MULTIPLE APPROACH PROCEDURE INDICATORS

Which procedure is included in your database when multiple approach procedures using the same sensor are published to a single runway end?

GENERAL

Civil aviation authorities occasionally create more than one approach procedure of the same type to a single runway. This is done to accommodate many operations, including different missed approach procedures and missed approach climb gradients, different approach transitions, and other considerations such as WAAS and RNP.

Previously, when more than one procedure of the same type to the same runway existed, only one of the procedures could be captured in the database. Where there were multiple RNAV (GPS) procedures to the same runway in the U.S., the note “Procedure Not in Database” would be shown on the charts for procedures that were not coded in the database.

Since a database is required to fly RNAV (GPS) or RNAV (GNSS) procedures, regulators such as the FAA have mandated that all published RNAV (GPS/GNSS) procedures must be retrievable from a database. Additionally, more instances of multiple approaches were being encountered worldwide, including ILS, LOC (only), VOR, VORDME or VORTAC, NDB, and TACAN. This necessitated a change to ARINC 424 in order to establish a suffix in the procedure identifier record for multiple approach procedures.

However, even though Jeppesen now has the capability to output multiple versions of an approach type to a given runway, many avionics units cannot accept the suffix in the procedure identifier record that was designed to differentiate between multiple versions of these procedures. The units allow for only a four character approach procedure identifier.

OPTIONS

In order for all FMS and GPS avionics to contain at least one of the approaches when multiple procedures have been published, it is necessary to determine which version of the procedure should be included in *all* FMS and GPS avionics. Jeppesen uses the term “predominant procedure” for the one that is always included.

Multiple approach procedures without a suffix

Where the source does not include a suffix to provide uniqueness Jeppesen will include the approach that is believed to be predominant procedure that is issued in ATC clearances.

Where multiple approach procedures are issued yet only one of them includes a suffix, Jeppesen will code the procedure that was supplied *without* the suffix in order to provide at least one procedure that can be included in *all* FMS and GPS avionics.

Guidelines for Designating the Selected Procedure

While many of the FMS and GPS systems that our customers use have the ability to handle multiple versions of approaches with the same procedure identifier, it was determined that the equipment that cannot handle this information should not be penalized by losing any existing procedures based on this limitation. As a result, Jeppesen developed various delivery options for Multiple Approach Procedures to minimize the impact for all equipment. Avionics manufacturers were directed to select which of four options they would implement for their end-user customers.

To understand how Jeppesen designates the Selected Procedure, it is important to understand how the various source providers publish Multiple Approach Procedures. Source providers may deliver these procedures using a variety of suffixes after the procedure title or, in a few cases, without suffixes. The following list explains these different source cases:

a. Letters of the alphabet, starting with Z and moving backwards (Z, Y, X, W, etc.)
b. Numbers (1, 2, 3, etc.)
c. Words beginning with letters of the phonetic alphabet, such as Papa, Sierra, Tango, etc. (as found in Italy)
d. The phonetic alphabet (Alpha, Bravo, Charlie, etc.) starting at the beginning of the alphabet and moving forward
e. Letters or numbers with one procedure missing a multiple approach suffix; for example, VOR Rwy 36, VOR Rwy 36-1, VOR Rwy 36-2)
f. No suffix to distinguish between multiple procedures of the same type to the same runway (as found on ILS procedures in Tunis, Tunisia (DTTA))

When either the letters or numbers are used as shown in items a. or b. above, Jeppesen will use the source-supplied letters or numbers as a suffix in compliance with the ARINC 424 specifications. When words are used as depicted in items c. and d., Jeppesen will code the first letter of the word.