

# National Airspace Programs

Presented to: FAA Fall Mini Conference

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Federal Aviation  
Administration



# National Airspace Programs

- **Purpose of aeronautical studies**
- **Part 77**
  - Off-airport OE
  - On-airport NRA
- **Part 157**
- **Part 77 NPRM**
- **iOEAAA**
- **Airports GIS**
- **Update of AC 5300-13, Airport Design**
- **Land-use Compatibility/Zoning**

# AIRPORT AIRSPACE ANALYSIS

## **Purpose of aeronautical study:**

- Determine what effect the proposal may have on compliance w/ Airports Programs
- Safe and efficient utilization of navigable airspace by aircraft
- Safety of persons and property on the ground

# AIRPORTS AIRSPACE ANALYSIS

## OE – Obstruction Evaluations

- Part 77
- Off-airport studies
- ATO OES
- ARP reviews those within 3 NM of ARP
- External OE website
  - Electronic filing of OE
  - <https://www.oaaaa.faa.gov/oaaaa/external/portal.jsp>



# Federal Aviation Administration

Bringing Safety to America's Skies

## Obstruction Evaluation

## Obstruction Evaluation / Airport Airspace Analysis (OE/AAA)

Faa.gov Tools: [Print this page](#)

- Home
- FAA OE/AAA Offices
- View Determined Cases (Form 7460-1)
- View Proposed Cases (Form 7460-1)
- View Supplemental Notices (Form 7460-2)
- View Circularized Cases
- Search Archives
- Circle Search
- Discretionary Review FAQs
- No Notice Required Tool
- Long Range Radar Tool
- Distance Calculation Tool

In administering Title 14 of the Code of Federal Regulations CFR [Part 77](#), the prime objectives of the FAA are to promote air safety and the efficient use of the navigable airspace. To accomplish this mission, aeronautical studies are conducted based on information provided by proponents on an FAA Form 7460-1, Notice of Proposed Construction or Alteration.

[Advisory Circular 70/7460-2K](#), Proposed Construction or Alteration of Objects That May Affect the Navigable Airspace, provides information to persons proposing to erect or alter an object that may affect the navigable airspace. [Advisory Circular 70/7460-1K](#), Obstruction Marking and Lighting, describes the standards for marking and lighting structures such as buildings, chimneys, antenna towers, cooling towers, storage tanks, supporting structures of overhead wires, etc.

### OE/AAA Filing Process

If your organization is planning to sponsor any construction or alterations which may affect navigable airspace, you must file a **Notice of Proposed Construction or Alteration (Form 7460-1)** with the FAA.

#### If construction or alteration IS NOT LOCATED on an airport:

You may file forms 7460-1 and 7460-2 electronically via this website - [New User Registration](#).

or

You may file forms 7460-1 and 7460-2 via US Postal Mail to:

Express Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Service, AJR-32  
2601 Meacham Boulevard  
Fort Worth, TX 76137-0520

**Questions?** Please contact the [appropriate representative](#).

#### If construction or alteration IS LOCATED on an airport:

You must file form 7460-1 via US Postal Mail.

Find the [FAA Airports Region / District Office](#) having jurisdiction over the airport on which the construction is located, and file to that address.

### Who Needs to File

[CFR Title 14 Part 77.13](#) states that any person/organization who intends to sponsor any of the following construction or alterations must notify the Administrator of the FAA:

- any construction or alteration exceeding 200 ft above ground level
- any construction or alteration:
  - within 20,000 ft of a public use or military airport which exceeds a 100:1 surface from any point on the runway of each airport with at least one runway more than 3,200 ft
  - within 10,000 ft of a public use or military airport which exceeds a 50:1 surface from any point on the runway of each airport with its longest runway no more than 3,200 ft
  - within 5,000 ft of a public use heliport which exceeds a 25:1 surface
- any highway, railroad or other traverse way whose prescribed adjusted height would exceed that above noted standards
- when requested by the FAA
- any construction or alteration located on a public use airport or heliport regardless of height or location.

# AIRPORTS AIRSPACE ANALYSIS

- **NRA – On-airport and part 157 studies**
  - Regional Airports Division/ADO
    - Responsible for managing the Airports Program
    - Initiating coordination of airspace studies on airport proposals
    - Conducting necessary circularization
    - Consolidating and resolving comments
    - Developing/forwarding FAA determination to the airport sponsor/proponent

# AIRPORT AIRSPACE ANALYSIS

## Forms:

- **FAA Form 7460-1, Notice of Proposed Construction or Alteration (on-airport)**
- **FAA Form 7480-1, Notice of Landing Area Proposal (part 157)**

# AIRPORT AIRSPACE ANALYSIS

## Proposals subject to aeronautical study include, but are not limited to:

- Airport proposals submitted under Part 157
- Airport Layout Plan (ALP)
- Construction safety plans
- Disposal/Conveyance of Federal surplus/non-surplus property for public airport purposes
- Airport feasibility studies
- Modification of airport design standards
- Construction of runways, taxiways, aprons, hangars, buildings, etc. on airport
- Any other airport case deemed necessary to assess safe and efficient use of navigable airspace by aircraft and the safety of persons/property on the ground.



# AIRPORT AIRSPACE ANALYSIS

## FAA Coordination:

- Airports: compliance w/ AC 150/5300-13, Airport Design (RSA, RPZ, OFA, OFZ, Line-of-sight, separation, etc.); conflicts w/ AIP development, etc.
- Flight Standards: reviews from VFR standpoint
- Flight Procedures Office: reviews from IFR standpoint
- Technical Operations: EMI, Line-of-Sight (ATCT), siting of Navaids, etc.
- ATO (OES/Service Area Office): effect on ATC operations, traffic pattern airspace conflicts, Part 77, etc.

# 14 CFR Part 157

## Notice of Construction, Alteration, Activation, and Deactivation of Airports

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By: E.C. Hunnicutt, P.E., AAS-100

Date: October 25, 2007



Federal Aviation  
Administration



# 14 CFR Part 157

- Applies to persons proposing to construct, alter, activate, or deactivate a civil or joint-use airport or to alter the status or use of such airport
- Prescribes requirements to notify Administrator

# 14 CFR Part 157

## Does not apply when airport:

- Subject to conditions of a Federal agreement requiring an approved ALP on file w/ the FAA or
- Flight operations conducted under VFR and used <30 consecutive days w/ no more than 10 operations/day
- Intermittent use ( $\leq 3$  days/wk w/  $\leq 10$  ops/day) under VFR of site that is not an established airport

# 14 CFR Part 157

- Submit notice on FAA Form 7480-1, Notice of Landing Area Proposal
- Submit to FAA Region or District Office serving your area

# 14 CFR Part 157

- FAA will conduct aeronautical study of an airport proposal and after consultation w/ interested parties, issue a determination
- FAA will consider matters such as effects the proposed action would have on:
  - Existing or contemplated traffic patterns of neighboring airports
  - Existing airspace structure and projected programs of the FAA
  - Effects that existing or proposed manmade objects (on file w/ the FAA) and natural objects within the affected area would have on the proposal

# 14 CFR Part 157

- **Airport determination issued under Part 157 will be one of the following:**
  - **No objection**
  - **Conditional** – identifies objectionable aspects of a project or action and specifies the conditions which must be met and sustained to preclude an objectionable determination
  - **Objectionable** – will specify the FAA's reasons

# 14 CFR Part 157

- Determination **does not relieve** you of the responsibility for **compliance with any local law, ordinance or regulation, or state or other Federal regulation.**
- Aeronautical studies and determinations issued under Part 157 **will not consider environmental or land use compatibility impacts**



# 14 CFR Part 157

- While determinations consider the effects of the proposed action on the safe and efficient use of airspace by aircraft and the safety of persons and property on the ground, **determinations are only advisory**
- All determinations (except for an objectionable) will contain a determination void date

# 14 CFR Part 157

- Within 15 days after completion of any project covered by Part 157:
  - **Notify FAA Airport District or Regional Office by:**
    - Submission of FAA Form 5010-5, Airport Master Record or
    - letter

# part 77 NPRM

- **Published 6/13/2006.**
- **Comment period closed 9/11/06**
- **Proposed changes:**
  - Establish notification requirements for EMI
  - Revise obstruction standards for civil imaginary surfaces to more closely align these standards w/ FAA airport design and instrument approach procedure criteria.
  - Requirement to file notice for structures near private airports that have an FAA approved IAP.
  - Increase # of days to file notice before beginning construction/alterations.

# part 77 NPRM

- **Anticipate Final rule early 2008**
- **Effective 6 months after date of publication**



# part 77 NPRM

- **FAA rec'd substantive comments on the following general areas of the NPRM:**
  - EMI
  - Time requirement to file notice w/ the FAA
  - **Expanding width of primary surface at certain airports**
  - Application of obstruction standards to existing structures
  - One-engine inoperative procedures

# part 77 NPRM

- **Expanding width of primary surface**
  - Nonprecision instrument runways
    - Effect on existing/new procedures
      - No additional effect on ability of airport to keep or get IAP
      - Surveys required to determine obstacles
    - Financial impact of obstruction removal
      - Under existing ARP guidance, airport sponsor required to show applicable part 77 surface(s) on approved ALP
      - Grant Assurances to clear or plan in place to do so
      - ARP currently removing this requirement and replacing w/ new surface based on TERPS
        - » In place by end of FY-08
        - » ARP developing guidance to postpone implementation of new part 77 surface within the ALP planning process

# IOEAAA PROGRAM

- **Used for internal coordination of aeronautical studies**
- **Map location**
- **Part 77 analysis**
- **Airport/Runway Database**
- **GIS Tools**
- **Develop public site for electronic filing**



# AIRPORTS GIS

**The Airport Surveying-GIS Program provides a single portal for the collection and dissemination of standards based validated source data to support future design, mapping, surveying, and construction activities from a known good (validated) and maintained data set.**

**Airport-GIS provides the foundation for connecting the airports, FAA, and other agencies**

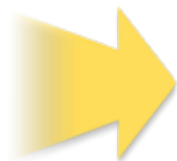


**A central database for storing survey, charting, analysis, and planning data**



# Program Benefits

**Greater Productivity**



**Increased data verification by government technical experts in the field for FAA**

**Dependable**



**The survey data is verified and metadata (data about the data) developed for use by authorized groups and agencies**

**Connected**



**Connect airports and other organizations via central data services**

**Best Economics**



**Maximizes business value by collecting survey data one time for analysis, planning, engineering, procedure development, and charting**

# Airports GIS

## Program Scope

- ✓ The Airport-GIS program will be required for all FAA airport surveys supporting:
  - AOA construction activities (i.e. runway/taxiway)
  - NAVAID installation
  - Procedure development
  - Moving Maps
  
- ✓ Recommended for all public use airports
  
- ✓ With an endorsement from National Association of State Aviation Officials (NASAO) the program will be recommended for all state aviation programs.

Note: There are 5261 public airports of which 3431 are in the National Plan Integrated Airport System (NPIAS) (65%) in the National Airspace System (NAS).

# FAA 405 or AC 150/5300-16/17/18

## Which do we follow?

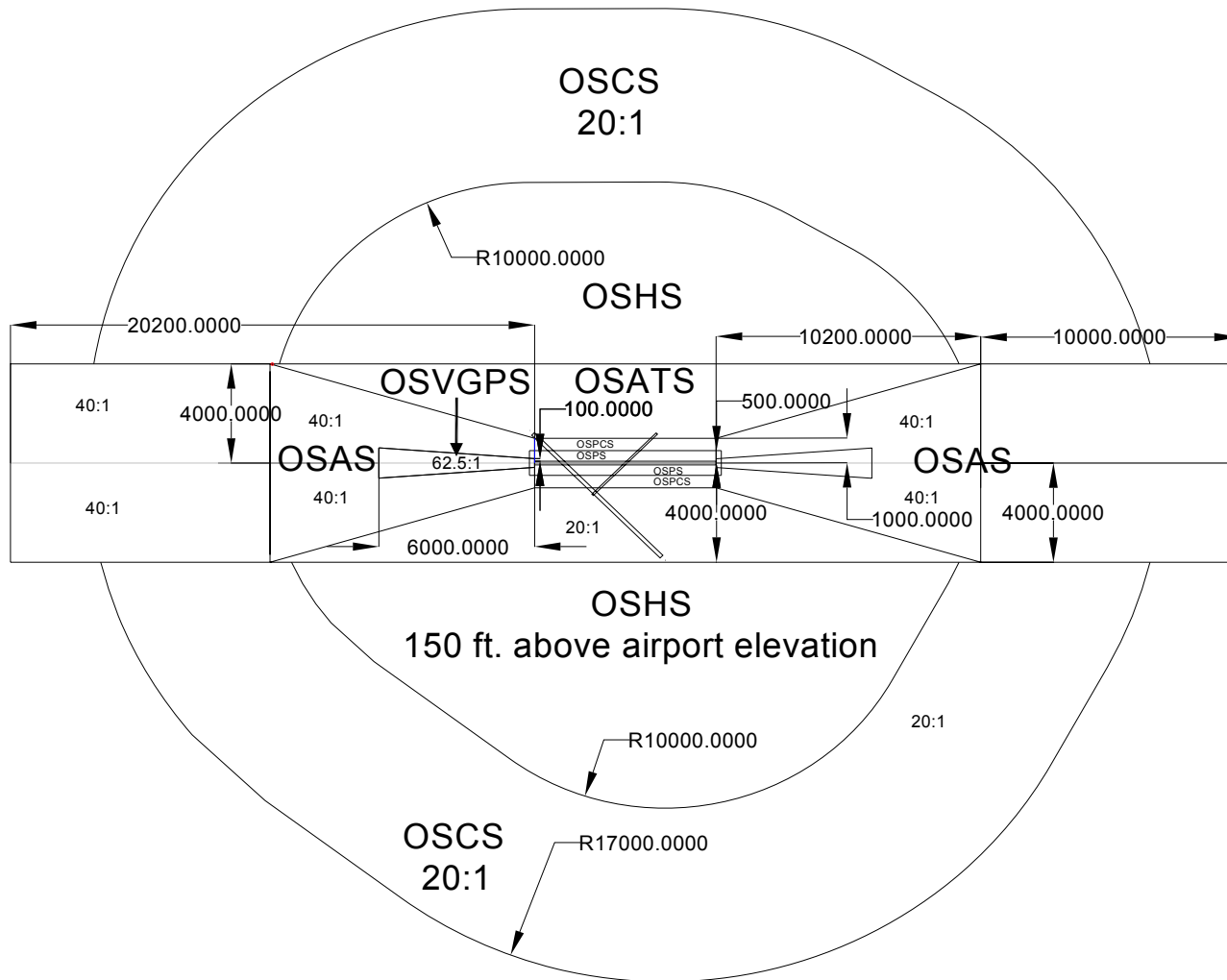
- **Purpose of FAA 405 –**
  - Identified the requirements of the FAA to NGS
  - FAA 405 is very 14 CFR 77 centric, which is an incorrect implementation
    - Part 77 does not define clearance requirements . . . It provides rules for notification
  - FAA 405 instrument approach (product) specific - every time there was a new need there was a new specification added
    - ANAPC
    - ANA-LPV
    - Congressional
- **Purpose of the Advisory Circulars –**
  - Collect and provide data as a whole airport
  - Move away from niche products concentrate on the data itself
  - Traditionally completed as separate processes
  - Establish new standards to meet the challenges of new digital processes and requirements

# Airports GIS

## Integrated Survey Surface

- Develop a set of integrated surfaces meeting the data collection and maintenance requirements of the FAA and its customers

# The Integrated Survey Surface



# Define Safety Critical Airport Data

- ✓ Airport Control Area (Airspace)
- ✓ NAVAIDs located at the airport/heliport
- ✓ Obstacles in the circling area and at the airport/heliport
- ✓ Significant obstacles in the approach and departure area
- ✓ Runway threshold
- ✓ Runway end (flight path alignment point)
- ✓ Taxiway center line points
- ✓ Geometric center of a Touchdown Lift Off Area (TLOF) or the Final Approach and Takeoff Area (FATO) thresholds, heliports
- ✓ Airport/heliport elevation
- ✓ NAD-83 geoid undulation at airport/heliport elevation position
- ✓ NAD-83 geoid undulation at runway end, FATO threshold, TLOF geometric center
- ✓ Runway or FATO threshold elevation
- ✓ Threshold crossing height, precision runway
- ✓ Obstacles in the approach and departure areas
- ✓ Obstacles in the circling areas and at the airport
- ✓ Distance measuring equipment associated with a NAVAID providing approach guidance (DME/P)
- ✓ VHF (Very High Frequency) Omni-directional Radio-range (VOR) Checkpoint alignment
- ✓ Airport/heliport magnetic variation
- ✓ Instrument Landing System (ILS) localizer antenna magnetic variation
- ✓ Microwave Landing System (MLS) azimuth antenna magnetic variation
- ✓ ILS localizer azimuth
- ✓ MLS zero azimuth alignment
- ✓ Runway and FATO length, TLOF dimensions
- ✓ Stopway length
- ✓ Landing distance available
- ✓ ILS markers-threshold distance
- ✓ ILS DME antenna-threshold, distance along centerline
- ✓ MLS DME/P antenna-threshold, distance along centerline
- ✓ Touchdown Zone Elevation
- ✓ Displaced Threshold data

# AIRPORTS GIS

**Web site:**

**[Airports-GIS.faa.gov](http://Airports-GIS.faa.gov)**



# AC 150/5300-13 Re-Write Highlights

- **Design Standards Concepts**
- **Modification of Standards**
- **Improved Organization**
- **Taxiway Layout Guidance**
- **Airplane Design Groups**
- **TERPS and Other Standards**
- **Airport Data and ALP**



# Land Use Compatibility

- **Update of AC 150/5190-4B, A Model Zoning Ordinance to Limit the Height of Objects Around Airports, to include OEI surface.**
- **Develop comprehensive Land-use Compatibility/Zoning AC**
- **ACRP project on land-use compatibility**
- **RPZ issues**

# ACRP Project 3-03

## Enhancing Airport Land Use Compatibility

- **The objective.....to develop guidance to protect airports from incompatible land uses that impair current and future airport and aircraft operations and safety and constrain airport development. This research project does not address land uses within airport boundaries. For the purposes of this research, incompatible land uses are defined by criteria pertaining to aircraft noise exposure and to safety concerns including aircraft accidents; FAR Part 77 and TERPS height restrictions; FAA engine-out regulations; FAA airport design standards; wildlife attractants; and distractions such as smoke, lighting, glare, and electronic interference.**

# Runway Protection Zone (RPZ)

- **Function is to enhance protection of people and property on the ground**
- **AC 150/5300-13, Change 11 revised**
  - Central portion
  - Controlled activity area
- **“Advisory only” when RPZ not controlled by the airport owner**

# FAA Airports Website

[www.faa.gov/airports\\_airtraffic/airports](http://www.faa.gov/airports_airtraffic/airports)





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Resources

Airport Improvement Program (AIP)

Airport Obligations

Airport Safety

Construction On or Near Airports

Environmental Program

Passenger Facility Charge (PFC)

Planning & Capacity

Runway Safety

## Airports

### Highlights

- [Advisory Circulars \(Series 150 ACs\)](#)
  - [Draft Advisory Circulars](#)
  - [New and Revised Advisory Circulars](#)
- [Airport Data \(5010\)/Contact Information](#)
- [National Plan of Integrated Airport Systems \(NPIAS\)](#)
- [Passenger Boarding and All-Cargo Data](#)

### What's New

- [Environmental Desk Reference for Airport Actions \(10/16/2007\)](#)
  - [2007-2008 FAA Design Competition for Universities \(8/30/2007\)](#)
- [More News and New Resources »](#)

### Programs

- [Airport Improvement Program \(AIP\)](#)
- [Airport Obligations](#) - Compliance
- [Airport Safety](#)
  - [Part 139 Certification](#)
  - [Safety Management Systems \(SMS\)](#)
- [Construction On or Near Airports](#) - Design, Engineering, & Construction
  - [Obstruction Evaluations \(Part 77\)](#)
  - [Opening or Closing an Airport](#)
- [Environmental Programs](#)
- [Passenger Facility Charge \(PFC\)](#)
- [Planning & Capacity](#)
- [Runway Safety](#)

### Regional Guidance

- [Alaskan](#)
- [Central](#)
- [Eastern](#)
- [Great Lakes](#)
- [New England](#)
- [Northwest Mountain](#)
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# QUESTIONS???



# **THANKS!!**

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