



EUR OPS BULLETIN

Serial Number: **2014_001**

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Subject: Implementation of “Point Merge
STAR” Arrival Procedures

The purpose of European Operations Bulletin **2014_001** is to promulgate information concerning the implementation of “Point Merge STAR” arrival procedures for flights inbound Paris-CDG coming from the Northwest of Paris area as from 12 December 2013.

This Bulletin was prepared in follow up to Conclusions 59/03 and 59/04 of the European Air Navigation Planning Group (EANPG) Programme Coordinating Group (COG).

This information was promulgated by FRANCE as AIC A 13/13 Publication date Nov 07 2013

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SUBJECT : implementation of « Point Merge » arrival procedures for flights inbound Paris-CDG coming from the Northwest of Paris area as from 12th December.

1 - Introduction

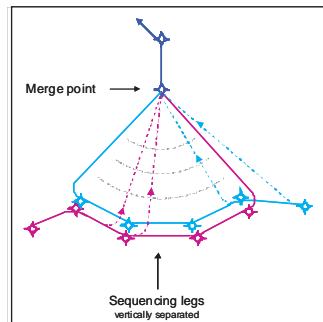
Until now, standard arrival routes (STARs) for flights inbound Paris - CDG are generally in straight lines and direct. In case of simultaneous arrivals, flights are sequenced by Paris ACC using radar vectoring, an efficient technique but inducing a high workload for ATC.

Point Merge procedures contain segments forming sequencing legs which are equidistant from a common merge point in order to replace radar vectoring by predetermined trajectories, which deliver benefits in terms of safety and capacity.

These procedures have been successfully evaluated during live trials in June, November and December 2012.

This 10 day evaluation gave clues on to 2 specific points:

- The mean flight time and the mean flown distance within Paris airspace remain unchanged;
- The trajectory is more easily predictable for the crew, so the flight profile can be managed in a more efficient way using the FMS.

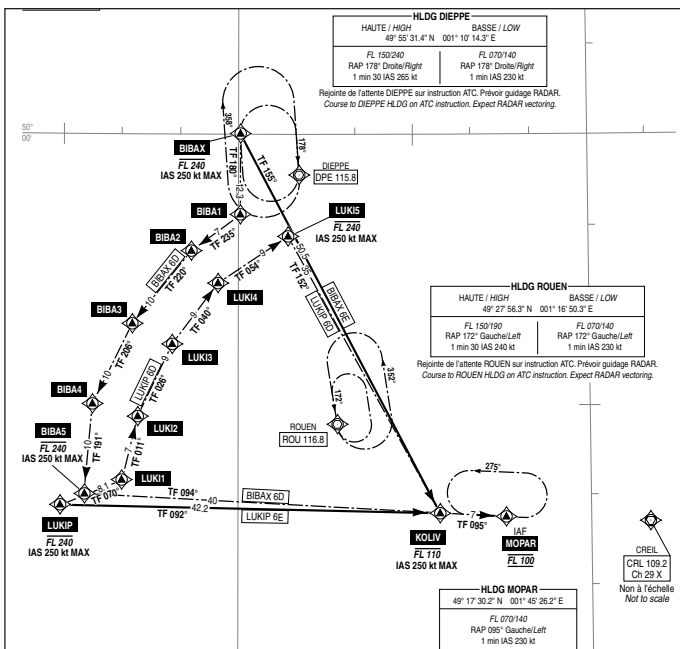


2 - New procedures implemented

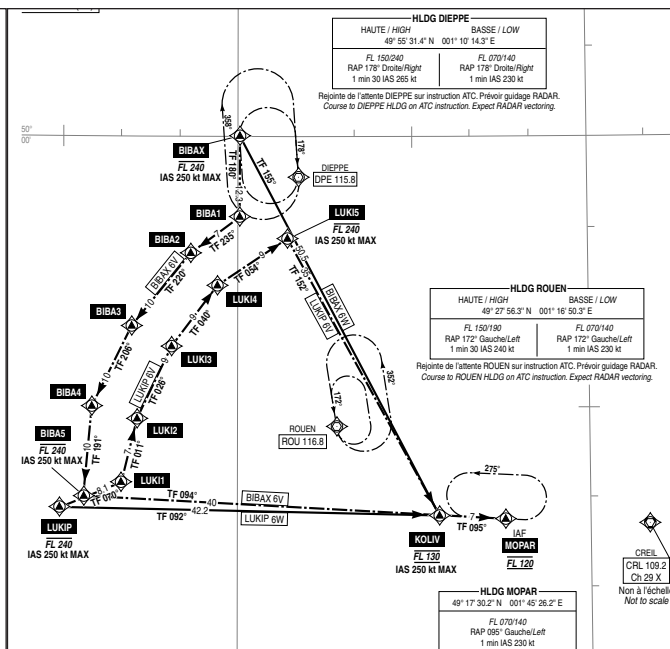
The implementation of Point Merge STAR come into effect on December 12, 2013 for flights inbound Paris-CDG coming from the Northwest (IAF MOPAR).

Changes are published in the AIP (ARR/DEP AD2 LFPG) and consist of:

- Replacing STARs DPE5E/W and DVL5E/W by direct STARs BIBAX6E/W and LUKIP6E/W: these procedures are usable for flight planning (see illustration below, straight lines).
- Adding new STARs, BIBAX6D/V and LUKIP6D/V with sequencing legs, usable on ATC instruction only (see illustration below, dotted lines).



document extracts from the ARR/DEP :
AD2 LFPG STAR RNAV 7



document extracts from the ARR/DEP :
AD2 LFPG STAR RNAV 8

3 - Use of the STARs

At first contact on Paris ACC frequency (around 20 Nm prior the first point of the STAR), Paris ACC assigns the STAR to be flown. For more than 80% of the flights, the assigned procedure will be the direct STAR. During a peak of arrivals inbound Paris-CDG or in case of simultaneous arrivals, if a flight has to be delayed for sequencing, the Point Merge STAR is assigned.

In the latter case, the flown part of the sequencing leg is in fact a « **lateral** » **holding**. The flight remains on this leg until it reaches its expected position in the arrival sequence. The crew is then cleared direct to KOLIV.

4 - Fuel calculation

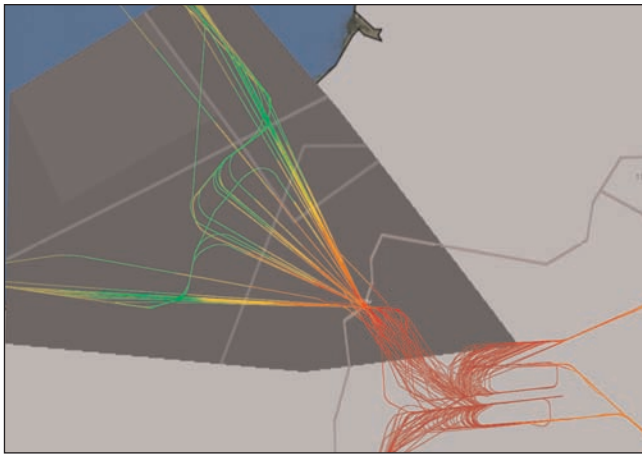
Fuel trip calculation should be made according to the relevant national regulations. STARs with sequencing legs can be considered as holding patterns or radar vectoring.

For information, during the 2012 live trials:

- 81% of flights were given a direct trajectory ;
- 14% of flights were delayed up to 4'30 on the sequencing legs;
- 5% of flights were delayed more than 4'30 on the sequencing legs.

However, an important discrepancy can be noted, depending on the time of day.

Below, an example of radar tracks of flights during a peak hour (08:00 to 09:00 local time), where a higher percentage of flights flew partly the sequencing legs.



5 - Warning to crews

Point Merge STARs must be available in the aircraft navigation database. In order to lighten the RT and ease the arrival flow management by ATC, crews are requested to prepare in advance the On instruction Point Merge STAR that may be assigned at first contact:

- BIBAX6E planned => expect alternatively to fly BIBAX6D.
- BIBAX6W planned => expect alternatively to fly BIBAX6V.
- LUKIP6E planned => expect alternatively to fly LUKIP6D
- LUKIP6W planned => expect alternatively to fly LUKIP6V

From Decembre 12th to 16th, these procedure changes will be announced on LFPG ATIS.