GOVERNMENT/INDUSTRY AERONAUTICAL CHARTING

Charting Group
Meeting 07-01 – May 2-3, 2007

RECOMMENDATION DOCUMENT

Subject: Q Route DME/DME IRU MEA

Background/Discussion: Many of the "Q-Routes" on "High" charts have MEA's that only apply to DME/DME IRU operations; however, some chart users do not realize that GNSS aircraft can normally operate along those routes at FL180 and above. While the chart legend clearly explains MEA charting methodology for Q Routes, it is not intuitively obvious looking at the chart that the charted MEA generally only apply to DME/DME IRU operations. Whether it is because the chart user forgot, misunderstood or didn't read the legend, the effectiveness of the charting to convey GNSS MEA information could be improved.

A quick scan of the HIGH charts did not reveal any applications where "G" suffix was appended to MEA. This is probably because GNSS signal coverage is not an issue in the lower 48 states and the terrain doesn't get high enough to affect MEA Not seeing "G" on charts probably adds to the misunderstanding about GNSS MEA.

Another chart provider took an alternate approach and provides a DME/DME IRU suffix to the MEA's. It does not seem to extensively clutter their charts.

Recommendations: Change the Q-Route charting of MEA's applicable for DME/DME IRU operations by appending with "(DME/DME IRU)".

Continue to use 2 separate MEA's for those rare situations where terrain would raise the MEA above FL180. There would be no need to provide a "G" suffix because the terrain GNSS MEA would to the best of our knowledge never be below the DME/DME IRU MEA.

Adjust the legend to reflect the recommendations, if adopted.

Comments: This recommendation affects "High" Charts.

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Date: April 4, 2007

MEETING 07-01: Mr. John Moore, NACO, recapped the issue stating that many of the "Q-Routes" on "High" IFR Enroute charts have MEAs that only apply to DME/DME IRU operations; however, some chart users do not realize that GNSS aircraft can normally operate along those routes at FL180 and above. While the chart legend clearly explains MEA charting methodology for Q Routes, it is not intuitively obvious looking at the chart that the charted MEA generally only applies to DME/DME IRU operations. Whether it is because the chart user forgot, misunderstood or didn't read the legend, the effectiveness of the charting to convey GNSS MEA information could be improved.

The recommendation is to consider a change to how these MEA limitations are depicted. NACO's application does not include a unique qualifier or suffix code. Jeppesen took an alternate approach and provides a DME/DME/IRU suffix to the MEA's. It does not seem to extensively clutter their charts

Mr. Eric Secretan NACO, added that he would rather use a different letter than put two different MEAs where they're not necessary. It may be adding more confusion rather that clarification. Mr. Moore recalled a conversation with Mr. Mark Steinbicker asking how many iterations of these RNAV route MEAs could you have? DME/DME/IRU is the most common but if you have GNSS the G is indicated. Mr. Timmerman commented that the only other MEAs on the charts that don't have a suffix apply to everything; that's where the fundamental confusion is coming from.

Mr. Ted Thompson, Jeppesen, stated that they use DME/DME/IRU below the MEA on their charts. They would like to see some standardization between government and private industry charts. One possible idea would be to come up with a simple suffix code such as a "D" similar to the "G" used for GPS MEAs (2500G).

Mr. Secretan added that this needs to be looked at as well as RNAV 1, 2, 5 and the enroute environment as well. Mr. Paul Ewing, Air Traffic, stated that a blue MEA was understood to be GPS. The exception was the D.

Mr. Moore stated that we can be proactive to put a suffix on the blue MEA depending on what it is, or change the definition of what a blue MEA means, using a D suffix rather than a G suffix. Mr. Moore would like to talk with the Ops side of the house to get their opinion.

ACTION: NACO to develop prototypes in cooperation with Jeppesen.

ACTION: Pamela Coopwood to supply an opinion from an Air Traffic point of view.

MEETING 07-02: Mr. John Moore, NACO, recapped the issue stating that many of the "Q-Routes" on High IFR Enroute charts have charted MEAs that are above 18,000 feet, but only apply to DME/DME IRU operations; however, some chart users do not realize that GNSS aircraft can normally operate along those routes at FL180 and above. While the chart legend explains MEA charting methodology for Q Routes, it is not intuitively obvious looking at the chart that the charted MEA generally only applies to DME/DME IRU operations. Whether it is because the chart user forgot, misunderstood or didn't read the legend, the effectiveness of the charting to convey GNSS MEA information could be improved.

The recommendation is to consider a change to how these MEA limitations are depicted. NACO's application does not include a unique qualifier or MEA suffix code (e.g., 24000D where D=DME/DME/IRU). Jeppesen charts include the text DME/DME/IRU with these MEAs. This can be problematic because it takes up space and causes congestion. (Note: Jeppesen also includes Q-route GPS and Radar equipment requirement notes.)

One idea is to develop a simple suffix code for DME/DME/IRU MEAs (24000D) similar to what is used for GPS MEAs (2500G) – and cover the explanation in the legend.

NACO was presented with this question, “should they leave as is or should they be proactive and use equipment suffixes on all RNAV MEAs. **OPEN**
ACTION: DoD was tasked with looking at this for their user community.
ACTION: Mark Steinbicker will review the situation from the FAA perspective.

MEETING 08-01: Mr. John Moore, NACO, recapped the issue stating that many of the “Q-Routes” on High IFR Enroute charts have charted MEAs that are above 18,000 feet, but only apply to DME/DME/IRU operations; however, some chart users do not realize that GNSS aircraft can normally operate along those routes at FL180 and above. While the chart legend explains MEA charting methodology for Q Routes, it is not intuitively obvious looking at the chart that the charted MEA generally only applies to DME/DME/IRU operations. Whether it is because the chart user forgot, misunderstood or didn’t read the legend, the effectiveness of the charting to convey GNSS MEA information could be improved.
The recommendation is to consider a change to how these MEA limitations are depicted. There was continued talk about adding a “D” suffix to a DME/DME/IRU MEA (i.e. 24000D) similar to what is used for GPS MEAs (i.e. 2500G) and cover the explanation in the legend. The current legend is clear but DoD thinks the route depiction could be made more intuitive. DoD pilots are trained to read and understand the chart legend. Mr. Ted Thompson, Jeppesen, stated the Jepp uses the “D” suffix although their route lines are not blue in color. They try to avoid using color and use text instead. Hal Becker, AOPA, stated that most GA pilots want to make the maximum use of the airspace. Most GA pilots want the lowest MEA available due to aircraft performance limitations. NGA/DoD has not worked the issue since the last meeting. Mark Steinbicker, AFS-470, was not present to offer his perspective.
One comment was made that in Alaska the use of WAAS may allow an MEA to be even lower than a GPS MEA. This further compounds the situation: conventional MEA, a GPS MEA, a DME/DME/IRU MEA, and now the possibility of a WAAS MEA in Alaska.
OPEN
ACTION: Hal Becker, AOPA, Paul Gallant, FAA and JoAnn Ford, FAA/AJW-41, will all send input to John Swigart, FAA/AFS-470, to help define prospective policy.
ACTION: John Swigart, FAA, will have someone with the FAA’s perspective at the next ACF in October.

MEETING 08-02: Mr. John Moore, NACO, recapped the issue at the ACF. Many of the “Q-Routes” on High IFR Enroute charts have charted MEAs that are above 18,000 feet, but only apply to DME/DME/IRU operations; however, some chart users do not realize that GNSS aircraft can normally operate along those routes at FL180 and above. While the chart legend explains MEA charting methodology for Q Routes, it is not intuitively obvious looking at the chart that the charted MEA generally only applies to DME/DME/IRU operations. Whether it is because the chart user forgot, misunderstood or didn’t read the legend, the effectiveness of the charting to convey GNSS MEA information could be improved.
Mr. Moore recommended a pro-active approach by adding a “D” suffix to a DME/DME/IRU MEA (i.e. 24000D) similar to what is used for GPS MEAs (i.e. 2500G) and cover the explanation in the legend.
In Alaska the use of WAAS MEA may allow a lower MEA than GPS MEA.
Mr. Mark Steinbicker, FAA-AFS470 recommended splitting off the Alaska discussion from the lower 48 states to avoid confusing the issue.

The general consensus was to use a “D” suffix for DME/DME/IRU MEAs and a “G” suffix for GNSS MEAs.
Mr. Ted Thompson, Jeppesen, stated that Jeppesen would support the concept.
ACTION: Valerie Watson, FAA/NACO, will write-up an RD to add the “D” suffix to DME/DME/IRU MEAs for the IACC and report back at the next ACF.

MEETING 09-01: Ms. Valerie Watson, FAA/NACO, has written an RD proposal for a D suffix for IACC coordination. NGA is currently staffing the issue.
ACTION: Valerie Watson, FAA/NACO, will report back at the next ACF.

MEETING 09-02 Ms. Valerie Watson, FAA/AeroNav Services, reported on the approval of an IACC RD outlining the proposed chart depiction to use a “D” suffix for DME/DME MEAs on High Altitude Charts. All affected Q-Route MEAs will be modified at one time. The Specification had been signed and will take effect on December 17, 2009.
CLOSED