



U. S. Department
of Transportation
**Federal Aviation
Administration**

Great Lakes Region
Illinois, Indiana, Michigan
Minnesota, North Dakota,
Ohio, South Dakota,
Wisconsin

2300 East Devon Avenue
Des Plaines, Illinois 60018

REGIONAL GUIDANCE LETTER—AIRPORTS DIVISION

NUMBER: 5300.3

DATE: July 27, 2010

SUBJECT: FAA Advisory Circular 150/5300-13 Clarifications:
1. Regional Application of “Small Aircraft Exclusively”
2. Threshold Siting Criteria for ILS Procedures
3. Runway Object Free Area Length Prior to the
Landing Threshold

REFERENCES: FAA Advisory Circular 150/5300-13

The Great Lakes Region (AGL) occasionally finds the need to provide clarifications to Advisory Circular (AC) 5300-13, “Airport Design”. These clarifications are intended to supplement the existing advisory circular for the purpose of providing clarification on inconsistencies and/or lack of guidance on specific situations.

1. Regional Application of “Small Aircraft Exclusively”

Background:

AC 150/5300-13 uses the terms “Small Aircraft Exclusively” or “Small Airplanes Exclusively” in four specific tables (Tables 2-1, 2-4, 3-1, and 3-2). We consider these two terms to be the same. The tables relate to airport geometric design standards for runway separation, runway protection zone dimensions, and runway design standards. The AGL Regional Office has increasingly fielded questions regarding the use and application of standards related to this terminology. The Regional Office reviewed the AC and consulted with FAA Headquarters Airport Safety and Standards Airport Engineering, AAS-100, to determine the applicability of this standard.

Regional Policy:

This section of the Regional Guidance Letter provides four points of direction in the application of the “Small Aircraft Exclusively” Standard.

1. **Interpretation and Application of “Small Aircraft Exclusively.”** The application of “Small Aircraft/Airplanes Exclusively” is noted specifically for

Aircraft Approach Categories A and B, Airplane Design Group I in tables 2-1, 3-1, and 3-2 (see tables below).

To maintain consistency in the context of AC 150/5300-13, the dimensions for “Small Aircraft Exclusively” can be applied to certain runways under the following conditions:

- a. Approach Category A & B aircraft (speed less than 121 knots)
- b. Airplane Design Group I aircraft only (up to but not including 49 feet wingspan or tail height up to but not including 20 feet)
- c. Aircraft that are 12,500 pounds or less maximum certificated takeoff weight

2. **Interpretation of “Exclusively.”** It is the AGL Regional Office’s interpretation that the use of the word “exclusively” in AC 150/5300-13 is not intended to connote a prohibition against large aircraft, but rather the acknowledgement that the runway is regularly used¹ by aircraft that are “small” in nature.

The “Small Aircraft Exclusively” category, particularly the “exclusively” term, is not intended as a method for restricting larger aircraft from using a runway. It is a dimensional standard that should be applied for the operational and physical characteristics of the aircraft intended to regularly operate on a runway (i.e. Critical Design Aircraft). The airport sponsor is ultimately responsible for properly maintaining and planning for the existing and future uses of their facilities. They should also be prepared to implement processes to safely accommodate larger aircraft should larger aircraft begin to operate on a runway designed for smaller aircraft. A planning process should also be started to determine the ideal time for moving to the next most demanding design category. We understand that the airport sponsor can only design for existing and anticipated future aircraft; it is ultimately the pilot’s responsibility for determining if they can safely operate their aircraft on that runway.

¹ Substantial or regular use is considered as at least 500 or more annual itinerant operations of the runway by the critical design aircraft (see FAA Order 5100.38C and FAA AC 150/5325-4B).

3. **Applicability of this Regional Guidance.** This guidance is not intended as a request for the AGL District Office's, or State Block Grant offices, to immediately review each airport location for the use of these standards. Rather, the Region recommends that these standards be reviewed on a continual basis, but updated no later than any of the following instances:
 - a. When starting or updating a Master Plan or Airport Layout Plan
 - b. When beginning a major runway project²
 - c. When requesting approaches with minimums lower than existing

It is the recommendation of the AGL Regional Office that, at a minimum, airport sponsors implement or plan on implementing the RPZ dimensions for "Aircraft Approach Categories A & B" for Approach Visibility Minimums of Visual and Not Lower than 1-Mile.

4. **Future Updates to Guidance.** Please note that AC 150/5300-13 is currently being updated and there is indication that the "Small Aircraft Exclusively" RPZ dimension will not be carried over.

² i.e. AIP projects that involve construction of new runways and lengthening, widening, strengthening, or leveling of an existing runway

2. Clarification of Threshold Siting Surface for ILS Procedures

Background:

Table A16-1A. Precision Instrument Approach Requirements, from Appendix 16, New Instrument Approach Procedures, of FAA AC 150/5300-13 identifies airport landing surface requirements. This table is broken into two columns of requirements. One for Visibility Minimums of less than ¾ statute mile and one for less than 1-statute mile. Listed among the requirements is the “Threshold Siting Criteria To Be Met” for each visibility minimum. This requirement refers to rows in Table A2-1, Approach/Departure Requirements Table, Appendix 2, Runway End Siting Requirements for dimensional standards.

Table A16-1A. Precision Instrument Approach Requirements.

Visibility Minimums ¹	<3/4 statute mile	< 1-statute mile
Height Above Touchdown (HAT) ²	200	
TERPS Glidepath Qualification ³	Table A2-1, Row 7, Criteria, and Appendix 2, par. 5a	
Parallel Taxiway ⁹	Required	
Approach Lights ¹⁰	MALS, SSALR, or ALSF	Recommended
Runway Design Standards; e.g., Obstacle Free Zone (OFZ) ¹¹	< 3/4-statute mile approach visibility minimums	≥ 3/4-statute mile approach visibility minimums
Threshold Siting Criteria To Be Met ¹²	Table A2-1, Row 9, Criteria	Table A2-1, Row 8, Criteria
Survey Required for Lowest Minima	Vertically Guided Approach Airspace Analysis Survey	

Table A2-1. Approach/Departure Requirements Table

	Runway Type	DIMENSIONAL STANDARDS*					Slope/OCS
		Feet					
		A	B	C	D	E	
1	Approach end of runways expected to serve small airplanes with approach speeds less than 50 knots. (Visual runways only, day/night)	0	60	150	500	2,500	15:1

8	Approach end of runways expected to accommodate instrument approaches having visibility minimums ≥ 3/4 but < 1 statute mile, day or night.
9	Approach end of runways expected to accommodate instrument approaches having visibility minimums < 3/4 statute mile or precision approach (ILS, GLS, or MLS), day or night.

The requirements in Table A16-1A and Table A2-1 conflict with each other for Runways with ILS approaches. Table A16-1A states to use Table A2-1, Row 8, for Visibility Minimums less than 1-statute mile. It is correct that Table A2-1, Row 8, allows for instrument approaches having visibility minimums less than 1-statute mile, but greater than or equal to 3/4–statute mile. However, Table A2-1, Row 9 specifically refers to instrument approaches having visibility minimums less than 3/4-statute mile or Precision Approach (including ILS approaches). The Regional Office reviewed the AC and consulted with FAA Headquarters Airport Safety and Standards Airport Engineering, AAS-100, to determine the correct standard.

Regional Policy:

This section of the Regional Guidance Letter provides the following direction for Threshold Siting Surface for runways with an ILS approach.

Runways with an Instrument Landing System approach, regardless of Visibility Minimums, should use the Threshold Siting Surface dimensional standards identified in Row 9 of Table A2-1.

3. Clarification of the Runway Object Free Area Length Prior to the Landing Threshold

Background:

Tables 3-1, 3-2, and 3-3 from AC 150/5300-13 relate to various airport geometric design standards, including dimensions for: Runway Safety Area's (RSA) and Runway Object Free Area's (OFA). The FAA modified the RSA standard in 2005 to allow the RSA for undershoots (prior to the landing threshold) to be a maximum of 600 feet if vertical guidance was provided for landing aircraft. A row was added to the abovementioned tables to recognize this. However, a corresponding row for OFA Length Prior to the Landing Threshold was not specifically included in AC 150/5300-13. The Regional Office reviewed the AC and consulted with FAA Headquarters Airport Safety and Standards Airport Engineering, AAS-100, to determine if the OFA length prior to the landing threshold could be modified as well.

Regional Policy:

This section of the Regional Guidance Letter provides the following direction in applying the Runway OFA length prior to the landing threshold.

To maintain consistency with Note 5 on Tables 3-1 and 3-2, and Note 7 on Table 3-3³, the Runway OFA Length Prior to the Landing Threshold is equal to the standard RSA Length Prior to the Landing Threshold.

11/10/94

AC 150/5300-13 CHG 4

AC 150/5300-13 CHG 12

1/3/08

Table 3-2. Runway design standards for aircraft approach categories A & B runways with lower than 3/4-statute mile (1,200 m) approach visibility minimums

ITEM	DIM 1/	AIRPLANE DESIGN GROUP				
		I 2/	I	II	III	IV
Runway Length	A	- Refer to paragraph 301 -				
Runway Safety Area Width	C	300 ft 90 m	300 ft 90 m	300 ft 90 m	400 ft 120 m	500 ft 150 m
Runway Safety Area Length Beyond RW End 3/	P	600 ft 180 m	600 ft 180 m	600 ft 180 m	800 ft 240 m	1,000 ft 300 m
Obstacle Free Zone Width and Length		- Refer to paragraph 306 -				
Runway Object Free Area Width	Q	800 ft 240 m	800 ft 240 m	800 ft 240 m	800 ft 240 m	800 ft 240 m
Runway Object Free Area Length Beyond RW End 3/	R	600 ft 180 m	600 ft 180 m	600 ft 180 m	800 ft 240 m	1,000 ft 300 m

Table 3-2. Runway design standards for aircraft approach category A & B runways with lower than 3/4-statute mile (1,200 m) approach visibility minimums

(Refer also to Appendix 16 for the establishment of new approaches)

ITEM	DIM 1/	AIRPLANE DESIGN GROUP				
		I 2/	I	II	III	IV
Runway Length	A	- Refer to paragraph 301 -				
Runway Safety Area Width	C	300 ft 90 m	300 ft 90 m	300 ft 90 m	400 ft 120 m	500 ft 150 m
Runway Safety Area Length Prior to Landing Threshold 3/, 4/		600 ft	600 ft	600 ft	600 ft	600 ft
Runway Safety Area Length Beyond RW End 2/	P	180 m	180 m	180 m	180 m	180 m
Obstacle Free Zone Width and Length		- Refer to paragraph 306 -				
Runway Object Free Area Width	Q	800 ft	800 ft	800 ft	800 ft	800 ft
Runway Object Free Area Length Beyond RW End 2/	R	240 m	240 m	240 m	240 m	240 m
		600 ft	600 ft	600 ft	800 ft	1,000 ft
		180 m	180 m	180 m	240 m	300 m

³ These notes state, "The runway object free area length beyond the end of the runway never exceeds the standard RSA length beyond the runway end..."

Table 2-4. Runway protection zone (RPZ) dimensions

Approach Visibility Minimums 1/	Facilities Expected To Serve	Dimensions			RPZ acres
		Length L Feet (meters)	Inner Width W ₁ feet (meters)	Outer Width W ₂ feet (meters)	
Visual And Not lower than 1-Mile (1 600 m)	Small Aircraft Exclusively	1,000 (300)	250 (75)	450 (135)	8.035
	Aircraft Approach Categories A & B	1,000 (300)	500 (150)	700 (210)	13.770
	Aircraft Approach Categories C & D	1,700 (510)	500 (150)	1,010 (303)	29.465
Not lower than 1/2-Mile (1 200 m)	All Aircraft	1,700 (510)	1,000 (300)	1,510 (453)	48.978
Lower than 1/4-Mile (1 200 m)	All Aircraft	2,500 (750)	1,000 (300)	1,750 (525)	78.914

1/ The RPZ dimensional standards are for the runway end with the specified approach visibility minimums. The departure RPZ dimensional standards are equal to or less than the approach RPZ dimensional standards. When a RPZ begins other than 200 feet (60 m) beyond the runway end, separate approach and departure RPZs should be provided. Refer to Appendix 14 for approach and departure RPZs.

Table 2-1. Runway Separation Standards for aircraft approach categories A & B

ITEM	DIM 1/	AIRPLANE DESIGN GROUP			
		I 2/	II	III	IV
Visual runways and runways with not lower than 3/4-stature mile (1200m) approach visibility minimums					
Runway Centerline to:					
Parallel Runway Centerline	H	Refer to paragraphs 207 and 208			
Holdline		125ft 7/	200ft	200ft	250ft 5/
Taxiway/Taxilane/Centerline 3/	D	38m	60m	60m	75m
Aircraft Parking Area	G	150ft	225ft	240ft	300ft
Helicopter Touchdown Pad		45m	67.5m	72m	90m
		125ft	200ft	250ft	400ft
		37.5m	60m	75m	120m
Runways with lower than 3/4-stature mile (1200m) approach visibility minimums 4/					
Runway Centerline to:					
Parallel Runway Centerline	H	Refer to paragraphs 207 and 208			
Holdline		175ft 7/	250ft	250ft	250ft 6/
Taxiway/Taxilane/Centerline 3/	D	53m	75m	75m	75m
Aircraft Parking Area	G	200ft	250ft	300ft	400ft
Helicopter Touchdown Pad		60m	75m	90m	105m
		400ft	400ft	400ft	500ft
		120m	120m	120m	150m

1/ Letters correspond to the dimensions on Figure 2-1.

2/ These dimensional standards pertain to facilities for small airplanes exclusively.

3/ The taxiway/taxilane centerline separation standards are for sea level. At higher elevations, an increase to these separation distances may be required to keep taxiing and holding airplanes clear of the OFZ (refer to paragraph 206).

4/ For approaches with visibility less than 1/4-stature miles, runway centerline to taxiway/taxilane centerline separation increases to 400 feet (120m).

5/ This distance is increased 1 foot for each 100 feet above 5,100 feet above sea level.

6/ This distance is increased 1 foot for each 100 feet above sea level.

7/ The holdline dimension standards pertain to facilities for small airplanes exclusively, including airplane design groups I & II.

Table 3-1. Runway design standards for aircraft approach category A & B visual runways and runways with not lower than 3/4-statute mile (1,200 m) approach visibility minimums
(Refer also to Appendix 16 for the establishment of new approaches)

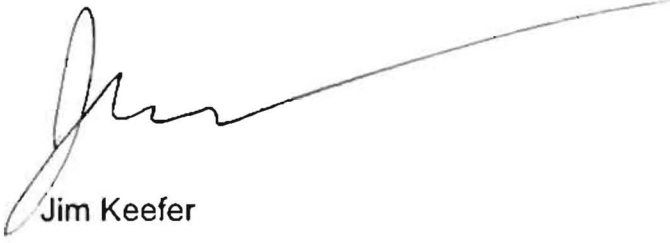
ITEM	DIM 1/	AIRPLANE DESIGN GROUP			
		1 2/	I	II	III
Runway Length	A	- Refer to paragraph 301 -			
Runway Width	B	60 ft	75 ft	100 ft	150 ft
Runway Shoulder Width		18 m	23 m	30 m	45 m
Runway Blast Pad Width		10 ft	10 ft	20 ft	25 ft
Runway Blast Pad Length		3 m	3 m	6 m	7.5 m
Runway Safety Area Width	C	80 ft	95 ft	140 ft	200 ft
Runway Safety Area Length	P	24 m	29 m	42 m	60 m
Runway Safety Area Length Beyond R/W End 3/, 4/		60 ft	100 ft	150 ft	200 ft
Obstacle Free Zone Width and Length		18 m	30 m	45 m	60 m
Runway Object Free Area Width	Q	120 ft	150 ft	300 ft	500 ft
Runway Object Free Area Length Beyond R/W End 5/	R	36 m	45 m	90 m	150 m
		240 ft	240 ft	300 ft	600 ft
		72 m	72 m	90 m	180 m
		72 m	72 m	90 m	180 m
		- Refer to paragraph 306 -			
Runway Object Free Area Width	Q	250 ft	400 ft	500 ft	800 ft
Runway Object Free Area Length Beyond R/W End 5/	R	75 m	120 m	150 m	240 m
		240 ft	240 ft	300 ft	600 ft
		72 m	72 m	90 m	180 m

- 1/ Letters correspond to the dimensions on figures 2-1 and 2-3. Use this table only when both ends of the runway provide not lower than 3/4-statute mile approach visibility minimums.
- 2/ These dimensional standards pertain to facilities for small airplanes exclusively.
- 3/ The runway safety area (RSA) length begins at each runway end when a stopway is not provided. When a stopway is provided, the length begins at the stopway end.
- 4/ The standard RSA length beyond the runway end may be reduced to the standard RSA length prior to landing threshold if a standard Engineered Materials Arresting System (EMAS) is provided. To qualify for this reduction, the EMAS installation must provide the ability to stop the critical aircraft exiting the end of the runway at 70 knots, and the runway must provide either instrument or visual vertical guidance for approaches in the opposite direction. See AC 150/5220-22.
- 5/ The runway object free area length beyond the end of the runway never exceeds the standard RSA length beyond the runway end as provided by note 4 above.

Table 3-2. Runway design standards for aircraft approach category A & B runways with lower than 3/4-statute mile (1,200 m) approach visibility minimums
(Refer also to Appendix 16 for the establishment of new approaches)

ITEM	DIM 1/	AIRPLANE DESIGN GROUP			
		1 2/	I	II	III
Runway Length	A	- Refer to paragraph 301 -			
Runway Width	B	75 ft	100 ft	100 ft	150 ft
Runway Shoulder Width		23 m	30 m	30 m	45 m
Runway Blast Pad Width		10 ft	10 ft	20 ft	25 ft
Runway Blast Pad Length		3 m	3 m	6 m	7.5 m
Runway Safety Area Width	C	95 ft	120 ft	140 ft	200 ft
Runway Safety Area Length Beyond R/W End 3/, 4/	P	29 m	36 m	42 m	60 m
Obstacle Free Zone Width and Length		60 ft	100 ft	150 ft	200 ft
Runway Object Free Area Width	Q	18 m	30 m	45 m	60 m
Runway Object Free Area Length Beyond R/W End 5/	R	300 ft	300 ft	400 ft	500 ft
		90 m	90 m	120 m	150 m
		600 ft	600 ft	600 ft	600 ft
		180 m	180 m	180 m	180 m
		180 m	180 m	180 m	180 m
		- Refer to paragraph 306 -			
Runway Object Free Area Width	Q	800 ft	800 ft	800 ft	800 ft
Runway Object Free Area Length Beyond R/W End 5/	R	240 m	240 m	240 m	240 m
		600 ft	600 ft	600 ft	600 ft
		180 m	180 m	180 m	180 m

- 1/ Letters correspond to the dimensions on figures 2-1 and 2-3. Use this table for both ends of the runway even when one end does not have lower than 3/4-statute mile visibility minimums.
- 2/ These dimensional standards pertain to facilities for small airplanes exclusively.
- 3/ The runway safety area (RSA) length begins at each runway end when a stopway is not provided. When a stopway is provided, the length begins at the stopway end.
- 4/ The standard RSA length beyond the runway end may be reduced to the standard RSA length prior to landing threshold if a standard Engineered Materials Arresting System (EMAS) is provided. To qualify for this reduction, the EMAS installation must provide the ability to stop the critical aircraft exiting the end of the runway at 70 knots, and the runway must provide either instrument or visual vertical guidance for approaches in the opposite direction. See AC 150/5220-22.
- 5/ The runway object free area length beyond the end of the runway never exceeds the standard RSA length beyond the runway end as provided by note 4 above.

A handwritten signature in black ink, appearing to read 'Jim Keefer', with a long, sweeping horizontal line extending to the right.

Jim Keefer

Acting Airports Division Manager

Great Lakes Region