



ADOPTION OF AMENDMENT 95 TO ANNEX 10, VOL I

Document Affected: SD-ATELCOM, Edition 1.0, Nov 2026

Date of the Proposed Amendment: 14 April 2026

Effective Date of the Proposed Amendment: 03 Aug 2026

Applicable Date of the Proposed Amendment: 26 November 2026

Purpose of the Proposed Amendment:

Amendment 95 arises from recommendations of the eighth meeting of the Flight Operations Panel (FLTOSP/8) concerning a consequential amendment to change the definitions of area navigation, navigation specification and performance-based navigation.

Details of the Proposed Amendment:

Consequential amendment to change the definitions of area navigation, navigation specification and performance-based navigation

Amendment 95 to Annex 10, Volume I changes the definitions of area navigation, navigation specification and performance-based navigation (PBN) to provide clarification that all area navigation operations are included in the PBN concept.



SUMMARY OF AMENDMENTS - AMENDMENT 95 TO ANNEX 10, VOL I

SECTION: SUMMARY OF AMENDMENTS

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
<u>Page: vi</u>	<u>Amendment: 1st Edition</u>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: vi</u>	<u>Source(s): ICAO</u>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: vi</u>	<u>Subject(s): Incorporation of Amendment 95 to Annex 10, Vol I</u>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: vi</u>	<u>Adopted Effective Applicable: 25 March 2026</u>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: vi</u>	<u>Adopted Effective Applicable: 3 August 2026</u>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: vi</u>	<u>Adopted Effective Applicable: 26 November 2026</u>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

SECTION: CHAPTER 1. DEFINITIONS

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
Page: 2	<i>Area navigation-(RNAV). A method of navigation which permits aircraft operation on any desired flight path within the coverage of ground- or space-based navigation aids or within the limits of the capability of self-contained aids, or a combination of these.</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
Page: 2 Ref: Note.—	<i>Note.— Area navigation includes performance-based navigation as well as other operations that do not meet the definition of performance-based navigation.</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
Page: 2 Ref: [Unnumbered]	<i>Area navigation-(RNAV) specification. A navigation specification based on area navigation that does not include the requirement for performance monitoring and alerting, designated by the prefix RNAV, e.g. RNAV 5, RNAV 1.</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
Page: 3 Ref: Note.—	<i>Note.— Performance requirements are expressed in navigation specifications (RNAV specification, RNP specification) in terms of accuracy, integrity, continuity, availability and functionality needed for the proposed operation in the context of a particular airspace concept. <u>Availability of a global navigation satellite system signal in space and/or some other navigation aid infrastructure is considered within the airspace concept in order to enable the navigation application.</u></i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

SECTION: CHAPTER 3. SPECIFICATIONS FOR RADIO NAVIGATION AIDSs

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
<u>Page: 111</u> <u>Ref: 3.11.4.8.3.2.1</u>	<i>Microwave landing system/area navigation (MLS/RNAV) procedure data.</i> Where required, auxiliary data words B1 through B39 shall be used to transmit data to support MLS/RNAV procedures. It shall be permissible to divide this procedure data into two separate databases: one for transmission in the approach azimuth sector, the other for transmission in the back azimuth sector. Data for each procedure shall be transmitted in the database for the coverage sector in which the procedure commences. Missed approach procedure data shall be included in the database containing the associated approach procedure.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 111</u> <u>Ref: Note.—</u>	<i>Note.— The structure and coding of auxiliary B words B1 through B39 are defined in Appendix A, Tables A-14 through A-17. Guidance material concerning the coding of MLS/area navigation RNAV procedures is given in Attachment G.</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 147</u> <u>Ref: Note.—</u>	<i>Note.— Definitions of auxiliary data B items supporting MLS/area navigation RNAV procedures are shown in Table A-13.</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 149</u>	<i>Word: Words B1 through B39: Time-invariant (fixed) data items supporting MLS/area navigation RNAV procedures (see Table A-15)</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 153</u>	<i>Table A-13. Definitions of auxiliary data B items concerning MLS/area navigation RNAV procedure database</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

Page: 155	Table A-14. MLS/ area navigation RNAV procedure database structure	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I
-----------	---	-------------	--

SECTION: ATTACHMENT A

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
Page: 491 Ref: 4	Application of the risk tree to an MLS/ area navigation RNAV approach in an obstacle rich environment (Figure A-3).	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I
Page: 492	Figure A-3. MLS/ area navigation RNAV obstacle rich risk tree	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I
Page: 493 Ref: 4.2	In the case of an MLS/ area navigation RNAV procedure in an obstacle rich environment, it is assumed that secondary guidance will be essential to execute a safe discontinued approach/missed approach procedure during the period of exposure to the obstacles.	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I
Page: 493 Ref: Note.—	<i>Note.— This is the probability of a COS failure of the secondary guidance ground equipment. It is assumed here that the secondary guidance system has a MTBO of 1 000 hours and that the exposure time is 270 seconds. The exposure time to a failure of the secondary guidance is dependent on the point in the procedure at which the availability of secondary guidance is confirmed. Assuming that this would be prior to the commencement of the MLS/area navigation RNAV procedure, and that the pilot would not be required to reconfirm the availability of secondary guidance before</i>	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I



CIVIL AVIATION AUTHORITY OF FIJI

	<i>commencing the critical obstacle rich part of the procedure, the exposure time could be several minutes.</i>		
<u>Page: 493</u> <u>Ref: Note.—</u>	<i>Note.— For obstacle exposure times greater than 60 seconds, it will be necessary to either increase the MTBOs of the primary guidance or to increase the risk reduction factor due to the secondary guidance. For example, if the exposure time is increased to 90 seconds, the MTBOs of the primary guidance must be increased to 6 000 hours or the MTBO of the secondary guidance increased to 2 250 hours. There are clearly trade-offs between the reliability of the primary guidance, the exposure time, and the reliability and integrity of the secondary guidance. The risk tree method can be used to examine individual MLS/area navigation RNAV procedures and determine the appropriate reliability and integrity requirements for the primary and secondary guidance.</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 531</u> <u>Ref: 2.11.1</u>	When DME is used as an alternative to ILS marker beacons, the DME should be located on the airport so that the zero range indication will be a point near the runway. If the DME associated with ILS uses a zero range offset, this facility has to be excluded from area navigation RNAV solutions.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 563</u> <u>Ref: 7.1.10.1</u>	For those runways where it is intended to install DME associated with ILS and where early MLS/ area navigation RNAV operations are planned, installation of DME/P is preferred.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 566</u> <u>Ref: 7.2.3</u>	DME-DME area navigation RNAV	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 566</u> <u>Ref: 7.2.3.1</u>	There is an increasing use of DME to support area navigation (RNAV) operations. Although the use of DME to support area navigation RNAV operations does not impose any additional technical requirements on the	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

	DME system, it does raise some additional issues compared with the traditional use of DME with VOR to support conventional operations. These are examined briefly below.		
<u>Page: 566</u> <u>Ref: 7.2.3.2</u>	DME/DME positioning is based on the aircraft area navigation RNAV system triangulating position from multiple DME ranges from DME facility locations in the aircraft database. The resulting accuracy of the position solution depends on the range to the DMEs and their relative geometry. Some additional measures are therefore necessary to ensure that the DME infrastructure is adequate to support the area navigation RNAV operation, i.e. that sufficient DMEs are available and that their location provides adequate geometry to meet the accuracy requirements. For approach and departure procedures, it is also necessary to confirm that there is adequate signal strength and that there are no false locks or unlocks due to multipath. When ensuring there are sufficient DMEs, it is also important to identify any critical DMEs (i.e. those which must be operational for the necessary performance to be assured).	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 566</u> <u>Ref: 7.2.3.3</u>	Errors in published DME facility locations will result in area navigation RNAV position errors. It is therefore important that DME positions are correctly surveyed and that adequate procedures are in place to ensure that the location data are correctly published. For DME facilities collocated with VOR, the DME position should be separately surveyed and published if the separation distance exceeds 30 m (100 ft).	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 566</u> <u>Ref: 7.2.3.4</u>	When using DME to support area navigation RNAV, scanning DME aircraft receivers usually do not check the DME identification. As a consequence, removing the identification of a DME during tests and maintenance operations does not guarantee that the signals will not be used operationally.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

	Maintenance actions that may provide misleading information should be minimized.		
Page: 566 Ref: [Note]	Note 1.— Further guidance on flight inspection of DME-DME area navigation RNAV procedures is given in Doc 8071.	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I
Page: 566 Ref: [Unnumbered]	Note 2.— Further guidance on navigation infrastructure assessment to support area navigation RNAV procedures is given in EUROCONTROL-GUID-0114 (available at http://www.eurocontrol.int) and on the performance-based navigation (PBN) page of the ICAO website at http://www.icao.int/pbn .	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I

SECTION: ATTACHMENT D

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
Page: 577 Ref: [3.1.2]	approach, and the service that is provided depends on the operational requirements and the SBAS infrastructure. APV-I and APV-II exceed the requirements (lateral and vertical) for current area navigation RNAV approaches using barometric altimetry, and the relevant on-board equipment will therefore be suitable for the conduct of barometric VNAV APV and area navigation RNAV non-precision approaches.	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I



CIVIL AVIATION AUTHORITY OF FIJI

SECTION: GBAS/GRAS & ATTACHMENT D

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
<u>Page: 612</u> <u>Ref: 7.1.2</u>	GBAS systems may provide two types of services: approach services and the GBAS positioning service. The approach service provides deviation guidance for FASs within the approach service volume. The GBAS positioning service provides horizontal position information to support <u>area navigation RNAV</u> operations within the positioning service volume. The two types of services are also distinguished by different performance requirements associated with the particular operations supported (see Table 3.7.2.4-1) including different integrity requirements as discussed in 7.5.1.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 723</u> <u>Ref: b)</u>	<i>Data to support MLS/<u>area navigation RNAV</u> operations. These are transmitted in words B1-B39.</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 723</u> <u>Ref: 2.7.3</u>	<i>Application of MLS/<u>area navigation RNAV</u> data words B1 through B39</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 723</u> <u>Ref: 2.7.3.1</u>	The data contained in auxiliary data words B1-B39 are designed to allow MLS/ <u>area navigation RNAV</u> operations to be supported utilizing only the data contained within the MLS data words. In order to support computed centre line approaches to both the primary and secondary runways, curved approaches and departures, and missed approaches, these data include information on procedure type (approach or departure), procedure name, runway and way-points.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 724</u> <u>Ref: 2.7.3.2</u>	The data transmitted by approach azimuth and back azimuth are segregated. This means, for example, that each will have a separate cyclic redundancy check (CRC) and be decoded independently by the airborne	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
	equipment. Data for a given MLS/ area navigation RNAV procedure are transmitted in the coverage where the procedure begins. Normally this means that approach and missed approach data would be transmitted by approach azimuth and departure data would be transmitted by back azimuth equipment. However, way-points belonging to approaches, missed approaches or departures could be transmitted in either the azimuth or the back azimuth coverage. For example, a departure may be initiated in approach azimuth coverage, therefore that data would be transmitted by approach azimuth. If the procedure begins in a common coverage region the associated data can be transmitted in only one region, except where otherwise dictated by operational requirements.		
<u>Page: 725</u> <u>Ref: c)</u>	identifiers 4 and 5 are used in the next-to-last way-point for procedures ending or beginning on the primary runway. The last way-point is the threshold. For this way-point only, the threshold crossing height is specified since the exact location of the threshold with respect to the MLS datum is given in the auxiliary A words. Identifier 4 is used when the MLS/ area navigation RNAV missed approach guidance is not required, and identifier 5 is used when a “missed approach index” follows;	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 725</u> <u>Ref: 2.7.4</u>	<i>Example application of MLS/area navigation RNAV data words</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 725</u> <u>Ref: 2.7.4.1</u>	The following paragraphs provide an example of the data assignment process for MLS/ area navigation RNAV data words contained in auxiliary data words B1-B39. A sample set of approach and departure procedures is provided and the process by which the various way-points and associated	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
	procedure characteristics are interpreted and formatted for transmission is described.		
<u>Page: 725</u> <u>Ref: 2.7.4.3</u>	Prior to inserting the procedures data into the structure of B1-B39, the characteristics of the MLS/area navigation RNAV data must be understood in order to optimally use the available number of data words. In the data set of Tables G-3 and G-4, the following specific characteristics can be noted: procedures KASEL and NELSO share the same way-points No. 1 (WP 1) and No. 2 (WP 2); procedures KASEL and NELSO link to a missed approach procedure; procedure SEMOR is a secondary runway approach; procedure LAWSO is a departure procedure and will be transmitted in back azimuth coverage; all way-points outside of the precision final approach fix (PFAF) will not require the Z coordinate to be transmitted; the Y coordinate will not have to be transmitted for several way-points that are located on the extended primary runway centre line.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 725</u> <u>Ref: 2.7.4.4</u>	Data word B1 specified in Appendix A, Table A-15, defines the structure of the MLS/area navigation RNAV data to be transmitted in the approach azimuth coverage sector. This word also contains the approach azimuth CRC code. The number of procedures to be transmitted in the approach azimuth sector is 3. This can be determined from Table G-3. The data word address with the last approach azimuth MLS/area navigation RNAV data word is determined after the complete set is inserted into the format. In this case, the address of the last word is B11. The CRC code is calculated as described in Note 3 to Table A-15. Words B42 and B43 are not transmitted so that the relevant bits are set to ZERO. Word A4 is transmitted so that the relevant bit is set to ONE. The coding for data word B1 is shown in Table G-5.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
<u>Page: 726</u> <u>Ref: 2.7.4.5</u>	Data word B39 specified in Appendix A, Table A-15 defines the structure of the MLS/<u>area navigation RNAV</u> data to be transmitted in the back azimuth coverage sector. This word also contains the back azimuth CRC code. The number of procedures to be transmitted in the back azimuth sector is 1. The data word address with the first back azimuth MLS/<u>area navigation RNAV</u> data word is determined after the complete set is inserted into the format. In this case the address of the first word is B36. The CRC code is calculated as described in Note 3 to Table A-15. Word B43 is not transmitted so that bit is set to ZERO. The back azimuth map/CRC indicator bit is set to ONE to indicate that this is a map/CRC word. The coding for data word B39 is shown in Table G-5.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 737</u> <u>Ref: 4.3.7.4</u>	<i>Critical and sensitive areas for MLS/<u>area navigation RNAV</u> procedures.</i> For MLS/<u>area navigation RNAV</u> approach procedures, the critical and sensitive areas will require expansion to protect against in-beam multipath in the sectors used. These expanded areas protect approach procedures which are not possible with ILS. The length of the area to be protected depends on the operational minimum height surface selected from Table G-13. Information for determining the area to be protected is given in Figure G-27. For a wide range of profiles, simulation indicated that, where B-727 size aircraft are operating, adequate protection would be afforded if the first 300 m (1 000 ft) of the protected area is designated as a critical area and the remainder as a sensitive area. For B-747 size aircraft, the corresponding length is 600 m (2 000 ft). For higher approach profiles, the length derived from Table G-13 or an equation therein may be less than these values; in this case the entire expanded area is to be designated as a critical area.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
	Increased flexibility may be obtained by performing an analysis considering the specific approach profile and airport environment.		
<u>Page: 738</u> <u>Ref: 4.3.8.3</u>	For MLS/ area navigation RNAV approach procedures, the plan view of the elevation critical area will require expansion to ensure the elevation signal quality along the nominal approach track (Figure G-28). These expanded areas protect approach procedures which are not possible with ILS. The characteristics of the profile view (Figure G-24) remain unchanged, noting that the lower boundary is referenced to the nominal approach track. This guidance material covers a wide range of profiles. Increased flexibility may be obtained by performing an analysis considering the specific approach profile and airport environment.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 740</u> <u>Ref: 7.1.8</u>	For airborne equipment used in MLS/ area navigation RNAV operations the capability is to be provided to unambiguously display the procedure selected.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 741</u> <u>Ref: 7.3.3.1.4</u>	At the minimum signal power density the time to acquire all data words required to support MLS/ area navigation RNAV operations (auxiliary data words B1-B41, A1/B42, A2, A3, A4/B43 and basic data word 6) must not exceed 20 seconds on a 95 per cent probability basis. The MLS/ area navigation RNAV equipment has to ensure that the probability of undetected errors for this block of data does not exceed 0.5×10^{-9} . This performance assumes a 2 dB improvement in signal to noise. This may be achieved through reduced cable loss, margin or improved receiver sensitivity (see the airborne power budget given in Table G-2). Additionally, with signal levels above this, the acquisition time is intended to be less than 20 seconds.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
<u>Page: 742</u> <u>Ref: 7.3.3.2.1</u>	For data required to support MLS/ area navigation RNAV operations, the airborne equipment applies the cyclic redundancy check (CRC) to the data to ensure sufficient integrity has been achieved. Data that continue to be received continue to be validated. The MLS/ area navigation RNAV equipment does not accept a new block of data to be used until it is validated with the CRC.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 742</u> <u>Ref: 7.3.3.3.1</u>	For data required to support MLS/ area navigation RNAV operations, the airborne equipment does not remove existing data following validation except under the conditions described in 7.3.3.2.1. An MLS/ area navigation RNAV data block that has been validated by the CRC is not removed until a new data block has been received with a different ground equipment identification in basic data word 6, a new MLS channel is selected, or power is removed. Additionally the data block is not removed when transitioning to back azimuth coverage.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 752</u> <u>Ref: [Unnumbered]</u>	<i>Note 2.— Where an improved elevation and/or DME/P reliability is required according to Note 6 of Table G-15 for the intended MLS/area navigation RNAV operations, the improved elevation and/or DME/P reliability is to be included in the MLS classification.</i>	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 752</u> <u>Ref: 12.4</u>	Table G-15 gives continuity of service and integrity objectives for MLS basic and MLS/ area navigation RNAV operations.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 753</u> <u>Ref: 13.1.1</u>	Computed centre line approaches considered below are based on a computed path along a runway centre line where the azimuth antenna is not sited on the extended runway centre line. The simplest form of a computed centre line approach is one in which the nominal track is parallel to the zero-	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
	degree azimuth. In order to conduct MLS/ area navigation RNAV operation, a greater capability than that available in the basic MLS receiver is required.		
<u>Page: 753</u> <u>Ref: d)</u>	MLS/ area navigation RNAV computer computational error; and	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 753</u> <u>Ref: 13.2.2</u>	The composite of the above errors with the exclusion of FTE is referred to as total position error. Within 3.7 km (2 NM) of the MLS approach reference datum the permissible total lateral position error for MLS/ area navigation RNAV equipment at a position 60 m (200 ft) above the MLS datum point on a 3-degree elevation angle and a runway length of 3 000 m (10 000 ft), is 15 m (50 ft) (see the note below). Similarly, the permissible total vertical position error is 3.7 m (12 ft) at the same position. A portion of the total position error budget has been reserved for the MLS/ area navigation RNAV computer performance (computational error). Within 3.7 km (2 NM) of the MLS approach reference datum, the portion of the error budget reserved for computational error is ± 0.6 m (2 ft) both laterally and vertically. The results presented in 13.5 are dependent on meeting this computational accuracy requirement.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 753</u> <u>Ref: 13.2.3</u>	Using root sum square methodology the permissible total lateral position error, exclusive of MLS/ area navigation RNAV computer performance, is slightly less than ± 15 m (50 ft). Similarly, the permissible total vertical position error, exclusive of computational error is slightly less than ± 3.7 m (12 ft). Hence, the combined error due to ground system performance, airborne sensor performance and ground system geometry effects is not expected to exceed ± 15 m (50 ft) laterally and 3.7 m (12 ft) vertically at the described location. Using this information and assumptions about ground	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
	and airborne sensor performance, the maximum permissible azimuth and elevation antenna offsets (geometry effects) from the runway centre line can be obtained.		
Page: 755 Ref: 13.4.1	Performance of airborne sensors, MLS ground equipment and MLS/ area navigation RNAV avionics implementation influence the range of application of computed centre line approaches. Information presented in 13.5 is based on the following equipment considerations.	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I
Page: 755 Ref: 13.4.3	Area navigation RNAV computations	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I
Page: 755 Ref: 13.4.3.1	No assumption is made about where the area navigation RNAV position computations are made. A portion of the computed centre line approach error budget has been reserved for computation error. This permits flexible algorithm implementation.	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I
Page: 755 Ref: 13.4.4.1	RTCA (RTCA/DO-198, Appendix D) has identified several different position determination algorithms. Different algorithms can handle different ground equipment configurations. The algorithm designed to handle any ground equipment geometry is the RTCA case 12 algorithm. Permissible antenna offset values were obtained using Monte Carlo simulation techniques. The results were also obtained using a direct analytical method. The analytical method uses geo-metric transformations of the maximum MLS angle and range errors to determine system performance. The Monte Carlo technique through the emulation of an MLS/ area navigation RNAV system is a statistical method used to determine system performance.	22/May/2026	Adoption of Amendment 95 to Annex 10, Volume I



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
<u>Page: 757</u> <u>Ref: 13.6.4.1</u>	MLS/ area navigation RNAV will support computed paths to Category I decision heights for the primary runway given siting limitations as identified in Figure G-30. In addition, under certain conditions MLS/RNAV may provide sufficient accuracy to support Category II and III approaches. In order to accomplish this, the airborne implementation is as stated in 13.6.1.2.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 759</u> <u>Ref: 14</u>	Application of Table G-15 service level objectives for MLS/ area navigation RNAV operations	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 759</u> <u>Ref: 14.1</u>	MLS/ area navigation RNAV procedures discussed below can be conducted with ground equipment meeting integrity and continuity of service objectives identified in Table G-15. Many of these operations may be accomplished with MLS ground equipment meeting Level 2 objectives only. Further a majority of the procedures may not require positive guidance during the discontinued approach/missed approach procedure. Where procedural means cannot provide the required obstacle clearance along an unguided discontinued approach/missed approach, some form of secondary guidance will be required. The accuracy requirements of the secondary guidance system will be determined by the nature of the obstacle-rich environment.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 759</u> <u>Ref: 14.1.1</u>	In those rare cases where an MLS/ area navigation RNAV procedure is in an obstacle-rich environment, the calculated obstacle exposure time (OET) may require a higher level of equipment type than that required for landing.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 759</u> <u>Ref: 14.1.2.1</u>	The following terms are used to determine the length of the critical segments of an MLS/ area navigation RNAV procedure.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
<u>Page: 759</u>	<i>Obstacle exposure time (OET).</i> The time interval required to fly the critical segment of an MLS/ area navigation RNAV procedure. This time is used to establish the required level of service of the non-aircraft guidance equipment.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 759</u> <u>Ref: a)</u>	determine if there is an obstacle-rich environment by aligning the unguided discontinued approach/missed approach surface with any potential heading that may be used during an unguided discontinued approach/missed approach from the MLS/ area navigation RNAV procedure;	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 763</u>	Table G-3. Sample area navigation RNAV procedures for MLS installation on Runway 23R	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 764</u>	Table G-4. Sample way-point information for MLS/ area navigation RNAV procedures	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 767</u>	Table G-7. Example of way-point assignments for MLS/ area navigation RNAV approach procedures	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 769</u>	Table G-8. Example MLS/ area navigation RNAV departure way-point assignments	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 770</u>	Table G-9. Example of complete MLS/ area navigation RNAV database	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
<u>Page: 776</u>	Table G-13. Minimum height surface angle and related protected coverage volume lengths for MLS/ area navigation RNAV approach procedures	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 778</u>	Table G-15. Continuity of service and integrity objectives for MLS basic and MLS/ area navigation RNAV operations	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 778</u> <u>Ref: 6</u>	Level: MLS/ area navigation RNAV procedures may require the Level 3 and 4 integrity, continuity of service and MTBO objectives of the elevation, DME/P and, if used, back azimuth to be equivalent to the approach azimuth equipment.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 794</u>	Figure G-13. MLS/ area navigation RNAV way-point coordinate system	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 796</u>	Figure G-15. Diagram of sample MLS/ area navigation RNAV procedures	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>



CIVIL AVIATION AUTHORITY OF FIJI

SECTION: ATTACHMENT H

<u>Ref Location</u>	<u>Text of Amendment</u>	<u>Date</u>	<u>Rationale</u>
<u>Page: 819</u> <u>Ref: b)</u>	NDBs used to support SID/STAR should be replaced by <u>area navigation</u> RNAV waypoints;	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 819</u> <u>Ref: c)</u>	NDBs used as locators to assist in ILS intercept operations should be replaced by <u>area navigation</u> RNAV waypoints;	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 820</u> <u>Ref: 3.3.3</u>	In order to provide DME-based <u>area navigation</u> RNAV capabilities, those locations which are retained for VOR should normally also be equipped with a co-located DME.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>
<u>Page: 820</u> <u>Ref: 3.4.1</u>	DME/DME fully supports PBN operations based on the RNAV 1, RNAV 2 and RNAV 5 navigation specifications. Consequently, DME/DME (for equipped aircraft) is the most suitable current terrestrial PBN capability. DME/DME provides a fully redundant capability to GNSS for <u>area navigation</u> RNAV applications, and a suitable reversionary capability for RNP applications requiring an accuracy performance of ± 1 NM (95 per cent) laterally, where supported by an adequate DME infrastructure.	<u>22/May/2026</u>	<u>Adoption of Amendment 95 to Annex 10, Volume I</u>

--- ENDS ---