Pennsylvania ‘VFR’ Requirements

‘VFR’ 20:1

Obstacle Clearance

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Pennsylvania Airports

All Airports/Heliports Licensed

- 130 Public Facilities
  - 16 – Part 139 Certificated
  - 63 NPIAS
  - 51 General Aviation

- Airports inspected annually
- Inspection findings used in programming $$$
- Update FAA database
Pennsylvania VFR Safety Standards

- Runways shall have an obstruction free 20:1 VFR approach surface...
- Airspace hazards defined by FAR Part 77 (Navigable Airspace)
- Runways other than visual shall conform to applicable FAR Part 77 surfaces...
- For Night Operations - lights shall be installed in accordance with the applicable FAA Advisory Circular.

Licensing Expectations

d. Protection of Approaches:

(2) Obligation: To prevent, insofar as it is reasonably possible, the growth or establishment of obstructions in the aerial approaches to the airport.

(The term “obstruction” refers to natural or man-made objects that penetrate the imaginary surfaces as defined in FAR Part 77...
Pennsylvania Law

Pennsylvania Laws Relating to Aviation

§5912. Power to adopt Airport Zoning Regulations:

(a) General Rule. In order to prevent the creation or establishment of airport hazards, every municipality having a [public] airport... shall adopt... airport zoning regulations...

...and restrict the height to which structures may be erected or objects of natural growth may be allowed to grow.”

Model Zoning Ordinance references FAR Part 77 to define the protected ‘Navigable Airspace’.

Part 77 Navigable Airspace
Utility Rwy – Visual Approach

20:1 approach slope
200’ out
250 feet
Utility Rwy – with IAP

20:1 approach slope

200’ out

500 feet

Annual Surveys from Runway End
Obstructions to Air Navigation

Trees; 62’ High, 12:1 Slope/Appr
Pole; 18’ High, 6:1 Slope(Appr)

Tree; 63’ High, 14:1 Slope/Appr

Mountain 400’ High
Transitional Obstr

Visual Approach Slope

Tree; 63’ High, 12:1 Slope/App
Pole; 18’ High, 6:1 Slope(App)

Tree; 63’ High, 14:1 Slope/Appr

Mountain 400’ High
Transitional Obstr

20:1 approach slope
FAR PART 77 – w/IAP

- Tree; 63’ High, 12:1 Slope(App)
- Tree; 63’ High, 14:1 Slope(Appr)
- Mountain 400’ High
- Approach Obstr
- Pole; 18’ High, 6:1 Slope(App)
- 20:1 approach slope
- 200’ out
- 500 feet

Different Airspace Standards

- FAR Part 77 ‘Navigable Airspace’
- FAA Advisory Circular ‘Airport Design’
- Terminal Instrument Procedures (TERPS)
**FAA AC 150/5300-13A**

**Airport Design**

- **20:1 approach slope**
- **250 feet**

**VFR**

- Pole; 18’ High, 6:1 Slope(App)
- Tree; 63’ High, 12:1 Slope(App)

**Mountain 400’ High**

**Tree; 63’ High, 14:1 Slope(Appr)**

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**Large Aircraft or IFR Daytime Ops**

- **20:1 approach slope**
- **400 feet**

**>1 mi vis**

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[Google earth]
Night IFR Approach Standard

Mountain

20:1 approach slope

400 feet

200 feet

Night IFR

IFR Approach Standard

Mountain

20:1 approach slope

400 feet

200 feet

PAPI

Obstruction Clearance Surface

Obstacle Clearance Surface (OCS)

1° under aiming angle
VFR Night Operations

Expectation - Clear to the ‘green lights’

Restricted Night Operations

Night Hazard

‘Green lights’ obstructed

- Rwy NOTAM’d Closed to night ops!
Night Operations with Risk

PAPI Glide Slope

- Temporary - With NOTAM!

VFR Airspace Standards

END
Hazards on Approach

Day
VFR

Hazards on Approach

Hazards on Approach
Night VFR

Worst Case
Aviation Safety Team

FAA

Airport Mngt

Local Govt

PennDOT