



Figure 12. Azimuth Guidance Functions Scanning Conventions

(m) *False guidance.* False courses which can be acquired and tracked by an aircraft shall not exist anywhere either inside or outside of the MLS coverage sector. False courses which exist outside of the minimum coverage sector may be suppressed by the use of OCI.

NOTE: False courses may be due to (but not limited to) MLS airborne receiver acquisition of the following types of false guidance: reflections of the scanning beam, scanning beam antenna sidelobes and grating lobes, and incorrect clearance.

**§ 171.315 Azimuth monitor system requirements.**

(a) The approach azimuth or back azimuth monitor system must cause the radiation to cease and a warning must be provided at the designated control point if any of the following conditions persist for longer than the periods specified:

(1) There is a change in the ground equipment contribution to the mean course error component such that the path following error at the reference datum or in the direction of any azimuth radial, exceeds the limits specified in §§ 171.313(e)(1) or 171.313(j) for a period of more than one second.

NOTE: The above requirement and the requirement to limit the ground equipment mean error to  $\pm 10$  ft. can be satisfied by the following procedure. The integral monitor alarm limit should be set to the angular

equivalent of  $\pm 10$  ft. at the approach reference datum. This will limit the electrical component of the mean course error to  $\pm 10$  ft. The field monitor alarm limit should be set such that with the mean course error at the alarm limit the total allowed PFE is not exceeded on any commissioned approach course from the limit of coverage to an altitude of 100 feet.

(2) There are errors in two consecutive transmissions of Basic Data Words 1, 2, 4 or 5.

(3) There is a reduction in the radiated power to a level not less than that specified in §§ 171.313(a)(4) or 171.313(g)(4) for a period of more than one second.

(4) There is an error in the preamble DPSK transmissions which occurs more than once in any one second period.

(5) There is an error in the time division multiplex synchronization of a particular azimuth function that the requirement specified in § 171.311(e) is not satisfied and if this condition persists for more than one second.

(6) A failure of the monitor is detected.

(b) Radiation of the following functions must cease and a warning provided at the designated control point if there are errors in 2 consecutive transmissions:

- (1) Morse Code Identification,
- (2) Basic Data Words 3 and 6,
- (3) Auxiliary Data Words.

**§ 171.317**

**14 CFR Ch. I (1-1-13 Edition)**

(c) The period during which erroneous guidance information is radiated must not exceed the periods specified in §171.315(a). If the fault is not cleared within the time allowed, the ground equipment must be shut down. After shutdown, no attempt must be made to restore service until a period of 20 seconds has elapsed.

**§ 171.317 Approach elevation performance requirements.**

This section prescribes the performance requirements for the elevation equipment components of the MLS as follows:

(a) *Elevation coverage requirements.* The approach elevation facility must provide proportional guidance information in at least the following volume of space (see Figure 13):

(1) Laterally within a sector originating at the datum point which is at least equal to the proportional guidance sector provided by the approach azimuth ground equipment.

(2) Longitudinally from 75 meters (250 feet) from the datum point to 20 nautical miles from threshold in the direction of the approach.

(3) Vertically within the sector bounded by:

(i) A surface which is the locus of points 2.5 meters (8 feet) above the runway surface;

(ii) A conical surface originating at the datum point and inclined 0.9 degree above the horizontal and,

(iii) A conical surface originating at the datum point and inclined at 15.0 degrees above the horizontal up to a height of 6000 meters (20,000 feet).