

Back course sector means the course sector on the opposite end of the runway from the front course sector.

Course line means the locus of points along the final approach course at which the DDM is zero.

Course sector means a sector in a horizontal plane containing the course line and limited by the loci of points nearest to the course line at which the DDM is 0.155.

Displacement sensitivity means the ratio of measured DDM to the corresponding lateral displacement from the appropriate reference line.

Front course sector means the course sector centered on the course line in the direction from the runway in which a normal final approach is made.

Half course sector means the sector in a horizontal plane containing the course line and limited by the loci of points nearest to the course line, at which the DDM is 0.0775.

Point A means a point on the front course in the approach direction a distance of 4 nautical miles from the threshold.

Point A1 means a point on the front course in the approach direction a distance of 1 statute mile from the threshold.

Point A2 means a point on the front course at the threshold.

Reference datum means a point at a specified height located vertically above the intersection of the course and the threshold.

Missed approach point means the point on the final approach course, not farther from the final approach fix than Point "A2", at which the approach must be abandoned, if the approach and subsequent landing cannot be safely completed by visual reference, whether or not the aircraft has descended to the minimum descent altitude.

§ 171.109 Performance requirements.

(a) The Simplified Directional Facility must perform in accordance with the following standards and practices:

(1) The radiation from the SDF antenna system must produce a composite field pattern which is amplitude modulated by a 90 Hz and a 150 Hz tone. The radiation field pattern must produce a course sector with the 90 Hz

tone predominating on one side of the course and with the 150 Hz tone predominating on the opposite side.

(2) When an observer faces the SDF from the approach end of runway, the depth of modulation of the radio frequency carrier due to the 150 Hz tone must predominate on his right hand and that due to the 90 Hz tone must predominate on his left hand.

(3) All horizontal angles employed in specifying the SDF field patterns must originate from the center of the antenna system which provides the signals used in the front course sector.

(4) The SDF must operate on odd tenths or odd tenths plus a twentieth MHz within the frequency band 108.1 MHz to 111.95 MHz. The frequency tolerance of the radio frequency carrier must not exceed plus or minus 0.002 percent.

(5) The radiated emission from the SDF must be horizontally polarized. The vertically polarized component of the radiation on the course line must not exceed that which corresponds to an error one-twentieth of the course sector width when an aircraft is positioned on the course line and is in a roll attitude of 20° from the horizontal.

(6) The SDF must provide signals sufficient to allow satisfactory operation of a typical aircraft installation within the sector which extends from the center of the SDF antenna system to distances of 18 nautical miles within a plus or minus 10° sector and 10 nautical miles within the remainder of the coverage when alternative navigational facilities provide satisfactory coverage within the intermediate approach area. SDF signals must be receivable at the distances specified at and above a height of 1,000 feet above the elevation of the threshold, or the lowest altitude authorized for transition, whichever is higher. Such signals must be receivable, to the distances specified, up to a surface extending outward from the SDF antenna and inclined at 7° above the horizontal.

(7) The modulation tones must be phase-locked so that within the half course sector, the demodulated 90 Hz and 150 Hz wave forms pass through zero in the same direction within 20° of phase relative to the 150 Hz component, every half cycle of the combined 90 Hz