GOVERNMENT/INDUSTRY AERONAUTICAL CHARTING FORUM
Instrument Procedures Subgroup
May 4-5, 1998
HISOTRY RECORD

FAA Control # 98-01-203

SUBJECT: Alignment of Approach Procedures With Runway

BACKGROUND/DISCUSSION: TERPs criteria permit ILS approach procedures to be offset as much as 3 degrees from the precise runway centerline, yet the procedure is still considered to be a precision instrument approach procedure. The FAA is currently proposing that pseudo-precision approach procedures, such as Baro VNAV, be permitted to be offset from runway centerline by as much as 5 degrees. GPS non-precision approach procedures can be offset by as much as 30 degrees (original criteria limit was 15 degrees).

The "precision" in precision IAPs means not only a precise electronic glidepath, but precise alignment with the exact centerline of the runway. In this way, the properly flown approach will require no maneuvering in either the vertical or lateral planes to effect a landing within the target touchdown zone. This is significant to the safe operation of transport category jet aircraft, especially during low visibility (RVR-enabled) visibility conditions.

As to non-precision IAPs, some have RVR authorizations as low as normal Category I IAP's - RVR 2400. Yet where there are significant offsets to the runway centerline, it is impossible for the pilot to make safe alignment with the runway during low-visibility conditions.

The requirement to chart "offset localizer" or "offset final approach course" lacks standard application.

RECOMMENDATION: Offset localizers in ILS IAPs of any magnitude should require an increase in both DH and visibility. ALPA proposes an increase in DH of 50 feet for each degree of offset, and an increase of visibility of ¼ mile for each degree of offset, with the maximum offset to remain at 3 degrees. This concept should also be applied to all pseudo-precision IAPs, such as Baro VNAV.

For Approach Categories C and D aircraft, non-precision offsets should be limited to 15 degrees and the minimum visibility authorization, with or without credit for ALS, should be not less than 1 mile with offsets of greater than 3 degrees to 5 degrees. With offsets of greater than 5 degrees, minimum authorized visibility should be not less than 1 ¼ mile, with or without credit for ALS. Offsets of less than 3 degrees should require a visibility, with credit for ALS, of not less than ¾ mile.

All offset IAPs that have straight-in minimums should contain a prominent note that calls out the magnitude of the offset.

COMMENTS: This proposal affects TERPs, 8260.3B, Flight Procedures and Airspace, 8260.19C, and various cartographic and implementation standards.

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INITIAL DISCUSSION (Meeting 98-01): Tom Young presented this issue on behalf of ALPA stating that TERPs criteria permit ILS approach procedures to be offset as much as 3 degrees from the precise runway centerline and still be considered as precision instrument approach procedures. GPS non-precision approach procedures can be offset by as much as 30 degrees and still be considered straight-in approaches. ALPA contends that a properly flown (designed - author input) precision approach will require no maneuvering in either the vertical or lateral plan to effect landing in the touchdown zone. ALPA's recommendations are: to increase DH 50' and visibility ¼ mile for each degree offset to a maximum of 3 degrees for precision IAP's, and for non-precision IAP's, CAT C & D offsets should be limited to 15 degrees and visibility minimums not less than ¾ mile. AFS-420 will study the recommendations. ACTION: AFS-420.

MEETING 98-02: Howard Swancy, AFS-420, briefed that ALPA's concerns will be considered in the development of new precision criteria. When developed (now 85% complete), new criteria will be circulated for formal comment. ACTION: AFS-420.

MEETING 99-01: Howard Swancy, AFS-420, briefed that the new precision approach criteria to be published in TERPS Change 19 will address this issue. Target date for circulation is the Fall of 1999. AFS-420 to continue criteria development and report at the next meeting. Action: AFS-420.

MEETING 99-02: Bill Hammett, AFS-420 (ISI), presented a status update paper on the issue prepared by Jack Corman, AFS-420. AFS-420 has determined that the U.S. standards for offset approaches with vertical guidance are well within ICAO standards and are satisfactory. ALPA's concerns over the maximum offset for nonprecision IAP's for CAT C&D aircraft will require ASAT testing. This approach will have to be evaluated to determine if resources are available for the testing process. AFS-420 believes that the issue will be mitigated with the emphasis on RNAV procedure development. Additionally, the visibility issue is being addressed internationally through the JARS/FARS harmonization effort. Criteria changes, if required, will be addressed in Change 20 to TERPS. The charting note issue will be addressed in Change 3 to Order 8260.19, which is currently under development. Wally Roberts, ALPA, expressed concern that political implications may drive offset approaches, even when RNAV criteria will allow a more straight-in alignment. Action AFS-420.

MEETING 00-01: Dave Eckles, AFS-420, presented a status update paper prepared by Jack Corman, AFS-420. As previously noted, AFS-420 has determined that the U.S. standards for offset approaches with vertical guidance are well within ICAO standards and are satisfactory. New criteria is under development by AFS-420 to address non-precision final approach course (FAC) alignment parameters. The criteria is still being addressed for JAA/FAA harmonization and was not mature enough to present at the forum at this time. AFS-420 has addressed the chart note issue and believes it will create unacceptable clutter. Additionally, the note is not necessary as the airport sketch currently provides a visual indication of FAC offset.
ACTION: AFS-420.

MEETING 00-02: Bill Hammett, AFS-420 (ISI), presented a status update paper prepared by Jack Corman, AFS-420. He briefed that AFS-420 believes the proposed criteria in TERPS Change 19 satisfies the issue. Wally Roberts, ALPA, disagreed and stated that ALPA has forwarded formal comments to AFS-400 regarding the issue. They also disagree with the lack of visibility adjustment when the final approach course is offset.
ACTION: AFS-420.

MEETING 01-01: Dave Eckles, AFS-420, presented a status update paper prepared by Jack Corman, AFS-420. AFS-420 has studied the issue and believes that the criterion to be included in TERPS change 19 sufficiently addresses the issue. Maximum precision offset will remain at 3°. Specific runway centerline crossing limits, commensurate with the degree of offset are specified for non-precision approaches. Proposed criterion that reflects FAA/JAA harmonized visibility minimums will be proposed for TERPS Change 20. AFS-420 plans to issue policy to add a procedure note, on ILS procedures only, to advise the pilot of the degree of offset (in hundredths of a degree) of the LOC with the runway centerline extended. The policy will also provide the methodology to compute the degree of offset. AFS-420 will work with ATA-100 to determine whether new charting specifications/icons are required. Dave recommended the issue be closed. Wally Roberts, ALPA, stated that the ALPA all weather operations staff believes that the issue needs to be elevated to determine if the FAA has the science to support the concept of a 3° offset precision approach with 2400' RVR. He agreed to ACF closure, noting that ALPA will refer the issue to their Aircraft Design and Operations (ADO) group for further consideration. ACTION: Closed.
