

GOVERNMENT/INDUSTRY AERONAUTICAL CHARTING FORUM 00-02

November 30-December 1, 2000

Recommendation Document

Subject: Airport RNAV Departure Procedure Graphic for Multiple Runways

Background/Discussion: RNAV departure procedures are designed for a specific runway operation to a common NAS transition fix to accommodate database coding. If ATC desires to develop RNAV departure procedures for each runway with different departure routes, then separate graphic depictions for each runway and text pages are required. This is necessary for the database to call up the specific named departure procedure. Procedures have been developed to allow multiple runway departures, for example, parallel runways with common routes to join at a common fix. However the route track fixes must be identical for all runways in order to call up the departure route in the database. An example of this type of departure graphic is the LAX, Holtz Three RNAV Departure procedure. If ATC requires different departure routes from each runway end, then a separate graphic page must be used or methods to "trick" the database to allow multiple routings to a common transition fixes. This is inefficient, cumbersome, and complicated for both users and ATC, as well as confusing in the event for runway changes and even hazardous in NORDO situations. ATC prefers one RNAV departure procedure that is airport specific and capable of depicting all runway ends as needed. The departure routes will be runway specific and the database will be tied to each runway with a five-letter identifier.

Recommendation: The RNAV departure design proposal will be a named departure for the airport. ATC can assign that specific RNAV departure procedure independent of departure runway. Pilots will then apply the specific runway departure route database by referring to the runway routing table on the graphic depiction. An example is the proposed Boston RNAV departure, the "**BEAN Town RNAV Departure**" (See attached exhibit "**BEAN Town Departure**") The graphic depiction will incorporate a table providing Five-Letter data base identifiers for each specific runway end. The database can then provide a specific route stream to a common transition point, multiple transition or radar vectors. The routing can be published on the text page highlighting the runway end and the database five-letter identifier.

Comments: This recommendation would eliminate the need for multiple departure graphics at major airports. Eliminating multiple procedures will enhance ATC operations, avoid confusion, reduce development workload and costs, and enhance cockpit operations. The Boston Flight Procedures Office has provided outstanding support in the development of this proposal. A Power Point briefing and graphic examples are available upon request.

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00-02 MEETING: Mr. Joe Bellabona and Mr. Gary Powell presented this new item with the goal of eliminating multiple departure graphics at major airports. They proposed an RNAV departure procedure independent of the departure runway. As an example a proposed Boston departure the “Bean Town RNAV Departure” was presented. It was stated that these procedures were expected to end with radar vectors. It was suggested that this presentation be made to the ATA/FMS Task Force as well as to the ARINC NDB (ARINC 424) working group. It was pointed out that navigation problems would occur since the procedure doesn’t terminate at an enroute fix. Finally, Mr. Terpstra pointed out that each runway departure would require a unique name to support FMS databases/equipment.

01-01 MEETING: The goal of this issue is eliminating multiple departure graphics at major airports. An RNAV departure procedure independent of the departure runway is proposed. See the “*Star/DP Charting*” discussion in the presentation section of these minutes.

01-02 MEETING: The goal of this issue is the elimination of multiple departure graphics at major airports. An RNAV departure procedure independent of the departure runway is proposed. This issue included the Chez and Beantown work. See the “*Star/DP Charting*” and “*RNAV Transition Working Group*” discussions in the presentation section of these minutes. Mr. Brad Rush stated that policy, criteria, and FMS (built in disconnect and times for ATC can’t be calculated by FMS accurately) issues still need to be resolved. Mr. Bill Hammett stated that Charlotte was/is a prototype and that kinks still need to be ironed out before the ACF addresses this issue. Mr. Brad Alberts and Mr. Simon Lawrence stated that the FMS only drives the procedure to the outbound gate and strongly recommended that vectors not be built into FMS procedures. They also recommended that altitude restrictions not be built into FMS procedures. This issue will remain open pending evaluation of existing procedures. It was also stated that the Charlotte work would provide valuable data.

02-01 MEETING: Mr. Gary Powell reported that he will take this issue to the RNAV Transition Working Group. He reported that ATP is looking at Boston. Mr. Alberts stated that the prototypes looked “busy”. Mr. Alberts suggested reducing the number of procedures per page. Mr. Gary Powell stated that Newark (the messy one) is being readdressed.

02-02 MEETING: Mr. Dick Powell reported that this issue is being researched by the SOIT. Mr. Gary Powell stated that this is not so much a charting issue as a database issue. Mr. Jim Terpstra stated that ARINC-16 would support coding but that former versions of ARINC don’t support coding. He stated that it is now an issue for avionics manufacturers. Upon group consensus the issue was closed. **CLOSED**
