

Lufthansa Systems FlightNav

General Navigation Data Information

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Minimum Enroute Altitude (MEA) on STARs

The purpose of this document is to forward information about a change in the Navigation Data Coding procedures at Lufthansa Systems which will affect all Lido/FMS Navigation Database Users.

Background

Altitude constraint

State sources provide different altitude information for terminal procedures (SIDs, STARs, Approaches). One of these can be altitude constraints, published **at fixes** or fixed positions. These altitude constraints can be minimum altitudes (“at or above”), fixed altitudes (“at”), maximum altitudes (“at or below”) or altitude windows (“between”) and they are always coded in terminal procedures and part of the FMS loadable navigation database.

Minimum Enroute Altitude / Minimum Leg Altitude

Also, state source often provides minimum enroute altitudes or minimum leg altitudes, hereafter referred to as MEAs. These are always minimum altitudes (“at or above”) and valid for a segment or leg **between two fixes**. Note the difference to an altitude constraint which is associated with a fix rather than a leg between two fixes.

Current situation

Lufthansa Systems consistently captures both altitude constraints as well as MEAs for all type of terminal procedures when provided by source. However, for onboard navigation databases it is only possible to have one type of altitude information (“altitude constraint”).

Today when creating the ARINC 424 files which form the basis for onboard navigation databases only altitude constraints are taken into account. MEAs are not taken into account for terminal procedures. The only exceptions are approach transitions. For more information on the altitude coding in approach transitions please refer to LSY General Navigation Information Issue 4/2012.

Change as of AIRAC 1802

Beginning with cycle 1802, Lufthansa Systems will take into account MEAs **on STARs** as well. These will in general appear as minimum altitude constraints in the onboard navigation databases for Lido/FMS customers under certain conditions as described below.

As a general rule, an altitude constraint published in source as such for a given fix prevails over a MEA published on the leg to the fix. This means if the altitude constraint is higher than the MEA and is of type “at or above” the altitude constraint will be in the navigation database. When there is no altitude constraint published at a fix but a MEA, this MEA will be found in the onboard navigation database as a minimum altitude constraint.

In case there is a maximum altitude constraint (“at or below”) and a MEA and the MEA is lower than the altitude constraint a window constraint (“between”) will be created with the upper limit being the maximum altitude constraint and the lower limit being the MEA.

Please contact us in case of any questions or comments.

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