

March 21, 2018

Mr. Ali Bahrami
Associate Administrator for Aviation Safety
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

Dear Ali,

The Performance Based Operations Aviation Rulemaking Committee (PARC) is pleased to submit the following recommendation, which will revise a limitation on the use of multiple intermediate fixes (IF) during procedure design. Currently, only RNP AR procedures can be designed using multiple IFs. In light of the introduction of the Advanced RNP (A-RNP) concepts, a case was made to include the use of multiple intermediate fixes in A-RNP procedures.

The PARC Navigation Working Group completed a review and analysis and recommends that multiple IFs be an acceptable design consideration for A-RNP procedures. Continued harmonization of the A-RNP and RNP-AR designs will contribute to increasing aircraft participation because certain RNP AR procedures may be able to be substituted with A-RNP procedures.

The Working Group consisted of Subject Matter Experts (SMEs) that resulted in a thorough analysis leading to their recommendations, which were subsequently supported by the PARC Steering Group. Specific details of the recommendation are delineated in the following report.

It is the request of the PARC, as always, that we be provided a formal response.

The PARC appreciates your continued support of our activities and invites you to join us in a discussion of these recommendations at any time at your convenience. Please call me if you have any questions or would like to set up a discussion.

Sincerely,



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Chairman, PARC
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Chris Hope
Mike Cramer
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Problem Statement

Current criteria does not allow the use of multiple intermediate fixes (segments) for procedures other than RNP AR, such as A-RNP instrument approach procedures see Order 8260.19H paragraph 8-2-2.c. Multiple fixes (segments) are allowed in RNP AR procedures per Order 8260-58A based in part on the PARC RNP Charting WG recommendation (12 March 2010) which was responding to ACF 09-02-220. The PARC work was taken to the Aeronautical Charting Forum at ACF 10-02. It specifically recommended limiting multiple IFs to RNP AR, but raised the question of allowing them for other procedure types, recommending that the issue should be revisited after more experience had been gained.

While discussing the possibility of replacing some RNP AR procedures where A-RNP should suffice, the Navigation WG realized that this would be an issue. Using A-RNP instead of RNP AR for procedures only needing the RF and RNP values down to 0.3 NM to expand participation to more aircraft lead the WG to an examination of the Denver RNP AR procedures that meet these criteria. The Denver procedures, however, make extensive use of multiple intermediate fixes and segments for implementation, which is not allowed except for RNP AR. In 2017, the WG added this issue to the work plan for 2018.

After review of the original ACF material and subsequent discussion the WG could find no differences between RNP AR and A-RNP operations that would drive a restriction on use of multiple IFs in A-RNP procedures. Given that current criteria does not mention use of multiple IFs outside of RNP AR, and that operations and equipment are very similar between AR and A-RNP, the WG concluded that multiple IFs for A-RNP is both feasible and practical to gain the benefit of expanding fleet use through A-RNP in many cases.

Recommendation

The Navigation WG recommends that:

1. FAA revise criteria to allow the use of multiple intermediate fixes (segments) in IAPs requiring the A-RNP NavSpec in the same manner as implemented for RNP AR (down to RNP 0.3).