Subject: Circling Restrictions in Instrument Approach Procedures

Background/Discussion:

FAA currently places circling restrictions in the briefing strip notes section of the instrument approach procedure (IAP) chart. When the airport has a single runway, these circling restrictions are easy to interpret. However, they are more difficult to interpret when multiple runways are involved.

Below is an example of one airport with circling restrictions:

Does the restriction prohibit circling anywhere south of runway 29 or east of runway 2, or just in the sector between runway 29 and runway 2?
The TERPS maps answer the question. Circling is restricted in the pie wedge southeast between runways 2 and 29:
Here we see another example where the wording of the circling restriction note is a little clearer, describing that circling is restricted northwest between runways 6 and 19:

RNP APCH.

⚠️ Circling NA for Cats B, C, and D NW of Rwys 6 and 19. When Circling to Rwy 24 at night, operational VGSI required, remain on or above VGSI glidepath until threshold.
Even when the circling restrictions are well written with respect to the depiction on the TERPS maps, as in the second example, using a note to describe circling restrictions is subject to individual interpretation with the writer of the 8260.19 Order, the Flight Procedures specialist developing the procedure, the charting agency, and ultimately the pilot. NBAA believes that there is a better way.

Canada and other States who publish aeronautical charts graphicly depict circling restricted airspace on the IAP chart. Below is an example from Canada:
Graphicly depicting the “No Circling” airspace is easy for pilots to interpret, brief, and quickly reference during the approach. It also eliminates variations in the description of circling restricted areas and/or differences in interpretation of the written description published in the IAP briefing strip notes.

NBAA believes that any increase in the chart clutter of the planview will be offset by the reduction in the chart notes and ease of interpretation. We believe that this change will be appreciated by the pilots and other users of the approach chart, namely air traffic controllers who must memorize these charts so as not to issue control instructions contrary to the procedure.

NBAA notes that this is not the first time that this recommendation was brought to the ACM. It was previously brought in 2002. The proponent withdrew the issue before resolution. Below is the RD link:

https://www.faa.gov/air_traffic/flight_info/aeronav/acf/media/RDs/00-02-126_Circling_Restriction_Symbology.pdf

We believe that the ACM CG should revisit this proposal and consider development of a circling restricted area graphic for the IAP chart.

**Recommendations:**

Develop a circling restriction graphic like the one or similar to the one used on the Canadian instrument approach chart to depict circling restricted airspace. Revise the 8260.19 Order to support the graphic depiction, which may be based on the TERPS maps. NBAA recommends that the graphic be kept simple and as unobtrusive as possible while clearly depicting the areas where circling is allowed and where it is restricted.

Here is another example from a commercial charting provider for a Canadian airport:
Comments:

This recommendation affects:

- FAA Order 8260.19 & associated forms
- The IAC charting specification
- FAA Flight Procedures Team Criteria Implementation Schedule
- Aeronautical Information Manual/Aeronautical Information publication

Submitted by: Richard J. Boll II
Organization: NBAA
Phone: 316-655-8856
E-mail: richjb2@rjb2.onmicrosoft.com
Date: August 27, 2021

Please send completed form and any attachments to:
9-AMC-AVS-ACM-Info@faa.gov

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MEETING 21-02

Rich Boll, NBAA, presented the new recommendation. NBAA proposes graphically representing circling restrictions on Instrument Approach Procedure (IAP) charts. He explained that circling restriction information is currently published as briefing strip notes and the notes are subject to varying interpretation. He pointed out the notes are not published in a consistent way, leading to more potential confusion.

Rich showed an example of a Canadian chart with a graphic depiction of a circling restriction and said other countries also provide the information in this way. He said graphically depicted circling restrictions are easier for pilots to interpret, brief, and quickly reference during the approach. A graphic depiction would also eliminate variations in the textual description of these areas and/or differences in interpretation of the textual descriptions. The change will benefit pilots and other users of the approach chart including air traffic controllers. This is not the first time this issue has come to the ACM (see Issue 00-02-126). Rich feels that it was not adequately discussed before it was withdrawn and that this issue should be revisited.
Lev Prichard, APA, and Michael Stromberg, UPS-IPA, expressed their support for the graphic depiction.

Joshua Fenwick, Garmin, said he thinks this is a great idea however he expressed concern for how to deal with conditional circling NA areas, such as NA at night. He said he would like to see changes to the way the notes for restrictions are worded today to better define the area in a way not so subject to differing interpretation. Rich said he thinks conditional circling areas should be part of the graphic, not part of the note. John Moore, Jeppesen, expressed his concern about the amount of white space that will be used if there are multiple graphics or variable conditional restrictions. He said the group will need to look at more complex examples before making any decisions.

Jeff Rawdon, FAA/AFS-420, would like to see an example with conditional circling restrictions. He said this recommendation is going to take a considerable amount of time and research and that there are a lot of things that would need to change as part of the work, e.g., FAA Orders, Aeronautical Information Manual, Instrument Procedures Handbook, charting specifications. He said it would also take a long time for all the IAP charts to be updated. Rich said he understands this would be a day forward implementation and doesn’t see that as a problem. Valerie Watson, FAA/AJV-A250, agreed that most changes to terminal products are implemented on a day forward basis and that should not present issue. She also agreed that changes to guidance and explanatory matter would of course need to be addressed were this proposal to move forward.

Kevin Keszler, AFFSA, agrees this is a good idea, but also agrees there will be obstacles to overcome. He pointed out that the Canadian charts are formatted differently and that they have more room for the graphic depiction in the planview. He also suggests looking at what the Chart Modernization Working Group is doing before making decisions, since their work, such as standardizing where things go, might affect decisions about this recommendation. Rich isn’t opposed to bringing this issue under the Chart Modernization Working Group, but doesn’t want to make it a dependency. Valerie voiced that she does not believe this issue should be tied to or dependent on the Chart Modernization effort and should be considered independently.

Valerie summarized that there clearly seems to be audience consensus that a graphic depiction of circling restrictions is desirable and should be investigated, but there are concerns about how to depict conditional restrictions that could involve additional notes or the publication of multiple circling graphics. She said more investigation is definitely needed. She then pointed out that it is likely the language describing circling restrictions needs to be clarified regardless of where this recommendation goes. She stated that if the current guidance for circling NA text today results in the publication of notes of insufficient clarity that are misinterpreted by pilots, those notes will be undoubtedly be misinterpreted by chart producers attempting to create a graphic. She suggested the 8260.19 guidance for the publication of these notes be examined.

Bill Tuccio, Garmin, asked whether this recommendation includes circling not authorized to a runway, or is it just cardinal directions. Rich said he was originally not planning to include those and they would remain as a note. Bill said he would like to see a human factors study on this proposal.

Diane Adams-Maturo, FAA/AFS-420, asked if the problem that is causing confusion is really with the way that the notes are written. If so, she suggested that we start there and do some work to make the notes more understandable. Rich agrees that if we can improve the notes,
that would help, however even if you improve the clarity of the notes, he believes a graphic
depiction is preferable.

Jeff Rawdon said he would like to keep this recommendation within its original scope. He
doesn’t think it should be expanded to include the conditional circling notes. He also does not
believe it should be tied in with the Chart Modernization effort. He suggested that the issue
remain on the agenda for the FAA to investigate the recommendation further and determine
next steps.

Valerie said it would be helpful to look at a few complicated examples and develop prototypes
for the next meeting to show how those instances might be depicted. Krystle Kime, FAA/AJV-
A222, said she sees validity in this recommendation. She pointed out that with some of the
more complex scenarios that were discussed, it is possible that they may have to remain as
notes. Regardless, she said she can investigate the charting aspect and come back with
suggestions. Rich said he would like to restrict the recommendation to circling restrictions within
the maneuvering areas and the rest can remain as chart notes.

Jeff clarified that there will be an FAA review of the recommendation and the FAA will report
back at the next ACM. Valerie asked whether Flight Procedures and Airspace Group is willing to
look at standardization of the notes format guidance as Diane had suggested. Jeff said that will
be part of the agency review.

**STATUS: OPEN**

**ACTION:** Jeff Rawdon, FAA/AFS-420 will report back on the FAA’s review of graphic circling
restrictions on Instrument Approach Procedure Charts.

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**MEETING 22-01**

Jeff Rawdon, FAA/AFS-420, reported that the ACM recommendation review group looked at
this recommendation and agreed that the depiction of graphic circling restrictions on Instrument
Approach Procedures (IAPs) could well be a useful safety improvement and is worthy of pursuit.
The review group thinks the majority of circling restrictions would be well served with a graphic;
however, there are some restrictions that would be difficult to handle as a graphic and may need
to remain as notes. His office will investigate how the procedure source would need to change
to support graphic circling depictions. Additionally, Jeff committed that the Flight Procedures
and Airspace Group will also look into standardization of the current note format guidance in
FAA Order 8260.19. He pointed out that there are likely a lot of circling restriction notes
published that are based on older criteria, so individual restriction notes might not reflect what is
currently in the criteria. He pointed out that if this does come to fruition, it will take a long time to
implement and would be a day forward process as procedures are amended.

Valerie Watson, FAA/AJV-A250, concurred that some of these restrictions are complicated and
might still be better served with a textual note. Krystle Kime, FAA/AJV-A222, committed to
develop prototypes of a few complicated examples for the next meeting to show how those
instances might be depicted.

**STATUS: OPEN**
**ACTION:** Jeff Rawdon, FAA/AFS-420, will report back on FAA Order 8260.19 changes necessary to support the graphic depiction of circling restrictions on Instrument Approach Procedure charts.

**ACTION:** Jeff Rawdon, FAA/AFS-420, will report back on the Flight Procedures and Airspace Group’s work to ensure standardization of the current circling restriction note format guidance in FAA Order 8260.19.

**ACTION:** Krystle Kime, FAA/AJV-A222, will develop prototypes of complex graphic circling restrictions on Instrument Approach Procedure charts for review at the next ACM.