impact cannot be mitigated, the regional ATD must carefully weigh the extent of that impact against the need and justification provided by the SUA proponent. The region's recommendation should include a discussion of how any aeronautical issues were resolved.

21-5-4. ENVIRONMENTAL DOCUMENT REVIEW

In coordination with the regional ATD Environmental Specialist, the Airspace Specialist will review the proponent's draft and final environmental documents to ensure that the environmental analysis matches the proposed airspace parameters (e.g., time of use, lateral and vertical dimensions, types and numbers of operations, supersonic flight). Any environmental issues identified in this review must be forwarded to the proponent for consideration.

21-5-5. REGIONAL DETERMINATION

After considering all pertinent information, the regional ATD determines whether to recommend approval of the proposal to FAA headquarters, negotiate changes with the proponent, or disapprove the proposal. If the regional aeronautical processing is completed before the proponent's environmental documents have been finalized, the proposal may be forwarded to FAA headquarters for review of the aeronautical portion. In all cases, a final determination on the proposal by FAA headquarters shall be deferred until applicable NEPA requirements are completed.

NOTE-
Supplemental public notice with an additional comment period may be necessary if significant changes are made to the proposal after it was advertised for public comment. If a FAA determination has not been issued within 36 months of the last aeronautical public comment period or, if it is known that the aeronautical conditions in the area have changed significantly from what existed at the time of that last comment period, a supplemental comment period is required. Supplemental comment periods may be reduced to 30 days in length.

21-5-6. DISAPROVAL OF PROPOSALS

a. The regional ATD may disapprove any SUA proposal, however, such disapproval should be based on valid aeronautical reasons. The ATD shall notify the proponent, in writing, stating the reasons for disapproval. Reasonable efforts should be made to resolve problem areas before rejecting the proposal. Provide an information copy of the disapproval correspondence to ATA-400.

b. If the proponent resubmits the proposal after resolving problem areas, the regional ATD should determine required actions and resume processing the proposal.

c. If the proponent resubmits the proposal without resolving problem areas, the regional ATD shall forward the case along with the region's recommendation to ATA-400 for further action.

21-5-7. SUBMISSION OF APPROVAL RECOMMENDATIONS TO FAA HEADQUARTERS

Submit SUA proposals recommended for approval to ATA-400 for final determination and processing. Include the following (as applicable):

a. A regional ATD transmittal memorandum containing a brief overview of the proposal and the region's recommendation for headquarters action. Summarize any amendments made to the original proposal in response to public comments, or negotiations to mitigate impacts, etc. If coordination with the designated controlling agency indicates that plans exist to provide nonparticipating pilots with traffic advisories, or real-time area activity status information, provide a VHF frequency and facility identification to be depicted on aeronautical charts.

b. A separate attachment that contains the recommended legal description of the area (e.g., boundaries, altitudes, times, controlling agency, and using agency). Use the format shown in TBL 21-2-1.

NOTE-
If only part of the description of an existing area is being amended, the attachment should show just the changed information rather than the full legal description.

c. A sectional aeronautical chart depicting the final boundaries of the proposed area, including any subdivisions.

d. A copy of the proponent's airspace request correspondence and proposal package, to include all applicable items required by section 3 of this chapter.

e. A copy of aeronautical comments received in response to the NPRM or non-rulemaking circular, along with a discussion of how each substantive comment was addressed or resolved.

f. A synopsis of FAA environmental issues or concerns which were forwarded to the proponent, if applicable. Identify any modifications made to the proposal to mitigate environmental effects.

g. A copy of the aeronautical study.

h. A summary of meeting discussions and copies of written comments submitted at the meeting, if an informal airspace meeting was held.

i. Copies of pertinent correspondence from other FAA offices (e.g., Flight Standards, Airports, adjacent regional ATD, affected ATC facilities, etc.).

j. Environmental documents (if not submitted separately).

k. Any other information that should be considered by FAA headquarters in making a final determination on the proposal.

21-5-8. HANDLING OF PROPOSALS TO REDUCE OR REVOKE SUA

a. Normally, proposals which lessen the burden on the public by reducing the size, or times of use, or by revoking SUA, do not require advance public notice and comment. An abbreviated proposal package may be submitted in accordance with paragraph 21-3-4.

b. An environmental analysis of the SUA reduction or revocation action is not normally required. However, if FAA plans to implement new routes or air traffic procedures in the affected airspace, that route or procedural action may require its own environmental analysis.

21-5-9. FAA INITIATED SUA PROPOSALS

a. Proposals to establish or modify SUA are normally initiated by a DoD proponent. However, since it is responsible for ensuring the safe and efficient use of the navigable airspace, the FAA may initiate SUA proposals when such actions are necessary to resolve a safety issue, enhance joint use, or enhance the capability of the SUA to accommodate the using agency's mission. Prior to initiating a SUA proposal, the regional ATD shall exhaust every avenue to resolve the issues by other means. When modification of an existing SUA area is contemplated, full consideration shall be given to providing the affected user with an equivalent capability to perform its mission.

b. When initiating a proposal, the regional ATD will prepare the SUA proposal package and required documentation. The proposal will be coordinated with the affected military units through the appropriate regional military representative. If an environmental analysis is required, the regional ATD will determine responsibility assignment.

c. In developing a proposal, the regional ATD shall, through the regional military representative, consult with the concerned DoD department to identify and document the impact of the proposed change on affected military units' mission(s).

d. If any using agency objects and agreement cannot be reached, but there is strong justification to proceed with the proposal, the regional ATD shall send the proposal package to ATA-400 for further action. Include with the proposal package, the reason for the proposal, a copy of the objections, a summary of efforts to resolve the objections, and the region's recommendations. Do not initiate public notice procedures for such proposals, without ATA-400 concurrence.

Section 6. AERONAUTICAL STUDY

21-6-1. PURPOSE

An aeronautical study is conducted to identify the impact of the SUA proposal on the safe and efficient use of airspace and ATC procedures.

21-6-2. POLICY

a. An aeronautical study is required for all prohibited area, restricted area, MOA, and warning area proposals, except those which reduce or revoke SUA, change the controlling or using agency, or make minor corrections to the legal description. The regional ATD determines whether to require an aeronautical study for alert area or CFA proposals.

b. The regional ATD shall task affected FAA ATC facilities to conduct, or provide input to the aeronautical study. When applicable, coordinate with adjacent regional offices for additional input. FAA ATC facilities shall submit the completed study to the regional ATD. When input to the study from a military ATC facility is needed, the regional ATD shall submit a request to the appropriate regional military representative.

c. For temporary airspace actions that are recurring, such as periodic military exercises, a previous study may be used provided it has been reviewed for currency and updated as necessary.

d. The regional ATD will review the study to determine if there are any aeronautical impacts to be considered or resolved. The regional ATD will supplement the study as needed to include regional perspective, cumulative effect analysis, etc. Coordinate the study findings with the proponent to explore possible options to reduce aeronautical impact.

e. A copy of the study shall be included with the SUA proposal package submitted to FAA Headquarters.

21-6-3. CONTENT OF STUDY

The regional ATD may specify the content and format of the study based on the type and extent of the SUA proposal. Suggested items include:

a. Introduction - An overview of the existing airspace structure, airports, and types and volume of aeronautical activities currently operating in the airspace affected by the proposal.

b. Impact on IFR and VFR Terminal Operations - Consider the proposal's impact on existing and proposed terminal procedure.

1. Arrival and departure flows, STARs, and departure procedures.

2. Standard instrument approach procedures.

3. Airport traffic patterns, Class D, and Class E airspace surface areas.

c. Impact on public use and charted private airports (airports with FAA Form 5010 on file) -

1. Number and types of aircraft based.

2. Amount of operations.

3. The proposal's affects on airport access, capacity, and operations.

d. Impact on IFR En Route Operations -

1. Overall effect on IFR traffic flow.

2. Existing airway/Jet Route structure/GPS routes.

3. Average daily traffic count on affected airway/route.

4. Feasibility of airway/route realignment to accommodate the proposed SUA.

5. Direct IFR routings.

e. Impact on VFR Operations, Routes, and Flyways - Consider the effect on VFR operations, charted routes and known, but uncharted, high-volume routes or flyways.

NOTE-
Although VFR pilots are not denied access to MOAs, the potential for aeronautical impact due to VFR pilots electing to deviate around the MOA when active should be evaluated when processing a MOA proposal. Consider the proposed MOA's size and location, and the extent of current non-participating VFR operations in the affected airspace.

f. Impact on other pending proposals - Consider known airport development plans, resectorization, other airspace or airway/route proposals, or instrument procedures, currently being processed or on file.

g. Cumulative Aeronautical Impact Assessment - Establishment of the proposed airspace

may have broader effects beyond the immediate vicinity of the proposed airspace. Consider the overall impact of the proposal on aviation operations when combined with:

1. Existing adjacent airspace such as Class B or C areas, or other SUA.

2. Existing geographical features such as large bodies of water, mountainous terrain, or obstructions that could influence the flight paths of nonparticipating aircraft or affect the availability of nonparticipating aircraft to circumnavigate the proposed SUA.

3. Aviation safety issues, compression of air traffic, etc.

NOTE-
If the proposed SUA will contain aircraft operations, also consider the impact of routes to be used by the participating aircraft to enter/exit the SUA area.

h. Associated ATCAA - If it is known that an ATCAA will be requested in conjunction with the proposed SUA, determine if use of the ATCAA would result in any additional aeronautical impact that should be considered.

i. Alternatives - When adverse aeronautical impacts are identified consider measures or alternatives that could mitigate or lessen the impact.

j. ATC Facility Assessment - The ATC facility's assessment of a proposal's impact on aeronautical and facility operations, and the facility's concurrence or nonconcurrence with the proposal.

k. ATC services - Indicate whether the controlling agency plans to provide real-time SUA status information, allow transitions through the area by nonparticipating aircraft, or provide traffic advisories to nonparticipating pilots requesting such services. If the controlling agency agrees to advertise such service, provide facility identification and a VHF frequency to be depicted on aeronautical charts.

l. Recommendations - Provide a recommendation for FAA action on the proposal.

Section 7. RESTRICTED AREA AND MOA ANNUAL UTILIZATION REPORTS

21-7-1. PURPOSE

Annual utilization reports provide the FAA with information regarding the times and altitudes used, and the types of activities conducted in restricted areas and MOAs. These reports assist the FAA in its management of the SUA program.

21-7-2. REPORTING REQUIREMENTS

a. Using agencies are required to submit annual reports to the FAA detailing the use of all assigned restricted areas and/or MOAs. Actual utilization data are required. See FIG 21-7-1 for report format. Instructions for preparing the report are contained in FIG 21-7-2.

b. Reports shall cover each fiscal year period (October 1 through September 30). If the area was assigned to the using agency for only part of the fiscal year, report the utilization for that partial period.

c. For areas that are subdivided by legal description, a separate report is required for each officially designated sub-area published in FAA Order 7400.8.

d. Do not include classified information in the report.

e. Submit reports by January 31 following the end of each fiscal year, to the office of the regional ATD Manager having jurisdiction over the airspace being reported.

f. Military using agencies shall submit reports to the FAA through the appropriate regional military representative. The military representative will ensure that an information copy of each report is sent to the Program Director for Air Traffic Airspace Management, ATA-1, Federal Aviation Administration, 800 Independence Avenue, SW, Washington, DC 20591.

g. Non-military using agencies shall submit reports directly to the FAA regional ATD Manager. The ATD will send an information copy of nonmilitary reports to ATA-400.

21-7-3. SUPPLEMENTARY REPORTS

The ATD may request the using agency to submit a supplementary report if it determines that additional information is needed to evaluate the use of a restricted area or MOA. Requests will be submitted through the appropriate regional military representative. Using agencies should provide the requested information within 60 days of receiving the request.

21-7-4. UTILIZATION REPORT TERMS

Terms as used in Restricted Area and MOA Annual Utilization Reports are defined as follows:

a. ATCAA - Airspace assigned by ATC to segregate air traffic between the specified activities being conducted within the assigned airspace and other IFR traffic.

b. Activated – The time-period during which the controlling agency has returned the restricted area or MOA to the using agency; regardless of whether any activity is actually occurring.

c. Controlling Agency – The designated ATC facility having jurisdiction over the SUA airspace when it is not in use by the using agency. Also, the facility that authorizes transit through, or flight within, special use airspace, in accordance with joint-use procedures contained in a letter of agreement.

d. Joint Use – A term applied to SUA which is released to the controlling agency for public access during periods when the airspace is not needed by the using agency. It also means airspace wherein access may be granted to non-participating aircraft subject to the joint-use procedures specified in a letter of agreement between the controlling and using agencies.

e. Nonparticipating aircraft – An aircraft, civil or military, which is not a part of the activities being conducted within a SUA area.

f. Scheduled – The using agency's planned time period(s) of intended use of a SUA area as submitted in advance to the controlling agency (for military using agencies, see the scheduling requirements contained in Order 7610.4, Special Military Operations, Chapter 9).

g. Using agency – The organization, unit, or military command that the SUA was established; and the agency responsible for compilation and submission of Restricted Area/MOA Annual Utilization Reports.

h. Utilized – Amount of time (hours or days) that activities were actually conducted in the SUA area (e.g., when participating aircraft were operating, or other designated activities were conducted, in the airspace).

21-7-5. REVIEW REQUIREMENT

a. The regional ATD shall perform a thorough review of all annual utilization reports for restricted areas and MOAs within its jurisdiction. At a minimum, the following utilization report items should be analyzed:

1. Activities - Are the reported activities appropriate for the airspace type and designated purpose?

2. Altitudes - Do the reported activities and altitudes reflect a requirement for the altitudes published in the area's legal description?

3. Utilization Data - Consider whether actual use supports the published parameters, or if discussions should be held with the user to determine if an airspace amendment action is appropriate. Calculate the following percentages for reference in comparing the published parameters of the area with its reported actual utilization.

(a) Hours actually utilized as a percentage of hours activated.

(b) Hours scheduled as a percentage of hours published in the area's legal description.

(c) Hours activated as a percentage of hours scheduled.

(d) Days actually utilized as a percentage of days activated.

4. Joint Use Information - Is the airspace being made available for joint use (if applicable)?

5. Remarks - Consider any mitigating factors that explain or clarify reported data. Are any other issues identified that require further action?

b. If additional information is needed to complete the utilization report review, request the user to submit a supplementary report as described in paragraph 21-7-3.

c. As required, initiate discussions to resolve issues or forward recommendations for corrective action, to the regional military representative or responsible official for nonmilitary SUA.

d. Refer to section 8 of this chapter for additional information regarding SUA review procedures and utilization standards.

21-7-6. REVIEW SUMMARY

The regional ATD shall prepare a summary of the results of its annual utilization report review. The summary should document the findings, recommendations, and actions taken, as appropriate. Submit review summaries to ATA-400 by March 31 of each year. It is not necessary to submit copies of the actual utilization reports with the summary.

RESTRICTED AREA AND MILITARY OPERATIONS AREA ANNUAL UTILIZATION REPORT
(RCS: 1412-DOT-AN)

1. Restricted area number or MOA name:

2. Reporting period dates:

3. Reporting Unit Name and Phone:

4. Associated ATCAA:

(a) ATCAA Name:

(b) ATCAA Altitudes:

5. Aircraft Activities:

(a) Aircraft types:

(b) Types of activities conducted:

(c) Altitude/flight levels used for each type of activity:

(d) Supersonic flight:

(1) Area used for supersonic:

(2) Altitudes/flight levels:

6. Artillery/Mortar/Missile Activities (Restricted Area only):

(a) Type activities:

(b) Maximum altitude used for each activity:

7. Other activities not reported in 5 or 6 above:

(a) Type activity:

(b) Maximum altitude used for each activity:

8. Utilization information:

(a) Total number of aircraft sorties:

(b) Total number of days the area was:

(1) Scheduled for use:

(2) Activated:

(3) Actually utilized:

(c) Total number of hours the area was:

(1) Scheduled for use:

(2) Activated:

(3) Actually utilized:

9. Joint use information:

(a) Total number of hours the area was returned to the controlling agency:

(b) Letter of agreement provisions:

10. New chart Submitted/No Change:

11. Remarks:

FIG 21-7-1

INSTRUCTIONS FOR PREPARING RESTRICTED AREA AND MOA ANNUAL UTILIZATION REPORTS

GENERAL: Restricted Area and MOA annual utilization reports provide information needed by FAA airspace managers to confirm airspace requirements and evaluate the efficiency of airspace utilization. It is essential that this report document actual utilization of the airspace as completely and as accurately as possible. The following format is used to report both restricted area and MOA utilization. If an item does not apply, enter "N/A" for that item. A "Remarks" section is provided to document additional pertinent information. Do not include classified information in this report. Refer to FAA Order 7400.2, Procedures for Handling Airspace Matters, for definitions of terms used in this report, and for additional reporting and submission instructions.

REPORT FORMAT:

1. Restricted area number or MOA name: State the Restricted Area number or MOA name. Report only one area per form. For areas that are officially subdivided by legal description (See FAA Order 7400.8), prepare a separate report for each subdivision.

2. Reporting Period Dates: Enter the fiscal year dates (1 Oct [enter applicable fiscal year] to 30 Sept [enter applicable fiscal year]), or period covered if other than a full fiscal year.

3. Reporting Unit: Provide name of organization preparing the report and DSN, commercial and FAX numbers (as available).

4. Associated ATCAA:

(a) ATCAA Name: Name(s) of ATCAA established for use in conjunction with the area being reported in Item 1. Enter "None" if no ATCAA established.

(b) ATCAA Altitudes: State the ATCAA altitudes available.

5. Aircraft Activities:

(a) Aircraft types: List the specific types of aircraft, which used the area during the reporting period (e.g., F-15, B-1, etc.). Include ROA activities in this section.

(b) Types of activities conducted: List each specific type of activity conducted. Do not use general terms such as "air operations," etc.

(c) Altitudes/flight levels used for each type activity: State the highest altitude/flight level used for each activity listed in 5b., above.

(d) Supersonic flight:

(1) Area used for supersonic: Indicate yes/no.

(2) Altitudes/Flight levels: State altitudes/flight levels used for supersonic flight.

6. Artillery/Mortar/Missile Activities (Restricted Areas only):

(a) Type of activities: Indicate type(s) of weapon(s) fired.

(b) Maximum altitude used for each activity: State the highest altitude used for each activity/weapon.

7. Other activities not reported in 5 or 6 above:

(a) Type activity: List any other activities conducted in the area, but not already covered in other sections of the report.

(b) Maximum altitude for each activity: State highest altitude used for each type activity.

8. Utilization information:

(a) Total number of aircraft sorties: Enter the total number of aircraft sorties that utilized the area during the reporting period.

(b) Total number of DAYS the area was: Count a "day" as being scheduled, activated, or utilized, regardless of the amount of time involved on that particular day. The intent of this item is to document the number of different days during the year that the area was needed in order to accomplish the mission, whether it was needed for only 10 minutes or a full 24 hours.

(1) Scheduled for use:

(2) Activated:

(3) Actually utilized:

(c) Total number of HOURS area was:

(1) Scheduled for use: Hours the area was activated by NOTAM may be included in this item.

(2) Activated:

(3) Actually utilized: When computing "actually utilized" time, do not provide a cumulative total of individual aircraft hours flown in the area. Hours reported cannot exceed the area's total available published hours.

9. Joint use information:

(a) Total number of hours the area was returned to the controlling agency: To compute this figure, subtract the hours reported in 8c(2) from 8760 hours (use 8784 hours for "leap year" reporting).

(b) Letter of agreement provisions: Note whether the letter of agreement between the controlling agency and the using agency includes any joint-use provisions which permit the controlling agency to route nonparticipating aircraft through the airspace.

10. New chart Submitted/No Change: Attach a chart of the area depicting, as applicable, aircraft operating areas, flight patterns, ordnance delivery areas, surface firing points, and target, fan, and impact areas. After once submitting an appropriate chart, annual charts are not required unless there is a change in the area, activity, or altitudes used, which would alter the depiction of the activities originally reported. If no change is to be submitted, indicate "No change."

11. Remarks: Include any other information that should be considered by airspace reviewers. Explain reasons for apparent low utilization rates or large differences between "scheduled," "activated," and/or "utilized" data (e.g., extensive weather or maintenance cancellations and delays, unit deployments, etc.); or note recurring airspace denials or restrictions on use of the area imposed by the controlling agency.

FIG 21-7-2

Section 8. SUA REVIEW AND ANALYSIS

21-8-1. GENERAL

Under Title 49 U.S.C. 40101 the FAA is charged with ensuring the safe and efficient use of the nation's airspace. In carrying out this responsibility, the FAA must periodically review existing SUA and take appropriate airspace amendment action, if warranted, based on the findings of its review. The following paragraphs set forth SUA review policy and provide suggested analysis techniques for use by regional and headquarters airspace personnel.

21-8-2. POLICY

a. The regional ATD shall conduct an annual review of restricted areas, MOAs, and warning areas under its jurisdiction. CFAs and Alert Areas may be reviewed as deemed necessary by the regional ATD. The purpose of the annual review is to:

1. Confirm that the user has a continuing requirement for the airspace.

2. Determine if the airspace is being used for its designated purpose.

3. Determine if actual use supports the designated dimensions and times of use.

4. Determine if joint-use airspace is being released to the controlling agency when not needed for its designated purpose.

5. Determine if any adjustments should be considered to enhance the efficient use or management of the airspace.

b. When the review indicates that airspace amendment or other corrective action should be considered, the regional ATD shall discuss the findings with the respective regional military representative, or responsible official for non-military SUA, and determine an appropriate course of action.

21-8-3. SOURCES OF INFORMATION

There are a variety of sources of information pertinent to SUA utilization. Using agencies are required to submit annual reports on restricted areas and MOA utilization as described in section 7 of this chapter. Additional information may be obtained through coordination and research to augment these reports or to compile specific information about SUA areas that are not covered by the annual reporting requirement. Coordination with controlling agencies may be necessary to obtain detailed information regarding real-time use and area scheduling practices, or to identify airspace operational problems. The Special Use Airspace Management System (SAMS) will provide a more centralized and comprehensive source of SUA data for review purposes. As it becomes available, SAMS data should be incorporated into the review process. Additional sources of SUA information include:

a. Controlling agency or using agency input.

b. Regional SUA onsite review team reports.

c. FAA Air Traffic Representative (ATREP) reports.

d. SUA Letters of Agreement.

e. User meeting feedback.

f. Routine use of restrictions imposed by the controlling agency on the activation of SUA, or frequent denials of using agency activation requests.

g. Recurring ATC problems, spill outs, or NMAC reports associated with the SUA being reviewed.

21-8-4. UTILIZATION STANDARDS

a. The General Accounting Office (GAO) recommended that the FAA establish standards to be used to measure the effectiveness of SUA utilization, and to serve as a starting point for regional discussions with the user about the possible need for an airspace amendment or revocation action. In fulfillment of the GAO recommendation, this paragraph presents a limited, basic standard to be considered when reviewing SUA utilization data. It applies primarily to the review of restricted area and MOA annual utilization reports, but may be used to evaluate other SUA areas where sufficient utilization data is available.

b. Reviewers are cautioned that many factors affecting SUA use cannot be quantified. Therefore, it is impractical to develop an all-encompassing standard that would fully measure SUA effectiveness. A thorough evaluation of SUA will require a combination of utilization data analysis, plus a subjective review of each area with consideration given to any unique circumstances.

c. The following standard may be applied in reviewing SUA utilization data:

1. Activities - The activities conducted must be appropriate for the type and designated purpose of the SUA.

2. Times of Use - Hours actually utilized should equal at least 75 percent of the hours the area was activated, discounted for weather cancellations and delays, or loss of use for reasons beyond the using agency's control (as documented in the utilization report Remarks section).

3. Designated Altitudes -Activities conducted/altitudes used indicate a need for retaining the published altitude structure of the SUA area.

21-8-5. SUA REVIEW GUIDE

This paragraph may be used as a framework for conducting a review of SUA. It applies primarily to the review of restricted areas and MOAs for which annual reports are submitted. However, it may also be used for reviewing warning areas when sufficient utilization data are available. This should not be considered an all-inclusive list. Reviewers may modify the factors to be examined or the extent of the review based on the availability of information or to fit the specific area/situation under review. The following items should be evaluated:

a. Activities - Are the activities conducted appropriate for the type and purpose of the SUA area? If inappropriate activities are conducted, notify the military representative, or responsible official, that the activity must be terminated in that SUA area or an airspace proposal must be submitted to establish the proper category of SUA to accommodate the activity.

b. Altitudes - Does the actual use of altitudes support those specified in the descriptions? Are there less frequently used portions that could be subdivided as separate areas to enhance real-time joint use of the airspace? Are any portions of the vertical dimensions no longer required for the mission? If the answers indicate a need for change, action should be initiated to amend the description.

c. Times of Use - Compare scheduled, activated, and actual utilized data. Low usage rates do not necessarily indicate a need to revoke or amend airspace. Consideration must be given to the designated purpose of the area and whether limitations were imposed on its use as a condition for the original establishment of the SUA. SUA may be established to accommodate less frequent activities such as certain research, test, and development profiles. Determining the continued requirement for, or validity of, such areas will require discussions with the user and cannot be determined strictly based on utilization times. Additionally, low or infrequent use may result from factors beyond the using agency's control, such as adverse weather, unit deployments, maintenance delays, ATC-imposed restrictions, etc.

1. Compare time actually utilized to time activated. This is the most important factor in analyzing SUA utilization. Significant disparity between the time activated and actually utilized may indicate inefficient airspace use and the need to improve real-time use procedures so that the airspace is released to the controlling agency for joint use when not needed by the user for its designated purpose. Determine whether the published times of use are valid or should be amended to match current mission requirements. If actual utilization is less than 75 percent of the time activated, coordinate with the regional military representative to determine the reason and whether corrective action is required. If information is available, the impact of weather and/or ATC delays on the actual utilization of the area should be considered when evaluating this item.

2. Compare scheduled use to published times of use. If scheduled use is significantly less than or greater than (e.g., by use of NOTAMs) the published times, discussions should be held with the user to determine if the published times should be amended to reflect current mission requirements.

3. Compare scheduled time to activated time. Is the amount of time the area is being activated consistent with the amount of scheduled use? A significant difference between these times may indicate a need to discuss real-time use or revalidate published times of use with the user. Consideration should be given to the effects of weather or maintenance cancellations, or other factors limiting the using agency's use of the area.

4. NOTAM Activation - If a NOTAM provision is included in the SUA legal description, and activation by NOTAM is extensive or routine, consider whether it would be advantageous to increase the published times of use to include the routine NOTAM period. This action may better inform the flying public of expected area usage periods, and reduce NOTAM system workload.

5. Intermittent Time of Use - If regular use of the area occurs during a set time period daily, or if use has become other than sporadic, consider whether specific times of use should be published to better inform the flying public of expected area usage periods and reflect current mission requirements.

d. Non-utilization of SUA - A using agency is required to explain in the remarks section of its annual utilization report why it did not use the SUA area during an entire reporting period. If no such explanation is provided, request that the military representative or using agency provide the reasons and the using agency's plans for future use of the airspace.

1. If the user responds that the SUA is no longer required, initiate action to revoke the airspace.

2. If the user validates a continuing need for the airspace, coordinate with the user to determine if the area's dimensions and/or times of use remain valid or should be amended to reflect current requirements.

3. If the airspace remains unused for a second consecutive fiscal year period, inform the military representative of the FAA's intent to revoke the area unless additional justification for retaining the airspace is submitted.

e. Joint-use and Real-time Use Procedures - Evaluate the effectiveness of joint-use procedures and real-time activation/deactivation procedures (if applicable). Obtain input from the controlling agency as needed.

1. Are procedures for timely release of joint-use airspace contained in a letter of agreement?

2. Are real-time activation/deactivation procedures specified and used?

f. Area Scheduling - Does the using agency schedule the area in accordance with Order 7610.4, Special Military Operations, requirements?

g. Aeronautical Charts and Publications - Check the accuracy of SUA information shown on aeronautical charts and contained in applicable publications. Submit required corrections to ATA-400 for processing.

h. Other Issues - Determine if there are any other issues that require further investigation, such as:

1. Adverse impact on NAS operations.

2. Recurring spill outs.

3. Frequent instances of limitations on the use or activation of the SUA by the controlling agency.

21-8-6. SUA REVIEW FOLLOW UP ACTION

The ATD's annual SUA review forms the basis for further discussions with user representatives to resolve any discrepancies noted or other issues that were identified. Results of the review should be documented and maintained on file in accordance with current administrative guidance. Regional follow up actions are dependent on the results of the review as follows:

a. If it is determined that the existing SUA parameters (times, altitudes, boundaries) are valid, no further action is required other than documentation of the review results.

b. If any SUA parameters are found to exceed the user's requirements or if it is determined that the SUA does not accommodate the user's current mission requirements, then the regional ATD should discuss the finding with the military representative/using agency official. When appropriate, the regional ATD should request the user to submit an airspace proposal to amend the SUA description.

Section 9. SUA REVIEW TEAMS

21-9-1. PURPOSE

a. A SUA Review Team is one option available to the regional ATD manager for conducting the annual SUA review detailed in paragraph 21-8-2.

b. When this option is selected, the SUA Review Team shall:

1. Evaluate the need for, or obtain additional information regarding a specific SUA proposal; or

2. Develop recommendations for the retention, modification, or revocation of the SUA airspace based on actual utilization or a change in user requirements.

c. A team established for this type of review shall be dissolved upon completion of its overall conduct of the review.

21-9-2. TEAM COMPOSITION

Review teams shall be composed of at least two FAA members plus the regional military representative. The team membership shall be based on the requirements and purpose of the review. Members may be selected from the reviewing region, another regional ATD, concerned ATC facilities, or other FAA headquarters (e.g., ATP-200 or AAT-20 representative), regional, or Field offices, as required (e.g., Flight Standards or FPO).

21-9-3. RESPONSIBILITIES

a. When the Regional ATD Manager determines that there is a need for a team to review a SUA, the manager shall designate a team chairperson who will be responsible for the overall conduct of the review.

b. The team chairperson shall:

1. Prepare an agenda and pre-brief team members on the purpose and procedures for the review.

2. Begin coordination sufficiently in advance to provide local officials with adequate time to prepare the required information.

3. Coordinate visits to military SUA sites through the appropriate regional military representative.

4. Determine if an informal airspace meeting should be held to allow users and other interested parties an opportunity to present comments and offer recommendations. If a meeting is planned, follow the informal airspace meeting procedures in chapter 2 of this order.

c. The team shall examine:

1. The actual hours, altitudes, and geographical area used, the types of activities conducted, and the impact on other users.

2. Review the effectiveness of procedures for real-time, joint-use of the airspace, and identify problem areas or aeronautical impacts.

3. Draft recommendations to resolve problems, improve the efficient use of airspace, and/or enhance the service to the using agency.

21-9-4. TEAM REPORT

a. A report shall be prepared to document the results of the review. The report contents should include at a minimum:

1. Copies of notification memoranda.

2. A team member list.

3. An executive Summary.

4. A description and chart of the SUA reviewed.

5. Team Observations and Recommendations.

6. An informal airspace meeting summary and copies of written comments submitted at the meeting (if applicable).

7. Supporting documents or source information (if applicable).

(a) SUA utilization data.

(b) Letters of Agreement.

(c) Other pertinent documents.

b. Within 60 days after completion of the review, the report shall be forwarded through the regional ATD manager to the regional military

representative, or responsible official for nonmilitary SUA. A copy of the report shall be sent to ATA-400 and concerned ATC facilities.

21-9-5. FOLLOW UP ACTION

a. The regional military representative, or responsible official for non-military SUA, should respond to the report in writing within 60 days of receipt. If the user concurs with the team's observations and recommendations, the regional ATD shall coordinate with the user representative to initiate any required airspace action or other recommendations.

b. If the user does not agree with the stipulated recommendations, the ATD shall coordinate with the appropriate representative to resolve any issue(s). If agreement cannot be reached, the ATD shall forward its recommendation, along with an explanation of the user's position, to ATA-400 for further action. A copy of the region's recommendation shall be provided to the appropriate user representative.

c. The ATD will monitor the status of open items until all required actions have been addressed.

Chapter 22. PROHIBITED AREA

Section 1. GENERAL

22-1-1. DEFINITION

A prohibited area is airspace established under 14 CFR part 73 provisions, within which no person may operate an aircraft without permission of the using agency.

22-1-2. PURPOSE

Prohibited areas are established when necessary to prohibit flight over an area on the surface in the interest of national security and welfare.

22-1-3. IDENTIFICATION

Identify prohibited areas with the prefix letter "P" followed by a dash, a two-digit number, location, and the two-letter state abbreviation (e.g., "P-47, Amarillo, TX"). Identification numbers are assigned by ATA-400.

22-1-4. DESCRIPTION

Prohibited areas normally extend from the surface upward to a specified altitude, with a "continuous" time of designation.

Section 2. PROCESSING

22-2-1. PROPOSALS

The restrictions imposed by a prohibited area may be highly controversial and require in-depth study. Although specifying a minimum processing time is impractical, at least nine months is required for a routine action that is non-controversial and without significant aeronautical impact.

22-2-2. ENVIRONMENTAL IMPACT

Prohibited area designations are actions that are considered neither permissive nor enabling. As such, environmental assessments or statements are not required when designating the area (See Order 1050.1).

NOTE-
If any subsequent airspace or air traffic procedural actions are taken as a direct result of establishing a prohibited area (e.g., rerouting air traffic activities), these actions may be subject to some level of environmental assessment (see Order 1050.1).

Chapter 23. RESTRICTED AREAS

Section 1. GENERAL

23-1-1. DEFINITION

A restricted area is airspace established under 14 CFR part 73 provisions, within which the flight of aircraft, while not wholly prohibited, is subject to restriction.

23-1-2. PURPOSE

Restricted areas are established when determined necessary to confine or segregate activities considered hazardous to nonparticipating aircraft.

23-1-3. IDENTIFICATION

Identify restricted areas with the letter "R" prefix followed by a dash, a four-digit number, a location, and the two-letter state abbreviation (e.g., R-2309, Yuma, AZ). A letter suffix is used to indicate area subdivisions. ATA-400 assigns identification numbers.

23-1-4. RESTRICTED AREA FLOOR

a. The restricted area floor may be established to the surface only when the using agency owns, leases, or by agreement, controls the underlying surface.

NOTE-
Existing restricted areas established from the surface before December 1, 1967 are exempt from the "own, lease, or control" requirement. This remains valid until amendment action is taken which would expand the boundaries, altitudes, or times of use, or changes the designated purpose of the area. Nevertheless, using agencies of such restricted areas are encouraged to acquire sufficient control of the property to prevent possible disruption of that agency's activities.

b. Provisions must be made for aerial access to private and public use land beneath the restricted area, and to accommodate instrument arrivals/departures at affected airports with minimum delay.

c. The restricted area shall exclude the airspace 1,500 feet AGL and below within a 3 NM radius of airports available for public use. This exclusion may be increased if necessary based on unique circumstances.

23-1-5. JOINT USE

a. Restricted areas are established for joint use by assigning an ATC facility as the controlling agency, and by executing a joint use letter of procedure between the controlling and using agencies. The letter of procedure provides for the operation of nonparticipating IFR and/or VFR aircraft within the area. Flight within the restricted area is controlled by the using agency except when the area has been released to the controlling agency. During such periods, the controlling agency may permit nonparticipating aircraft operations in the restricted area.

b. Prepare letters of procedure in accordance with FAA Order 7210.3. The format of the letter may be modified as needed based on local requirements. The joint use letter shall include procedures for the timely activation, release, or recall of the airspace. The letter may also specify conditions and procedures whereby the controlling agency may route traffic through the area while in use, if approved separation can be maintained between nonparticipating aircraft and the user's activities.

c. The regional ATD shall be the approval authority for joint-use letters of procedure. This authority may be delegated to a FAA ATC facility designated as the controlling agency.

d. Requirements for coordination and communications between the controlling and using agencies concerning the activation and release of joint use restricted areas shall be outlined in the letter of procedure. A record shall be made of all such communications. These records shall be retained in accordance with FAA Order 7210.3.

23-1-6. TEMPORARY RESTRICTED AREAS

a. Temporary restricted areas may be designated when necessary to accommodate hazardous activities associated with military exercises, test programs, etc.

b. Proponents shall be encouraged to seek permission from using agencies to conduct their

activities within existing permanent restricted areas before submitting a request for designation of a temporary restricted area.

c. The duration of a temporary restricted area shall be specified in the NPRM/Final Rule.

Section 2. PROCESSING

23-2-1. SUBMISSION OF PROPOSALS

Submit restricted area proposals to the regional ATD at least 10 months prior to the desired effective date. The following schedule is an estimate of the minimum time needed to process proposals that require only routine coordination.

NOTE-
Proposals that are complex, controversial, or require extensive environmental analysis could need up to 24 months or more additional processing time beyond that shown in TBL 23-2-1.

23-2-2. TEMPORARY RESTRICTED AREA PROPOSALS

a. Temporary restricted areas are subject to the same rulemaking processing (e.g., NPRM and final rule) and environmental analysis requirements as permanent areas. However, since temporary restricted area effective dates are determined by the exercise or mission requirements rather than the standard 56-day en route chart cycle, a shorter overall processing time is the norm.

b. The FAA will attempt to accommodate changes in temporary restricted area requirements. Nonetheless, exercise planners should be aware that the Administrative Procedure Act requires public notice of the proposal and publication of the final rule at least 30 days before the airspace effective date. Moreover, these requirements may not permit late changes to the airspace proposed in the NPRM without causing a delay in the planned exercise start date. Significant changes to the proposal after the NPRM is published could necessitate an additional public comment period, further study of the aeronautical impact, and/or supplemental environmental analysis. Therefore, early planning, careful ground site selection, and close coordination between concerned parties throughout the entire planning process are essential. In selecting the ground site, specific attention must be given to the impact of the proposed temporary restricted area on existing aeronautical operations near the site. In any case, no change should be made within 45 days of the exercise start date unless:

1. It is absolutely essential to the safety and successful conduct of the exercise; or

2. To reduce the amount of airspace to be restricted.

NOTE-
For processing times, see TBL 23-2-1. See Order 7610.4, chapter 2, for additional details.

Calendar Days	Action
D	Proposal received by FAA regional office.
D+30	Proposal reviewed by region; aeronautical study initiated. Proposal sent to ATA-400 to begin Rulemaking Process.
D+95	Proposal reviewed by ATA-400.
D+105	NPRM published in Federal Register; Public comments directed to appropriate region.
D+150	Public comment period ends.
D+180	Comments reviewed by the region, and recommendations sent to ATA-400.
D+240	Headquarters review of proposal, comments, and regional recommendations. Final determination; Rule prepared and submitted to Federal Register.
D+250	Rule Published in Federal Register (at least 30 days prior to effective date).
D+250-306	Within this time frame; NOS cutoff date, and Rule effective date.

TBL 23-2-1

Calendar Days	Action
D	Proposal received by FAA regional office.
D+30	Proposal reviewed by region and submitted to ATA-400; aeronautical study initiated as required.
D+95	Proposal received by ATA-400, NOS coordination; NPRM sent to Federal Register. Comments directed to appropriate regional office.
D+105	NPRM published in Federal Register.
D+150	Public comment period ends.
D+180	Comments reviewed by region; recommendation sent to ATA-400.
D+240	ATA-400 review of proposal, comments, and regional recommendation. Final determination. Rule prepared and sent to Federal Register. Graphic Notice sent to NOTAM Publication.
D+250	Rule published in Federal Register (at least 30 days prior to effective date).

TBL 23-2-2

Chapter 24. WARNING AREAS

Section 1. GENERAL

24-1-1. DEFINITION

A warning area is airspace of defined dimensions, (extending from 3 NM outward from the coast of the United States), designated to contain activity that may be hazardous to nonparticipating aircraft.

24-1-2. PURPOSE

The purpose of a warning area is to warn nonparticipating pilots of the potential danger from activities being conducted. A warning area may be located over domestic waters, international waters, or both.

24-1-3. IDENTIFICATION

Identify warning areas with the letter "W" prefix followed by a two- or three-digit number, a location, and the two-letter state abbreviation (e.g., W-291, San Diego, CA). A letter suffix is used to indicate subdivisions. Identification numbers are assigned by ATA-400.

24-1-4. JOINT USE

Warning areas may be considered for joint use if the area can be released to the FAA during periods when it is not required for its designated purpose, and provided the warning area is located in airspace wherein the FAA exercises ATC authority under ICAO agreements. When designating a warning area for joint use, a letter of agreement shall be executed between the controlling and using agencies to define the conditions and procedures under which the controlling agency may authorize nonparticipating aircraft to transit, or operate within the area. Apply the provisions of paragraph 23-1-5, as appropriate.

Section 2. PROCESSING

24-2-1. SUBMISSION OF PROPOSALS

Submit warning area proposals to the regional ATD at least 7 months prior to the desired effective date. The following schedule is an estimate of the minimum time needed to process proposals that require only routine coordination.

NOTE-
Proposals that are complex or controversial could require significantly longer processing time than that shown in TBL 24-2-1.

24-2-2. EXECUTIVE ORDER 10854 COORDINATION

In accordance with Executive Order 10854, all warning area proposals must be coordinated with the Departments of State and Defense. This coordination will be accomplished by ATA-400.

Calendar Days	Action
D	Proposal received by FAA regional office.
D+30	Proposal reviewed by region; Aeronautical study initiated, as required Nonrule circular published.
D+75	Public comment period ends. Aeronautical study due.
D+105	Comments reviewed by region; recommendation sent to ATA-400.
D+150	Executive Order 10854, NOS coordination, and final determination by ATA-400.
D+160	NOS cutoff date. Warning area published in NFDD (on or before cutoff date for next available charting date).
D+240	Warning area effective date.

TBL 24-2-1

Chapter 25. MILITARY OPERATIONS AREAS

Section 1. GENERAL

25-1-1. DEFINITION

A military operations area (MOA) is airspace designated outside of Class A airspace, to separate or segregate certain nonhazardous military activities from IFR traffic and to identify for VFR traffic where these activities are conducted.

25-1-2. PURPOSE

MOAs are designated to contain nonhazardous, military flight activities including, but not limited to, air combat maneuvers, air intercepts, low altitude tactics, etc.

25-1-3. IDENTIFICATION

Identify a MOA by a name followed by the acronym MOA and the two-letter state abbreviation (e.g., Dome MOA, AZ). MOA subdivisions may be identified by a suffix consisting of a number, letter, cardinal point, or the terms "High" or "Low," (e.g., Moody 1; Gamecock B; Tiger North; Smoky High). Either the proponent or the regional ATD selects MOA names.

NOTE-
Select an easily understood word. Lengthy or composite names are cumbersome and tend to be confusing when communicating and in charting.

25-1-4. MOA FLOOR

MOAs may extend below 1,200 feet AGL if a mission requirement exists and there is minimal adverse aeronautical effect. Provisions must be made to enable aerial access to private and public use land beneath the area, and for terminal VFR and IFR flight operations. Provisions must also be made to accommodate instrument arrivals/departures at affected airports with minimum delay. The MOA shall exclude the airspace 1,500 feet AGL and below within a 3 NM radius of airports available for public use. This exclusion may be increased if necessary based on unique circumstances. If the MOA floor extends below 1,200 feet AGL over a charted private airport, coordination should be effected with the airport operator to determine whether there would be any conflict between the MOA activity and airport operations.

25-1-5. LOCATION

MOAs should be located to create minimum adverse impact on nonparticipating aircraft operations. MOAs shall not be established offshore beyond the U.S. 12 NM territorial limit. To the extent possible, locate MOAs:

a. Within 100 miles of the user's base of flight origin.

b. Outside terminal area airspace, Federal airways, charted terminal VFR routes, and known high volume VFR flyways.

c. Within radar and communications coverage of an ATC facility or MRU.

NOTE-
Do not designate MOAs to overlap existing, charted Terminal Area VFR Routes, or charted VFR Flyways (See Order 7210.3, Facility Operation and Administration, Chapter 11).

25-1-6. JOINT USE

a. In effect, MOAs are always joint use in that VFR aircraft are not denied access, and IFR aircraft may be routed through the airspace, by agreement between controlling and using agencies, when approved separation can be provided from the MOA activity.

b. Procedures for access to the airspace by nonparticipating IFR traffic shall be specified in a letter of agreement between the controlling and using agencies.

25-1-7. TEMPORARY MOAs

a. Temporary MOAs are designated to accommodate the military's need for additional airspace to periodically conduct exercises that supplement routine training. When existing airspace is inadequate to accommodate these short-term military exercises, temporary MOAs may be established for a period not to exceed 45 days. On a case-by-case basis, ATA-400 may

approve a longer period if the proponent provides justification for the increase.

b. When it is determined that the need for a temporary MOA will occur on a regular and continuing basis, the airspace should be considered for establishment as a permanent MOA with provisions for activation by NOTAM/Special Notice disseminated well in advance of scheduled exercises.

c. Once a temporary MOA is approved, the military shall be responsible for publicizing the exercise within 100 miles of the affected airspace. The publicity may be accomplished through the public media, pilot forums, distribution of information bulletins to known aviation interests, etc.

25-1-8. MOAs IN CLASS G AIRSPACE

MOAs may be designated in Class G airspace. Using agencies and pilots operating in such MOAs should be aware that nonparticipating aircraft may legally operate IFR or VFR without an ATC clearance in these MOAs. Pilots of nonparticipating aircraft may operate VFR in Class G airspace in conditions as low as 1 statute mile flight visibility and clear of clouds (see Section 91.155 for complete Class G airspace VFR minima). Any special procedures regarding operations within MOAs that encompass Class G airspace should be included in a letter of agreement between the controlling and using agencies.

Section 2. PROCESSING

25-2-1. SUBMISSION OF PROPOSALS

Submit MOA proposals, other than temporary MOAs, to the regional ATD at least 8 months prior to the desired effective date (see paragraph 25-2-2 for temporary MOA proposals). The following schedule is an estimate of the minimum time needed to process proposals that are non-controversial, without significant aeronautical impact and require only routine coordination.

NOTE-
Complex,processing time beyond that shown in TBL 25-2-1 or controversial proposals, or those needing extensive environmental analysis may require as much as 24 or more months.

Calendar Days	Action
D	Proposal received by FAA regional office.
D+30	Proposal reviewed by region. Nonrule circular published. Aeronautical study initiated, as required.
D+75	Public comment period ends. Aeronautical study due.
D+105	Comments reviewed by region and recommendation sent to ATA-400.
D+165	Proposal, comments, and recommendation reviewed by ATA-400. NOS coordination and final determination.
D+175	NOS cutoff date. MOA published in NFDD on or before this date.
D+231	MOA effective date and/or 56-day airspace effective date.

TBL 25-2-1

25-2-2. TEMPORARY MOA PROCESSING

a. Submit temporary MOA proposals to the regional ATD at least 4 months prior to desired effective date (See TBL 25-2-2). When there is a known requirement for multiple activations of the same temporary MOA over a specific time period, proponents are encouraged to combine the requests into a single proposal covering the entire period. This will provide notice to the public that is more effective and reduce administrative processing workload.

b. Temporary MOA effective dates are determined by the exercise requirements rather than the 56-day en route chart cycle used for permanent SUA. Consequently, a shorter overall processing time is required.

c. See paragraph 21-1-15 of this order for graphic notice and narrative description information to be submitted with the proposal package.

d. For recurring temporary MOAs, an abbreviated proposal package may be submitted at the discretion of the regional ATD. See paragraph 21-3-4 of this order for details.

Calendar Days	Action
D	Proposal received by FAA regional office.
D+30	Proposal reviewed by region; Nonrule circular published; aeronautical study initiated.
D+75	Public comment period ends. Aeronautical study due.
D+105	Comments reviewed by region. Recommendation sent to ATA-400.
D+135	Proposal, comments, and recommendation reviewed by ATA-400. NOS coordination and final determination. Graphic Notice sent to NOTAM Publication.

TBL 25-2-2

Chapter 26. ALERT AREAS

Section 1. GENERAL

26-1-1. DEFINITION

An alert area is airspace wherein a high volume of pilot training or an unusual type of aeronautical activity is conducted.

26-1-2. PURPOSE

Alert areas are designated to inform nonparticipating pilots of areas that contain a high volume of pilot training operations, or an unusual type of aeronautical activity, that they might not otherwise expect to encounter. Pilots are advised to be particularly alert when flying in these areas.

26-1-3. LOCATION

Alert areas shall not extend into Class A, B, C, and D airspace, or Class E airport surface areas. To the extent possible, alert areas should avoid Federal airways, major terminal areas, and high volume VFR routes. Once an alert area is designated the establishment of Federal airways through such areas should be kept to a minimum.

26-1-4. ACTIVITIES

a. Only those activities that do not pose a hazard to other aircraft may be conducted in an alert area.

b. All alert area activities shall be conducted in accordance with visual flight rules, and in compliance with applicable Sections of 14 CFR without waiver. Operations that require a waiver or exemption to part 91 shall not be conducted in alert areas.

c. Flight Service Stations may broadcast information regarding alert area activities as circumstances dictate.

26-1-5. IDENTIFICATION

Alert areas shall be identified by the letter "A" prefix followed by a dash, a two or three digit number, a location, and the two-letter state abbreviation (e.g., A-292 Pensacola, FL). A letter suffix is used to indicate subdivisions. Identification numbers are assigned by ATA-400. Aeronautical charts shall be annotated to reflect the type of activity conducted in the alert area.

26-1-6. ENVIRONMENTAL ASSESSMENT

Alert area designations are advisory actions that are neither permissive nor enabling. As such, these areas serve only to advise the flying public of the location of existing activity. Therefore, FAA environmental assessment of alert area proposals is not required (See Order 1050.1).

Section 2. CRITERIA

26-2-1. GENERAL

a. Alert areas should be designated only at those locations where it is determined that either the volume of training operations, or the unusual aeronautical activity, is so unique that dissemination of the information would be of operational value to the flying public, and would significantly enhance aviation safety.

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. Alert areas may be designated for either military or civil aviation activities.

c. Since pilots should normally expect to encounter concentrated air traffic near major military and civil airports, the establishment of alert areas at such locations is not recommended in order to avoid diminishing the effectiveness of the alert area designation.

d. Alert areas should not be designated for activities where other approved charting symbology is more appropriate (e.g., Parachute Jumping Areas, Glider Operating Areas).

e. Establishment of an alert area is not a prerequisite to conduct any type of flight activity.

f. Other than the basic requirement to comply with applicable sections of 14 CFR 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 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 7210.3, chapter 12) annually and be generated primarily by student training in fixed-wing and/or rotary-wing aircraft.

2. A pilot training area beyond a 20-nautical mile radius of the airport that contains unusually intensive training operations.

b. Unusual Aeronautical Activity - There are no specific criteria established for this category. 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 Mexico area.

Section 3. PROCESSING

26-3-1. ALERT AREA PROPOSALS

Alert area proposals shall contain all applicable items listed in chapter 21, section 3 of this order; except that designation of a controlling agency, completion of an aeronautical study, and FAA environmental analysis are not required.

26-3-2. SUBMISSION OF PROPOSALS

Submit alert area proposals to the regional ATD at least 6 months prior to the desired effective date. The following schedule is an estimate of the minimum time needed to process proposals that require only routine coordination.

NOTE-
Controversial proposals may require significantly greater processing time than that shown in TBL 26-3-1.

Calendar Days	Action
D	Proposal received by FAA regional office.
D+30	Proposal reviewed by region. Non rule circular published.
D+75	Public comment period ends.
D+105	Comments reviewed; recommendation sent to ATA-400
D+135	NOS coordination; proposal, comments and recommendation reviewed by ATA-400. Final determination.
D+145	Alert Area cutoff date and effective date published in NFDD.
D+145-201	Win\thin this time frame; NOS cutoff date and Alert Area effective date.

TBL 26-3-1

Section 2. PROCESSING

27-2-1. SUBMISSION REQUIREMENTS

Submit CFA proposals to the appropriate regional ATD at least 4 months prior to the desired effective date.

27-2-2. CFA PROPOSALS

CFA proposals shall include the applicable items from chapter 21, section 3. In addition, provide the following information:

a. Justification for establishing a CFA instead of a restricted area.

b. Surveillance and safety procedures to be applied.

27-2-3. REGIONAL ACTION

Upon receipt of a CFA proposal, the ATD shall:

a. Assign a nonrulemaking study number.

b. Determine if circularization of the proposal is required.

c. Review the proposal for justification and compliance with CFA criteria.

d. Determine if the proposed would conflict with the requirements of other airspace users. Consider proximity of Federal airways, VFR flyways, etc.

e. Evaluate the adequacy of surveillance and safety procedures.

f. Determine limitations, safety precautions, or other requirements to be observed as conditions of approval.

g. If the operation also requires a waiver to part 101, process that waiver and complete FAA Form 7711-1, Certificate of Waiver or Authorization.

h. Issue an approval letter to the proponent (see paragraph 27-2-4), or inform the proponent in writing if the CFA is disapproved.

27-2-4. APPROVAL LETTER

Inform the proponent in writing of the approval or renewal of the CFA. Include the following information as required:

a. CFA description (boundaries, altitudes, and times of use).

b. Activity for which the CFA is approved.

c. Using agency name.

d. Effective/expiration date(s).

e. Conditions, operating limitations, and/or safety precautions to be observed (see section 3 of this chapter).

f. Additional provisions, if needed.

g. Instructions for the user to notify the operators of airports in the vicinity of the CFA of the activities to be conducted, if required.

h. If applicable, attach FAA Form 7711-1.

i. Instructions and suspense date for submitting a CFA renewal request, if applicable.

Section 3. SAFETY PRECAUTIONS

27-3-1. USER RESPONSIBILITIES

The CFA user shall:

a. Ensure that the activity is confined within the CFA.

b. Cease hazardous activity immediately upon observation or notification that a nonparticipating aircraft is approaching the area. Resume the activity only after the aircraft is clear of the CFA.

c. Make provisions to ensure the safety of persons or property on the surface, if applicable.

d. Retain full legal responsibility in event of any incident resulting from the activity conducted in the CFA.

27-3-2. PRECAUTIONARY MEASURES

a. The ATD must be satisfied that adequate safety precautions are in place for each CFA. Specific precautionary measures established to protect nonparticipating aircraft and persons and property on the surface will depend on various factors such as the type of activity, terrain, CFA dimensions, etc. The following measures are considered the minimum required and are mandatory for all CFAs:

1. The user shall appoint a safety officer to ensure that operations are conducted according to the requirements of this order, and the CFA approval letter.

2. The base of the clouds shall be at least 1,000 feet above the highest altitude affected by the hazardous activity.

3. Visibility shall be sufficient to allow visual surveillance of the entire CFA, plus a distance of 5 miles beyond the CFA boundary in all directions.

4. The CFA shall be clear of nonparticipating aircraft or personnel before starting, and while conducting hazardous activities.

5. Projectiles shall not enter any cloud formation.

b. The ATD may establish other ceiling and visibility requirements, or additional precautionary measures, as required by the specific case.

NOTE-
CFA activities are terminated to avoid conflict with nonparticipating aircraft, therefore, there is no requirement for the issuance of a NOTAM.

27-3-3. AREA SURVEILLANCE

a. Surveillance shall be continuously maintained immediately prior to and during the time that hazardous activity is in progress.

b. Surveillance may be accomplished by trained ground observers, aircraft, surface vessels, or a combination of methods. Radar may be used to supplement visual surveillance of the area.

c. A sufficient number of trained observers shall be used to ensure adequate coverage of the required area.

d. Observers shall be provided with continuous, effective communications with all firing points. If at any time communication is lost, hazardous activity shall cease until reliable communication is reestablished.

PART 6
MISCELLANEOUS PROCEDURES

Part 6. MISCELLANEOUS PROCEDURES

Chapter 28. OUTDOOR LASER OPERATIONS

Section 1. GENERAL

28-1-1. PURPOSE

This chapter prescribes policy, responsibilities, and guidelines for processing outdoor laser operation requests and determining the potential effect of outdoor laser activities on users of the NAS.

28-1-2. AUTHORITY

a. Title 49 of the U.S. Code (49 U.S.C.) Section 40103 gives the Administrator the authority to regulate, control, develop plans for, and formulate policies with respect to the use of the navigable airspace.

b. Regulatory authority for laser light products has been delegated to the Food and Drug Administration (FDA). Product regulations are detailed in 21 CFR part 1010, Performance Standards for Electronic Products, and part 1040, Performance Standards for Light Emitting Products.

28-1-3. POLICY

a. Determinations shall be based on the findings of an aeronautical review.

b. Regional offices shall conduct an aeronautical review of all laser operations to be performed in the NAS to ensure that these types of operations will not have a detrimental effect on aircraft operations. Requests should be evaluated by the region having jurisdiction over the airspace and coordination, if necessary, with the affected facility.

c. Full consideration shall be given to national defense requirements, commercial uses, and general aviation operations that have the public right of "freedom of transit" through the NAS.

d. Accordingly, while a sincere effort shall be made to negotiate equitable solutions to conflicts over the use for non-aviation purposes, preservation of the navigable airspace for aviation must receive primary emphasis.

28-1-4. RESPONSIBILITIES

a. The regional ATD or designee is responsible for evaluating and determining the effect of outdoor laser operations on users of the navigable airspace.

b. Flight Standards (AFS) is responsible for providing information regarding activities that have the potential effect placed upon the pilot in the performance of his duties.

c. Aviation Medicine is responsible for providing information regarding the potential effects of laser lights on pilot vision.

28-1-5. DEFINITIONS

a. Afterimage - A reverse contrast shadow image left in the visual field after an exposure to a bright light that may be distracting and disruptive, and may persist for several minutes.

b. Center for Devices and Radiological Health (CDRH) - An office of the FDA concerned with enforcing compliance with the Federal requirements for laser products including laser light shows.

c. Demonstration - Any laser product designed or intended for purposes of visual display of laser beams, for artistic composition, entertainment, and/or advertising display (Reference 21 CFR 1040.10(b) 13).

d. Divergence - The increase in diameter of the laser beam with distance from the exit aperture. (Sometimes referred to as beam spread.)

e. Flashblindness – Generally, a temporary visual interference effect that persists after the source of illumination has ceased.

f. Flight Safe Level - An estimate of the maximum exposure of radiant light energy emission (irradiance value) allowed to illuminate an aircraft within specific flight zones.

g. Flight Zones - Airspace areas specifically intended to mitigate the potential hazardous effect

of laser emissions. There are several types of flight free zones which may not be contiguous or concentric. See FIG 28-1-1. FIG 28-1-2, and FIG 28-1-3.

h. Flight Zone Exposure Distance - The maximum distance from the laser system beyond which the laser beams irradiance level does not exceed a specific level:

1. Laser Free Zone - 50nW/cm2;

2. Critical Zone - 5μW/cm2;

3. Sensitive Zone - 100μW/cm2.

i. Irradiance – Irradiance is a means of expressing the intensity of the beam. Generally, the power per unit area expressed in watts per centimeter squared.

j. Joule (J) – The international system unit of energy. One joule equals one watt times one second.

k. Laser - An acronym for light amplification by stimulated emission of radiation. A laser is a device that produces an intense, directional, coherent beam of visible or invisible light.

1. Continuous Wave (CW) The output of a laser which is operated in a continuous duration rather than a pulsed mode.

2. Repetitive Pulsed (RP) A laser with multiple pulses of radiant energy occurring in a sequence.

l. Laser Manufacturer – A term that refers to persons who make laser products, including those who are engaged in the business of design, assembly, or presentation of a laser light show.

m. Laser Operator - A knowledgeable person present during laser operation who has been given authority to operate the laser system in compliance with applicable safety standards, subject to recommendations of the laser safety officer.

n. Laser Safety Officer (LSO) - Anyone who has authority to monitor and enforce the control of laser hazards and affect the knowledgeable evaluation and control of laser hazards.

o. Laser Safety Observer - Anyone who is responsible for monitoring the safe operation of a laser and can affect termination of the laser emission in the event an unsafe condition is imminent.

p. Local Laser Working Group (LLWG) - A group that, when necessary, is convened to assist the regional ATD in evaluating the potential effect of laser emissions on aircraft operators in the local vicinity of the proposed laser activity.

q. Maximum Permissible Exposure (MPE) - The level of laser radiation to which a person may be exposed without hazardous effect or adverse biological change in the eye or skin. In general, MPE is expressed as mW/cm2or mJ/cm2.

r. Milliradian (mrad) - A measure of angle used for beam divergence.

s. Nominal Ocular Hazard Distance (NOHD) - The maximum distance from the laser system beyond which the laser-beam irradiance does not exceed the MPE for that laser.

t. Radiant Exposure - A means of expressing the intensity of the beam. This is generally expressed as J/cm2.

u. Reflected Beams -

1. Diffuse - "Change of the spatial distribution of a beam of radiation when it is reflected in many directions by a surface or by a medium. Some examples of this are flat finish paints or rough surfaces."

2. Specular - A mirror-like reflection that usually maintains the directional characteristics of the beam.

v. Terminated Beam - An output from the laser projector that enters navigable airspace that is confined by an object that blocks the beam or prohibits the continuation of the beam at levels above the applicable flight safe level.

w. Unterminated Beam - A laser beam that is directed or reflected into the navigable airspace.

x. Variance - Permission from FDA for a laser manufacturer and/or operator to deviate from one or more requirements of 21 CFR 1040 when alternate steps are taken to provide equivalent level of safety.

y. Watt - A unit of measurement associated with power output. Often the wattage of a laser system is prefixed with milli, (mW) micro (μW), or nano (nW). One watt is one joule per second.

Multiple Runway
Laser Free Zone

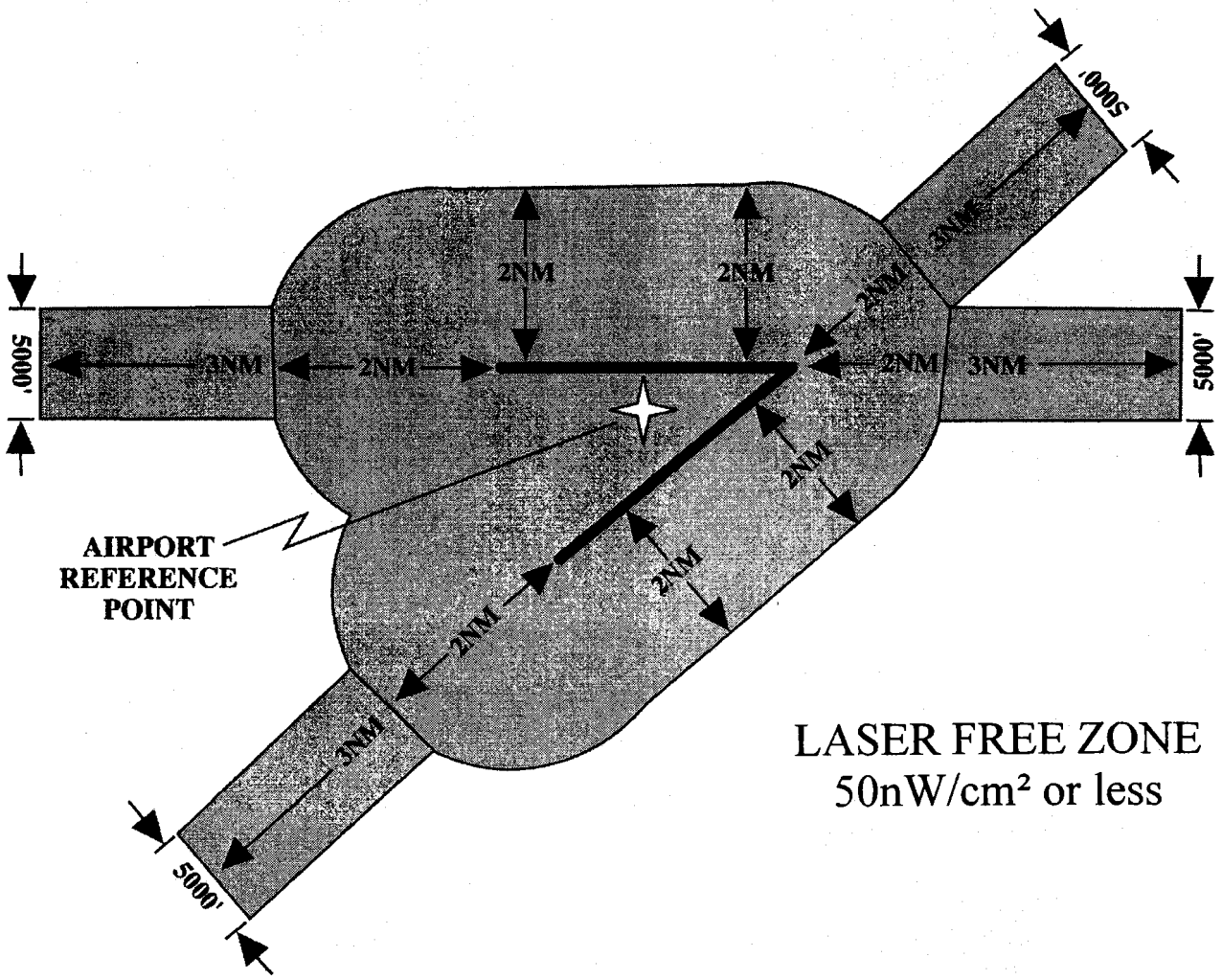
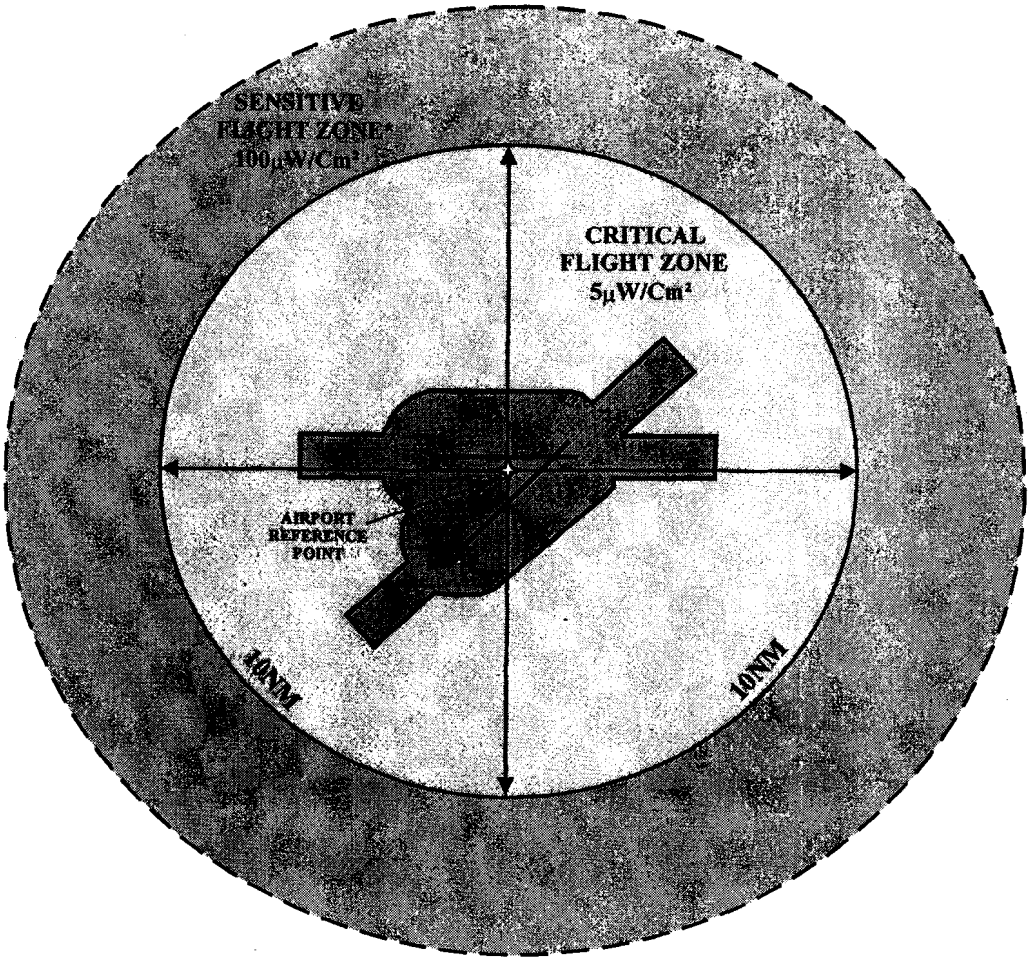


FIG 28-1-1

AIRSPACE FLIGHT ZONES



1. Laser Free Zone (LFZ): Airspace in the immediate proximity of the airport, up to and including 2,000 feet AGL, extending 2 NM in all directions measured from the runway centerline. Additionally, the LFZ includes a 3 NM extension, 2,500 feet each side of the extended runway centerline, up to 2,000 feet AGL of each useable runway surface. The level of laser light is restricted to a level that should not cause any visual disruption.

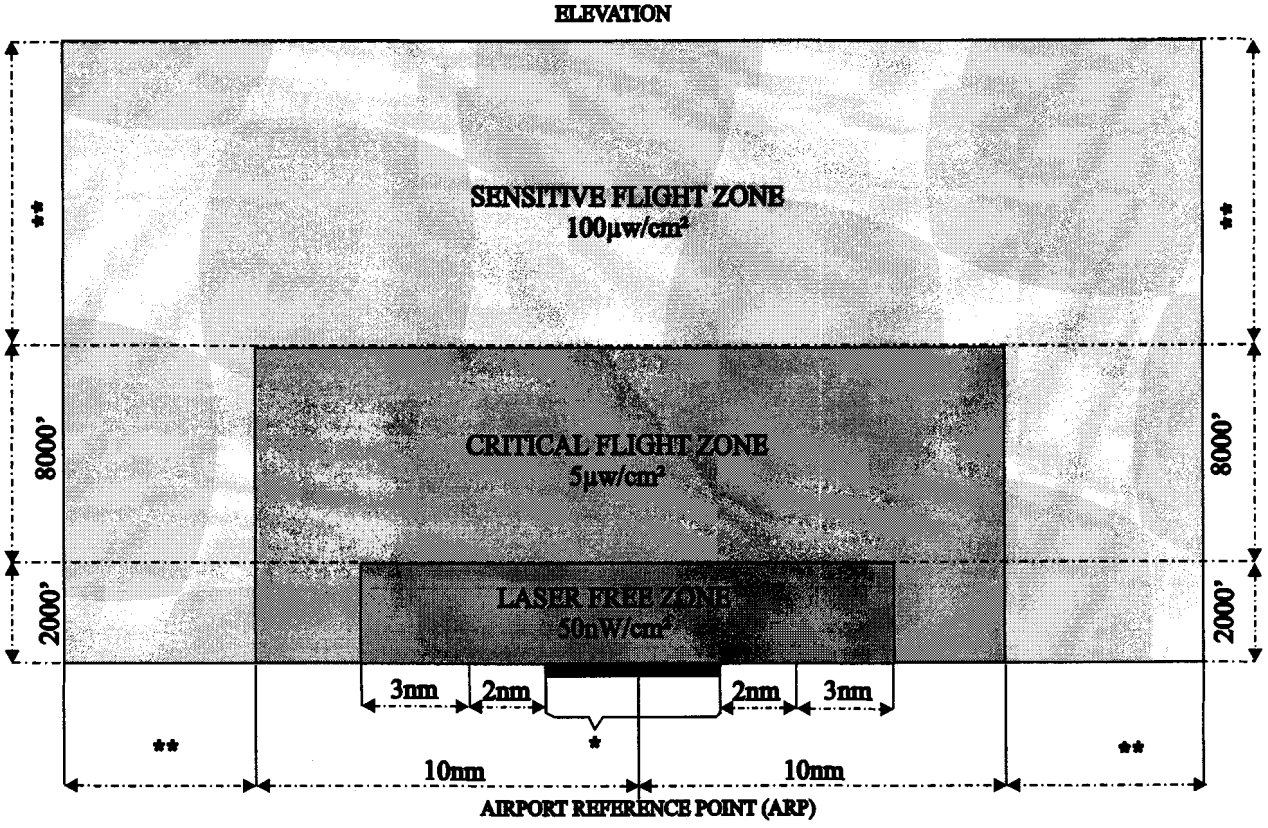
2. Critical Flight Zone (CFZ): Airspace within a 10 NM radius of the Airport Reference Point (ARP), up to and including 10,000 feet AGL, where the level of laser light is restricted to avoid glare effects, afterimage, or flashblindness.

3. Sensitive Flight Zone (SFZ): Airspace outside the Critical Flight Zone(s) that authorities (e.g., FAA, local departments of aviation, military, etc.) have identified that must be protected from flashblindness or afterimage effects.

4. Normal Flight Zone (NFZ): Airspace not defined by the Laser Free, Critical, or Sensitive Flight Zones.

FIG 28-1-2

AIRSPACE FLIGHT ZONES



* *Runway length varies per airport. AGL is based on published airport elevation.*
** *To be determined by regional evaluation and/or local airport operations.*

FIG 28-1-3

Section 2. EVALUATING AERONAUTICAL EFFECT

28-2-1. AERONAUTICAL REVIEW

a. At a minimum the following items shall be studied as part of any aeronautical review:

1. Location of the proposed operation.

2. Aircraft operations affected by the proposed operation.

3. Air traffic flows in the proposed area of the operation.

4. ATC facility having control over the affected airspace.

5. As part of the review, plot any effected airports "LFZ, CFZ, and SFZ." In addition, evaluate any control measures which may mitigate the effects.

NOTE-
The LFZ, CFZ, and SFZ need only be considered for visible laser systems.

6. The irradiance levels listed below shall be adhered to when evaluating laser activities in close proximity to an airport. In addition, laser light shall not be allowed to enter these zones if irradiance values exceed these limits.

(a) A laser-free zone is equal to or less than 50 nW/cm^2.

(b) A critical flight zone is equal to or less than 5 μW/cm^2.

(c) A sensitive flight zone is equal to or less than 100 μW/cm^2.

(d) A normal flight zone is equal to or less than the MPE.

EXCEPTION-
"When control measures (i.e. visual observers) mitigate any issues raised by the aeronatuical review, irradiance levels may exceed these numbers."

b. Consult FDA/CDRH personnel for technical advice. (e.g. rp calcuations)

c. Scientific/research (SR) lasers in accordance with 21 CFR Section 1010.5 may be exempt from Title 49 and, in addition, may not be able to comply with the above procedures. Regardless of whether or not a proponent is exempt from the provisions, when a proposal is received follow the above procedures.

28-2-2. LOCAL LASER WORKING GROUP (LLWG)

When necessary, the ATD may convene a LLWG to assist in evaluating proposed local laser activities when it is determined such a need exist.

a. The ATD shall forward information on a proposed outdoor laser activity to the local AT facility.

b. The local AT facility shall act as the focal point for the LLWG. Other participants may include, but not limited to, representatives from the center, "non-federal" towers, airport management, airspace users, city/county/state officials, other government agencies, military representatives, qualified subject experts, laser manufacturers, etc.

c. The LLWG shall resolve issues regarding local laser operations and forward recommendations to the ATD office as soon as practicable.

28-2-3. LASER SYSTEM POWER RANGE TABLE

The laser system power range tables (TBL 28-2-1 and TBL 28-2-2) shall olnly be applied to continuous wave laser systems. Proponents are required to resolve RP laser system calculations with the FDA, laser manufacture, or by submitting a completed Laser Configuration Worksheet prior to requresting determination by the FAA.

a. TBL 28-2-1 specifies the minimum distance from the laser source (for 1 mrad divergence) which should be protected horizontally from the laser source.

b. TBL 28-2-2 specifies the minimum distance from the laser source (for 1 mrad divergence) which should be protected vertically from the laser source.

c. The minimum altitude may be determined by multiplying the laser distance from TBL 28-2-1 by the sine of the angle of elevation of the laser beam from TBL 28-2-2. For example, Altitude = Laser Distance x Sine = (maximum elevation angle).

d. The minimum horizontal distance may be determined by multiplying the laser distance from

TBL 28-2-1 by the cosine of the angle of elevation of the laser beam from TBL 28-2-2. For example, Horizontal Distance = Laser Distance x Cosine = (minimum elevation angle).

e. Do not reduce calculated distances for techniques incorporated by the manufacturer unless validated by FDA/CDRH.

f. All distances shall be rounded up to the next 100-foot increment. See example problems 1, 2, and 3 that follow the Laser System Power Range Table, TBL 28-2-1.

28-2-4. CONTROL MEASURES

Physical, procedural, and automated control measures that ensure aircraft operations will not be exposed to levels of illumination greater than the respective maximum irradiance levels established by the MPE, LFZ, CFZ, and SFZ.

a. Physical beam stops at the system location or at a distance used to prevent laser light from being directed into protected volumes of airspace.

b. Adjusting the beam divergence and output power emitted through the system aperture to meet appropriate irradiance $\mu W/cm^2$ distance.

c. Beams can be directed in a specific area. Directions should be specified by giving bearing in the azimuth scale 0 - 360 degrees and elevation in degrees ranging from 0 - 90 degrees, where zero degrees is horizontal and 90 degrees is vertical, bearings shall be given in both true and magnetic north.

d. Manual operation of a shutter or beam termination system can be used in conjunction with airspace observers. Observers shall be able to see the full airspace area surrounding the beam's paths to a distance appropriate to the affected airspace.

e. Scanning of a laser system that are designed to automatically shift the direction of the laser emission can be used. However, scanning safeguards must have safeguards acceptable by the FDA and the FAA. The FDA recommendation must be included in the proposal to the FAA.

NOTE-
Scanning may reduce the level of illumination; however, it may also increase the potential frequency of an illumination.

f. Automated systems designed for use to detect aircraft and automatically terminate, redirect the beam, or shudder the system, must be acceptable to the FAA before the device may be accepted as a control measures which satisfies as an equivalent level of safety.

LASER SYSTEM POWER RANGE TABLE

CW Laser Beam Divergence: 1 Milliradian

*** NOT TO BE USED WITH RP SYSTEMS**

Output Power Watts	NOHD 2.6mW/cm^2 (.0026)	SFZ 100μW/cm2 (.0001)	CFZ 5μW/cm^2 (.000005)
1	726	3703	18600
2	1027	5237	23200
3	1253	6414	28700
4	1452	7406	33100
5	1623	8280	36000
6	1778	9070	40800
7	1921	9787	43800
8	2054	10474	46800
9	2178	11109	48700
10	2296	11710	52400
11	2408	12281	54800
12	2515	12827	57400
13	2618	13351	59700
14	2717	13855	62000
15	2814	14322	64100
16	2904	14812	66200
17	2993	15288	68300
18	3080	15710	70300
19	3165	16141	72200
20	3247	16580	74100
25	3630	18515	82801
30	3977	20282	90704
35	4295	21907	97971
40	4592	23220	104736

Output Power Watts	NOHD 2.6mW/cm^2 (.0026)	SFZ 100μW/cm2 (.0001)	CFZ 5μW/cm^2 (.000005)
45	4870	24840	111089
50	5132	26148	117098
55	5384	27462	122814
60	5624	28683	128275
65	5853	29854	133523
70	6074	30881	138553
75	6288	32088	143215
80	6494	33120	148118
85	6694	32140	152877
90	6888	35129	157104
95	7076	36092	161409
100	7260	37030	165802
105	7440	37944	168691
110	7616	38837	173885
115	7790	39710	177588
120	7962	40684	181408
125	8117	41390	185102
130	8278	42210	188767
135	8436	43014	192363
140	8590	43803	195893
145	8743	44578	199360
150	8892	45090	202769
155	9039	45365	205120
160	9184	46927	209419

NOTE-

[1] To determine nominal hazard zone distance (NHZD) for lasers having divergence values other than 1.0 mrad use the formula - NOHD @ 1.0 mrad ÷ mrad = NHZ.

EXAMPLE-

Power 40W, Divergence 7 mrad
NOHD 40W @ 1.0 mrad = 4,592
4,592 ÷ 7 = 656 NOHD. Rounded up to nearest hundred feet = 700 feet.
(A beam divergence of .7 would make this calculation 7,000 feet)

The prodonent validates revetitive pulsed information with the FDA or submits a completed laser confirguration worksheet.

TBL 28-2-1

COSINE VALUES

* NOT TO BE USED WITH RP SYSTEMS

Elevation Angle	Sine (minimum)	Cosine (maximum)
0	.0000	1.0000
5	.0872	.9962
10	.1737	.9848
15	.2588	.9659
20	.3220	.9397
25	.4226	.9063
30	.5000	.8660
35	.5736	.8192
40	.6428	.7660

Elevation Angle	Sine (minimum)	Cosine (maximum)
45	.7071	.7071
50	.7660	.6428
55	.8192	.5736
60	.8660	.5000
65	.9063	.4226
70	.9397	.3420
75	.9659	.2588
80	.9848	.1737
85	.9962	.0872
90	1.0000	.0000

Laser Problem Solutions

Example Problem 1:

Laser output power = 15 watts

Laser beam divergence = 1.0 mrad

Find: Laser distance:

1. Find Table 29-2-2 [1] at 15 watts in the Laser Output Power column.
2. Proceed horizontally and read: NOHD of 2,814 feet, CFZ of 64,100 feet, SFZ 14,322 feet.

Answer: (with rounded up distances): NOHD 2,900 feet, CFZ 64,100, SFZ 14,400 feet.

Example Problem 2

Laser output = 18 watts

Laser beam divergence = 1.0 mrad

Maximum elevation angle 60°

Minimum elevation angle 20°

Find -Horizontal and vertical distances to be protected:

1. Laser distance (from TBL 28-2-1) = 3,080 feet.
2. Sine of 60° maximum elevation angle (from TBL 28-2-2) = 0.8660.
3. Find altitude by multiplying 3,080 feet by 0.8660 = 2,667 feet.
4. Cosine of 20° minimum elevation angle (from TBL 28-2-2) = 0.9397
5. Find horizontal distance by multiplying 3,080 feet by 0.9397 = 2,894 feet.

ANSWER: Minimum required protected airspace is 2,900 feet horizontally and 2,700 feet vertically from the laser source.

Example Problem 3

Power = 25 watts

Laser Output NOHD at 1 mrad = 3,630 feet.

Beam Divergence = .7 mrad

Find: Laser NHZ

1. Apply Formula
2. 3630 feet. + .7 = 5185 feet. Formula

Answer: NHZ 5200 feet

TBL 28-2-2

Section 3. AERONAUTICAL DETERMINATIONS

28-3-1. FINDINGS

a. All outdoor laser operation determinations shall be issued in writing.

b. Determinations rendered shall either be objectionable or non-objectionable. A non-objectionable letter of determination issued by the FAA is not permission nor an endorsement of the outdoor laser operation.

c. Determinations may be telephoned to the proponent and to the CDRH; however, each must be followed up with a written response.

d. Send a copy of LODs to the military liaison offices, affected ATC facilities, (when convened, the local laser group), and the CDRH in Rockville, Maryland.

e. Forward a copy of objectionable LODs to ATA-400.

28-3-2. CONTENT OF DETERMINATIONS

a. As a minimum, letters of non-objection determinations shall:

1. Include a listing of any provisions, conditions, or limitations.

2. Inform the proponent not to incorporate change(s) into the proposed activity once a non-objection LOD has been issued unless the ATD approves and submits the change-approval in writing.

3. Stipulate a requirement that proponents shall notify the FAA designated representative of:

(a) Any changes to show "start/stop" times or cancellation 24 hours in advance.

(b) The laser light activity 30 minutes before start time.

4. Include a statement advising the proponent that the determination is based on FAA requirements only and final approval must also be obtained from appropriate authority.

5. Specify that the FAA determination does not relieve the sponsor or operator of compliance responsibilities related to laws, ordinances or regulation of any federal, state, or local government.

6. The name and telephone number of the ATC facility to be notified and other information as deemed appropriate.

7. Indicate NOTAM requirements.

b. An objectionable LOD shall inform the proponent:

1. That a determination of objection is being issued.

2. Why the proposal does not satisfy FAA requirements.

3. That supplementary information may be submitted for reconsideration.

c. If negotiations to resolve any objectionable effects have not been successful, the determination of objection shall stand.

28-3-3. PUBLICATION OF LASER OPERATIONS IN THE NAS

a. When a determination by the ATD of non-objection is issued consider the time of duration (in days) of the laser activity.

b. The ATD shall review laser operations for continued publication bi-annually.

c. ATD shall forward to ATA-100 information for publication as follows:

1. Class II Publications – Temporary laser operations at a specific location that will exceed 56 days but less than 180 days.

NOTE-
Publication in the Class II publication is dependent on established cutoff dates.

2. Appropriate aeronautical charts - Laser operations at a specific location that will exceed 180 days or are considered permanent.

3. Publish in the Airport Facility Directory - Laser operations at a specific location that will exceed 180 days.

Section 4. NOTICES TO AIRMEN

28-4-1. ISSUANCE OF NOTICES TO AIRMEN (NOTAM)

a. To enhance safety of flight, the appropriate regional ATD shall prepare the NOTAM and notify the United States NOTAM Office Facility via telephone (703) 904-4557, or fax (703) 904-4437 within seven days of a proposed laser activity to alert pilots of such activities.

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 regional ATD may further delegate notification responsibility to the respective Flight Service Station, and/or Air Traffic Facility.

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

e. The ATD is responsible for canceling the NOTAM except as noted above 28-4-1 c. and d.

Chapter 29. HIGH INTENSITY LIGHT OPERATIONS

Section 1. GENERAL

29-1-1. PURPOSE

This chapter prescribes policy and guidelines for determining the potential effect of high intensity light activities on users of the NAS.

29-1-2. POLICY

Consideration shall be given to commercial, general aviation requirements as well as to the public right of "freedom of transit" through the airspace. Accordingly, while a sincere effort shall be made to negotiate equitable solutions to conflicts over the use of the NAS for non-aviation purposes, aviation must receive primary emphasis.

29-1-3. AUTHORITY

The provisions of 49 U.S.C. Sub Title VII, grants the Administrator the authority for aviation safety. That authority has been delegated to Air Traffic and Flight Standards with the associated responsibilities to evaluate activities that can potentially affect aviation safety in the NAS.

29-1-4. DEFINITIONS

The terms used in this chapter are defined below:

a. High Intensity Light (HIL) - A lighting system other than laser light designed to penetrate the navigable airspace.

b. HIL Manufacturer - A term that refers to persons who manufactures high intensity light emitting products. This includes those who are engaged in the business of design, assembly, or presentation of a HIL activity.

c. HIL Operator - A knowledgeable person present during HIL operation who is responsible for ensuring compliance with applicable safety standards; monitoring the safe operation of a HIL operation; and can effect termination of the HIL promulgation in the event an unsafe condition becomes apparent.

Section 2. AERONAUTICAL REVIEW/DETERMINATIONS

29-2-1. EVALUATION OF AFFECTED AIRSPACE AREAS

The following guidelines should be used in evaluating proposals received for HIL activities in the NAS. Refer to airspace zones described in Chapter 28 to assist in evaluating those areas in close proximity to an airport. Reduction in the size of a specific zone may be considered when the aeronautical study to assure users of the NAS will not be effected.

29-2-2. AERONAUTICAL STUDY

a. Determination of the potential overall airspace effected by HIL operations shall be conducted by the regional ATD. The aeronautical study, as a minimum, should include the following, as appropriate:

1. Quantities of traffic effected.

2. Location(s) of aviation activity that may be affected, including areas where low-level air traffic operations may occur (e.g. helicopter operations, Flights for Life).

3. Control jurisdiction (e.g., ATC facility).

4. Coordination with Flight Standards, and local officials, as necessary (e.g., FAA Air Traffic facilities, appropriate military representatives, and airport managers).

b. Observers, when required, shall be able to see the full airspace area surrounding the HIL beam's paths to a distance appropriate to the affected airspace.

c. Require the control measures that ensure aircraft will not be exposed to HIL illumination that has the potential to effect a pilot in the performance of their respective duties.

29-2-3. CONTENT OF DETERMINATION

a. After completing an aeronautical study, the ATD shall prepare a Letter of Determination (LOD). Follow the guidelines published in paragraph 28-3-2 to formulate the content of the LOD. Forward a copy of the determination to the proponent of the activity, and when deemed necessary, to all affected ATC facilities, airport managers, and military liaison offices.

b. At the discretion of the ATD, issue a NOTAM to alert pilots of known HIL activity. The regional ATD may delegate notification responsibility to the respective flight service stations, other air traffic facilities, or require the proponents to activate or cancel the local NOTAM involving the HIL operation through that appropriate facility.

Chapter 30. ROCKET AND LAUNCH-VEHICLE OPERATIONS

Section 1. General

30-1-1. PURPOSE

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

30-1-2. AUTHORITY

a. Public Law (PL) 98-575 - Congress enacted PL 98-575, Commercial Space Launch Act of 1984, codified at 49 USC subtitle IX, Chapter 701, with its purpose to:

1. Promote economic growth and entrepreneurial activity through utilization of the space environment for peaceful purposes;

2. Encourage the U.S. private sector to provide launch vehicles and associated launch services by simplifying and expediting the issuance or transfer of launch licenses and by facilitating and encouraging the utilization of Government-developed space technology; and

3. Designate an executive department to oversee and coordinate the conduct of launch operations, to issue and transfer launch licenses authorizing such activities, and to ensure that public health and safety, foreign policy, and national security interests of the United States are satisfied.

b. Part 101 prescribes rules governing the operation in the United States of moored balloons, kites, unmanned rockets, and unmanned free balloons.

c. Part 400 establishes procedures and requirements regarding the authorization and supervision of all space launch activities conducted from within U.S. territory or by U.S. citizens. The part 400 regulations, however, do not apply to amateur rocket activities or to space launch activities carried out by the U.S. Government on behalf of the U.S. Government.

30-1-3. POLICY

It is AAT policy that all rocket launch vehicle proposals that seek a waiver of part 101 requirements, and that are expected to reach an altitude higher than 25,000 feet above ground level, and those rockets/launch-vehicles that are categorized as "amateur" or licenseable under part 400 shall be forwarded to ATA-400 for headquarters review. ATA-400 will coordinate the proposals with AST and submit a waiver recommendation to the concerned regional ATD.

30-1-4. RESPONSIBILITY

a. AAT continues to have the waiver authority for certain categories of amateur rockets, and is responsible for integrating all rocket and launch-vehicle operations into the NAS. Additionally, AST is responsible for issuing licenses for non-Federal government space launches, launch sites, space reentry, reentry sites and their associated operations. Therefore, communication and coordination between AST and AAT is paramount. Since the AST line of business is not currently represented at the regional headquarters level, the required AST coordination must occur at the FAA Headquarters level.

b. ATA-400 is Air Traffic's point of contact for such activities and is directly responsible for coordinating certain proposals regarding airspace operations and procedures with AST.

c. The Licensing and Safety Division, AST-200, within the Office of Commercial Space Transportation is responsible for the licensing of launch sites and those launch vehicle operations that fall under part 400. Additionally, any required waivers and/or exemptions to part 400 will also be issued by AST-200.

30-1-5. ENVIRONMENTAL IMPACT ANALYSIS

a. Launch site and reentry actions are subject to NEPA Order 1050.1, Policies and Procedures for Considering Environmental Impacts, and other applicable regulations, public laws, and statutes.

b. All NEPA requirements associated with licensed commercial space transportation

activities will be addressed by AST as part of the site licensing process.

30-1-6. DEFINITIONS

As used in this chapter, the following terms are defined below:

a. Unmanned rockets - Those rocket operations conducted by private citizens or model rocket clubs for the sole purpose of pursuing and enjoying a hobby. These types of rockets are categorized as either small or large based on their characteristics as described below.

1. Small model/amateur rockets - Rockets are generally small in size, and have a short propellant burn time (less than 15 seconds). Usually, these rockets have trajectories and flight paths that can be easily monitored by the operator and/or spotters to ensure the safety provisions contained in Section 101.23 are met.

2. Large model/amateur rockets - Rockets that are normally larger, and have greater propellant burn times (egual to or greater than 15 seconds). These rockets will most always enter controlled airspace requiring a waiver to part 101.

b. Other unmanned rockets - Those rockets or missiles that use more than 125 grams of propellant, or weigh more than 1,500 grams, including the propellant, must comply with all the requirements of part 101, Subpart C - Unmanned Rockets, and may require a license (or exemption) to operate under part 400 depending on other rocket characteristics.

c. Launch Vehicles - Launch vehicles built to operate, or place any payload, in outer space, low earth orbit, or a sub-orbital trajectory (equal to or greater than 15 seconds). Part 400 requires that operations of launch vehicles be licensed by AST.

Section 2. PROCESSING OF PROPOSALS

30-2-1. REGIONAL REVIEW

a. The regional office responsible for the launch's geographical area shall manage proposals for unmanned rocket and space launch activities. When a proposal overlaps regional office geographical jurisdictions, the affected ATD shall coordinate to determine which office will serve as the lead region for processing the proposal. Coordination between regions is also required when the affected geographical area and the ATC controlling agency are under the jurisdiction of different regional offices.

b. Concerned regions shall coordinate with the responsible military representative and ensure that all affected ATC facilities review the proposal and provide input to the aeronautical review, as required.

c. If the proposal requires FAA headquarters review, the package shall include documentation of regional coordination, affected ATC facility comments, and any other information pertinent to the case.

d. As part of the rocket/launch-vehicle operation review process performed by the concerned regional ATD, or those facilities delegated waiver authority, coordination shall be effected with the Central Altitude Reservation Function (CARF), an element of the Air Traffic Control System Command Center (ATCSCC). This coordination is to ensure that any system impact(s) that may result from the requested operation are identified and resolved before a rocket/launch-vehicle operation waiver approval is finalized.

30-2-2. AERONAUTICAL REVIEW

The following information should be used as a guide for the conduct of an aeronautical review of rocket and launch-vehicle operations.

a. An aeronautical review of any rocket or launch-vehicle operation shall be conducted to determine if there are aeronautical impacts to be considered or resolved.

b. Rocket and launch-vehicle operations shall be categorized based on their operational characteristics and purpose of flight. These characteristics include, but are not limited to, size, total weight, propulsion, rocket motor design, and hardware design materials. The characteristics of the rocket/launch-vehicle will determine which parts of 14 CFR provisions will govern it.

c. The criteria for parts 101 and 400 rockets/launch-vehicles are described below.

1. Uses 4 ounces or less of slow-burning propellant.

2. Is made of paper, wood, or breakable plastic, containing no substantial metal parts - an amount necessary for structural integrity.

3. Weighs 16 ounces or less including the propellant.

4. Is operated in a manner that does not create a hazard to persons, property, or other aircraft.

d. If any of the above criteria are exceeded, then part 101 applies and subpart C, Unmanned Rockets, must be adhered to. Rockets will remain captured under part 101 until one of the criteria listed for part 400 is triggered.

e. Part 400 - Any rocket or launch vehicle that meets any of the following criteria will be reviewed by AST under part 400 provisions. Such provisions are that the rocket:

1. Motor(s) exceed total impulse of 200,000 pound-seconds;

2. Motor(s) have a total burning time or operating time of 15 seconds or more; or

3. Has a ballistic coefficient (gross weight in pounds divided by the frontal area of the rocket vehicle) of 12 pounds or more per square inch.

NOTE-

[1] Part 101 rocket launch proposals that are a part of a competition for prize money will be reviewed by AST. Those proposals shall be sent to ATA-400 for processing.

[2] Part 400 rockets/launch-vehicles will also exceed the criteria addressed in paragraph a., part 101 rockets. Therefore, waivers to part 101 will also be required.

30-2-3. HEADQUARTERS REVIEW

a. It is AAT policy that proposals for rockets that are expected to reach altitudes higher than 25,000 feet above ground level and rockets/

launch-vehicles categorized as "amateur" or licenseable under part 400, be forwarded to ATA-400 for FAA headquarters review. ATA-400 will coordinate the proposal with AST-200, and submit a waiver recommendation to the regional ATD.

b. The package submission to FAA headquarters should include the following (as applicable):

1. A transmittal memorandum containing a brief overview of the proposal and the region's recommendation for headquarters action;

2. A summary of any amendments made to the original proposal in response to negotiations to mitigate impacts, etc.;

3. A sectional aeronautical chart depicting the final boundaries of the proposed airspace area;

4. A copy of the proponent's launch request correspondence and proposal package;

5. A copy of the aeronautical review and the ATD recommendation;

6. Copies of pertinent correspondence from other FAA offices (e.g., Flight Standards, Airports, adjacent regional ATD, affected ATC facilities); and

7. Any other information that should be considered by FAA headquarters in making a final determination on the proposal (e.g., rocket/launch-vehicle propulsion, physical dimensions and weight, total impulse and burn time of the motor(s), launch site location, planned flight path/trajectory, including staging and impact locations).

c. ATA-400 will coordinate the proposal with AST-200.

d. Upon completion of the AST-200 review, the proponent's package, including the part 400 waivers, exemptions, and/or licenses (if applicable), shall be returned to ATA-400 for distribution to the regional ATD. For the proposals that have received favorable determinations by FAA headquarters, the ATD shall, in turn, issue the part 101 waiver and forward the completed package to the proponent.

30-2-4. CONTROLLING AGENCY

The FAA ATC facility having control jurisdiction over the airspace where the rocket/launch-vehicle is projected to enter shall be designated as the controlling agency. The controlling agency will be responsible for ensuring that any temporary airspace (e.g., TFRs, ALTRVs) is activated when the launch operations are imminent, including any applicable downrange and terminal airspace.

30-2-5. SUITABLE AIRSPACE FOR LAUNCH OPERATIONS

Amateur rocket launches that will not enter controlled airspace do not require prior notice to the FAA. However, those proponents must ensure the safety of persons and property on the ground and of aircraft flying nearby. Conversely, rockets and launch-vehicles that will enter controlled airspace must be integrated with other users of the NAS and be segregated from nonparticipating aircraft to ensure safety. This shall be accomplished by requirements to the waivers to part 101.

a. Amateur rockets may not require sterile airspace. In these cases, the proponent and/or the ATD must:

1. Ensure that the activity is confined within the launch site area.

2. Cease activity immediately upon observation or notification that a nonparticipating aircraft is approaching the area. Surveillance by ground observers shall be continuously maintained immediately prior to and during the time that the activity is in progress to ensure adequate coverage of the required area. If required by the ATD, observers shall have real-time communication capability (radio, cellular phones, etc.) with the FAA facility to ensure a cease-fire can occur immediately. The activity may resume only after the nonparticipating aircraft are clear of the area and will not interfere with launch operations.

3. Ensure that adequate safety precautions are in place for each launch site. Specific precautionary measures established to protect nonparticipating aircraft, persons, and property will depend on various factors such as the type of activity, terrain, launch site dimensions, etc.

b. Existing SUA may be used only if permission has been granted by the using agency or

controlling agency, as appropriate. The responsibility is on the proponent to obtain the required permission.

c. Temporary flight restrictions (TFR) for space flight operations (SFO) as described in Section 91.143 may be used to provide protection from potentially hazardous situations for nonparticipating aircraft and rocket/space launch operations.

d. An altitude reservation (ALTRV) may be used but only to sterilize Class A airspace within which it operates. ALTRVs do not sterilize airspace below Class A airspace.

e. When sterile airspace is required for rocket and launch-vehicle launch operations, the dimensions and times of use of that airspace shall be the minimum required to contain the proposed activities, including required safety zones. When it is determined that the airspace is no longer required, the regional ATD, using agency, or the appropriate military authority providing SUA shall initiate action to release that airspace to the NAS.

f. Launch sites should be located in areas that will minimize the impact on nonparticipating aircraft and ATC operations. To the extent practical, plan launch sites, and rocket/launch-vehicle trajectories to avoid airways/jet routes, major terminal areas, and known high-volume VFR routes.

Section 3. DETERMINATIONS

30-3-1. REGIONAL DETERMINATIONS

a. The regional ATD (or designated representative) has the authority, in accordance with FAA Order 1100.5, FAA Organization - Field, to grant individual waivers to part 101. FAA Form 7711-1 waivers shall contain, as a minimum:

1. The section of part 101 that is being waived;

2. The name, address, telephone number of the applicant;

3. Activities (e.g., types of rockets) approved for launch;

4. The location of the approved launch site in coordinates;

5. Approved dates and times of launch operations;

6. Advance notification requirements to the appropriate FAA facilities and, if desired, cancellation and termination notification;

7. Approved projected altitudes of the rocket(s);

8. Other provisions in part 101 may be included at the discretion of the ATD; and

9. Any other requirements deemed necessary for local operations.

b. The regional ATD may suspend or revoke a waiver whenever a question arises about the safety of the operation, compliance with safety precautions or conditions of approval, or if unforeseen impact on aeronautical operations occurs.

30-3-2. NOTAM

a. NOTAMs issued for space launch and reentry operations, 14 CFR Section 91.143, will be processed as usual.

b. The NOTAM shall include the launch site description, effective dates and times, and a chart depicting the area boundaries. It should also include a brief narrative describing the launch scenario, activities, numbers and types of rockets/launch-vehicles involved, and the availability of in-flight activity status information for nonparticipating pilots. Information regarding ALTRVs used in conjunction with TFRs may also be addressed.

c. If a launch site will be used on a routine, basis, the regional ATD may consider charting the TFR on the applicable sectional aeronautical chart.