

GOVERNMENT/INDUSTRY AERONAUTICAL CHARTING FORUM 06-01

April 19 – 20, 2006

Recommendation Document

Subject: Alternate Missed Approach Holding Pattern

Background/Discussion: An instrument approach clearance automatically authorizes the pilot to execute the missed approach procedure depicted on the instrument approach procedure chart for the procedure being flown. Traffic or weather conditions may require an alternate missed approach holding pattern to be flown. These procedures when necessary are published on the FAA Form 8260. They are not depicted on the instrument approach procedure chart requiring the controller to verbally provide the detailed clearance to the pilot. Depicting the alternate missed approach holding pattern on the instrument approach procedure chart will decrease controller workload and increase cockpit safety by providing a graphical depiction of the alternate missed approach holding pattern and only require verbal controller instructions on the flight path to reach the holding pattern fix.

Recommendations: The recommendation is made to depict the alternate missed approach holding pattern and its associated data in a shaded gray color as shown on the attached graphic.

Comments: This recommendation affects IACC Specification 4, Instrument Approach Procedures and Airport Diagrams.

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MEETING 06-01: Mr. Eric Secretan, NACG, submitted this issue and provided the following briefing. The alternate missed approach holding instructions when established are published on the FAA Form 8260. Currently, they are not depicted on the instrument approach procedure charts requiring the controller to verbally provide the detailed clearance to the pilot. The alternate missed approach instructions are not charted. Mr. Bill Hammett, AFS-420/ISI, commented Chapter 8, paragraph 856g of the 8260.19 reads: Alternate missed approach holding/termination facility/fix must be charted in the planview. Mr. Secretan stated that there has been comments from users reference the charting of this information. Mr. Secretan provided prototypes of the ILS or LOC Rwy 24 procedure at Lambert-St Louis Intl for discussion. The first handout is the current charted procedure that depicts the missed approach fix (FTZ) boxed. The alternate missed approach holding pattern, and radials are depicted (leg lengths, if available, would be shown). The first prototype depicts the alternate holding pattern and radials as shaded gray to differentiate it from the missed approach holding. The second prototype chart includes the depiction of the St. Louis VORTAC and associated information shaded gray. The NACG recommendation is to depict the alternate missed approach holding pattern and its associated data in a shaded gray color. Lt. Col. Monique Yates, NGA/OMSF, briefed the DoD position. The issue was submitted to the FCC in March 2006. Their conclusion was the shaded gray information was misleading. Pilots who are cleared to the missed approach could easily mistake the alternate missed approach hold for the missed approach hold. The FCC recommends that the alternate missed approach pattern not be charted on the IAP. Lt. Col. Yates commented that we are charting information that should be verbally provided by the air traffic controller. Therefore, we are deviating from the intended use of the charted procedure. Mr. John Moore, NACG, commented that not charting the information would deviate from the 8260.19. Mr. Hammett stated that this same issue was brought before the ACF six or seven years ago. At that time, the ACF participants agreed that charting the alternate missed approach holding pattern on the IAPs benefited both the pilot and controller. Depicting the information eliminated the pilot's need to write down the information and eliminated the controller's requirement to verbally provide the information. Additionally, if the alternate missed approach fix were not charted on the IAP the pilot would need to scramble to locate the fix on the enroute chart. Mr. Hammett stated that the final decision of the forum was the alternate missed approach holding instruction would not be charted, but the alternate missed approach holding pattern would be charted on the IAPs. Providing the information on the IAPs increases the pilot's ability to easily understand, identify and locate the alternate missed approach holding fix and pattern. Mr. Ted Thompson, Jeppesen commented that there is more to this issue than charting; there are also database coding issues. Coding multiple holding patterns is a problem. Charting the alternate missed approach holding pattern is only one piece of the puzzle; you still need the means to get to this point. Mr. Thompson recommended that all/or none of the information be shown. Charting partial information is creating more problems than it solves. Mr. Hammett responded if the alternate missed approach holding is on the 8260, then it must be charted. The group discussed when the alternate missed approach procedures are flown. Alternate missed approach holding is used during NAVAID outages, and during practice approaches. Jeppesen currently charts alternate missed approach holding patterns as a planview inset labeled 'Alternate Missed Approach Fix'. Mr. Secretan stated that he agreed that the charting of the information could be a human factors issue. However, the shaded gray color should differentiate the missed approach from the alternate missed approach holding. The alternate missed approach holding would be charted as an inset box when it's outside the planview and labeled 'Alternate Missed Approach Fix'. Mr. Hammett expressed his concerns over the use of the inset box stating sometimes the missed approach holding and sometime the alternate missed approach holding is charted as an inset box. This is more of a human factors issue than the shading. Mr. Secretan commented that NACG would also consider always

labeling the alternate missed approach holding pattern. Mr. Brad Rush, NFPO, informed the group that the policy for creating an alternate missed approach holding is anytime the final approach course facility and the missed approach course facility differ then you will develop an alternate missed approach. Any ILS procedure will get an alternate missed approach,; if a VOR approach goes to a NDB it will have an alternate missed approach and, if the NDB approach goes to a VOR it will have an alternate missed approach. Therefore, approximately 80 percent of the conventional procedures will have an alternate missed approach. Mr. Rush explained that the issue is a charting problem with the way the information is portrayed that could cause a human factors issue. However, the basic reasoning behind the charting of the information is extremely sound. An airport could have numerous procedures (ILS, VOR, NDB, and ASR) where all the missed approach procedures go to the VOR for holding. If the VOR goes down you not only lose the VOR approach, you lose all the procedures, resulting in a VFR airport. Mr. Rush stated that both the missed approach and the alternate missed approach holding are flight checked. Mr. Moore commented that according to the 8260.19C policy the alternate missed approach holding pattern, when established, would be charted. The issue remains how to chart the information. From a NACG perspective we need to insure that all required alternate missed approach holding patterns are charted. However, the information needs to be standardized. The NACG could create additional prototypes based on the participant's comments. Lt. Col. Yates requested a human factors study before they would support the issue. Mr. Hammett agreed to coordinate the human factors study with AFS-400. Mr. Rush requested that the study be expanded to include the impact to the pilot if the information was not charted. Mr. Hammett requested that the NACG provide the minutes from the original submission. This history data will be included in the request for human factors study. Mr. Secretan stated that this is a DoD and general aviation issue and therefore should be addressed at the IACC. He recommended that prototypes of the IACC recommendation and the human factors study results be presented at the next ACF. Mr. Mark Ingram, ALPA, stated from a general aviation position he liked the second prototype using the graying of the STL VORTAC and associated information. **ACTION:** NACG, IACC MPOC, and AFS-420/ISI.

MEETING 06-02: Mr. John Moore, NACG, provided a brief recap of the issue. The alternate missed approach holding instructions when established are published on the FAA Form 8260. FAO 8260.19C requires that the alternate missed approach holding pattern must be charted in the planview. The issue from the NACG perspective is how to standardize the charting of the information. The NACG provided additional prototypes for DoD consideration. These prototypes were based on the participant's comments from the last meeting. Lt. Col. Monique Yates, NGA/OMSF, briefed the prototypes provided by NACG are still unacceptable. Mr. Moore asked for DoD recommendations on how to depict the required information. Lt. Col. Yates responded that DoD wants to see a distinction between the missed approach and the alternate missed approach holding. For example, the use of a hashed line with gray background would differentiate the two holding patterns. The alternate missed approach hold labeling alone is not visually apparent to the user. However, labeling the box, and depicting the information in shades of gray should provide enough of a distinction. Lt. Col. Yates inquired as to the status of the human factors study. Mr. Tom Schneider, AFS-420, responded that a letter requesting a human factor study was submitted to Ms. Terry Stubblefield, AFS-410. It was determined that it was not cost effective to complete the study. Mr. Eric Secretan, NACG, commented that it is a requirement to depict this information on the chart. The question is how to depict the information, not if we should depict the information. Mr. Jim Spencer, NAVFIG, questioned the reason behind charting the information. The information is published on the enroute charts so why chart it on the instrument approach procedure chart. Mr. Bill Hammett, AFS-420 ISI, responded that this same issue was brought before the ACF six or seven years ago. At that time, the ACF participants agreed that charting the alternate missed approach holding pattern

on the IAPs benefited both the pilot and controller. Depicting the information eliminated the pilot's need to write down the information and eliminated the controller's requirement to verbally provide the information. Additionally, if the alternate missed approach fix were not charted on the IAP the pilot would need to scramble to locate the fix on the enroute chart. Mr. Hammett stated that the final decision of the forum was the alternate missed approach holding instruction would not be charted, but the alternate missed approach holding pattern would be charted on the IAPs. Mr. Hammett captured the complete history of the issue and the information is attached to these minutes. Mr. Lance Christian, NGA/OMS, inquired how often is a pilot sent to the alternate missed approach holding. Mr. Danny Hamilton, NFPG, responded that the alternated missed approach holding is used during NAVAID outages and during practice approaches and very few of the holding patterns are depicted on the enroute charts. The policy for creating an alternate missed approach holding is anytime the final approach course facility and the missed approach course facility differ then you will develop an alternate missed approach. All ILS procedure will get an alternate missed approach, if possible. Mr. Moore recommended that the issue remain open. The NACG will coordinate the issue within the IACC and report at the next meeting. The ACF participants agreed that if required, AFS-410 would be contacted for an opinion on the issue. **ACTION:** NACG.

MEETING 07-01: Mr. John Moore, NACO, provided a brief recap of the issue. Basically, how do you depict alternate missed approach holding instructions when established? Mr. Eric Secretan, NACO, provided additional background, saying that Alternate Missed Approach (AMA) Holding Pattern information should be provided on the chart, vice getting the information from a controller. The controller would still be required to provide the information to get the pilot to the holding fix but the holding information would be provided on the chart if that alternate missed approach were assigned by ATC. NACO was charting these AMA Holding Patterns the same way they were charting the primary ones. It was proposed that NACO depict these differently, perhaps as a shaded version. Mr. Moore showed some options and reiterated that the important part is that the "Alternate Missed Approach Fix" is labeled as such. Whether or not the AMA Holding Pattern is within the to-scale portion of the Plan view, it will have a box around it.

Pamela Coopwood, ATO-T stated that controllers are required to give instructions for alternate procedures if it is non-standard and didn't see the advantage of this. Ms. Coopwood reiterated that placing the alternate missed approach on the chart might lead to confusion between the pilot and controller.

Mr. Bill Hammett, AFS-420, responded that these alternate missed approach procedures are on the 8260 form. Originally initiated by ALPA, they wanted AMA instructions published. This proposal would be easier on the controller and the pilot.

Mr. John Timmerman, ATO, noted that in the 7110, in a radar environment the alternate missed approach instructions issued by a controller may be different than both primary and alternate published on the 8260. The word "Alternate" may mean something different from the formal alternate missed approach on 8260. Mr. Timmerman highly recommended that the 7110.65 be modified to reduce controller verbiage. Ms. Pamela Coopwood volunteered to take action on getting the 7110.65 reworded, but that alone wouldn't change the way that controllers operate in the field.

Discussions continued as to whether or not the AMA should be charted or not. Mr. Rich Bolls, NBAA stated that the AMA should be charted from pilot's perspective. Mr. John Moore replied that it is not a matter of whether to chart the AMA Holding Procedure. The ACF has decided that AMA needs to be charted. The question now is how will they be charted. Mr. Secretan commented that the primary missed approach might not always be in a box, as seen in the example. Mr. Lance Christian, NGA commented, are we adding value or causing confusion?

Grayscale doesn't show-up on FMSs. A hashed box is preferred by the military. Mr. Peter Lehmann, AOPA, stated that the AMA hashed box option looked like Special Use Airspace. Mr. Moore said as long as DoD insists on putting a hashed-mark around the AMA, or if they don't agree that a box around the AMA means it is off of the chart, we will have to continue to chart it the way we currently do now. This however is confusing to pilots, since there is no label on it. Mr. Ted Thompson, Jeppesen, stated that they put a box and a label and haven't had any customer confusion.

Mr. Moore said to label it alternate missed approach. DoD will take the RD back to the Services.

Leave Agenda item open until new RD is written.

ACTION: New RD to be written. Report at the next ACF.

MEETING 07-02: Ms. Valerie Watson, NACO, recapped the issue and reported that FAA 8260 procedure source already designates alternate missed approach holding patterns.

The problem has to do with a pilot's ability to easily understand, identify and locate the missed approach holding fix and pattern on charts.

At issue is how NACO shall chart the fix and holding pattern. NACO originally depicted Alternate Missed Approach Fix information the same as the primary Missed Approach Fix. To differentiate the two, examples were made by NACO showing the information screened. NACO's application did not include the "Alternate" label.

Jeppesen charts alternate missed approach holding patterns (inset labeled "Alternate Missed Approach Fix")

DoD wanted to see additional NACO chart examples that makes the distinction between primary and alternate missed approach holding fixes more apparent. New NACO chart examples were presented for discussion.

The ACF's position is to include the "Alternate" label. The subject of outlining the alternate fix information can be determined by the IACC.

NACO depiction will include a boxed outline and a label. Val Watson reported the RD had been signed and implemented.

CLOSED