

AERONAUTICAL CHARTING FORUM
Charting Group
Meeting 17-02 – October 25 - 27, 2017

RECOMMENDATION DOCUMENT

FAA Control # ACF-CG RD 17-02-318

Subject:

Charting for helicopter routes designed to meet Navigation Specification Required Navigation Performance (RNP) (NAVSPEC) 0.3.

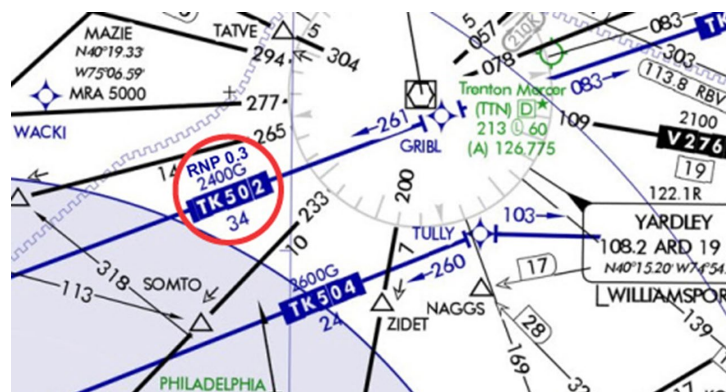
Background/Discussion:

In the recent publication of Advisory Circular (AC) 90-105A a new NAVSPEC was defined exclusively for helicopters flying in terminal and enroute phases of flight. This NAVSPEC will be applied solely to helicopters which will be using Satellite Based Navigation System signal and avionics which will provide RNP 0.3 accuracy in all phases of flight except the final approach segment. For the enroute application of this NAVSPEC there will need to be a unique addition to the charting to indicate to the helicopter pilot which route was designed with the obstacle criteria which protect an aircraft approved to fly the new NAVSPEC. Nationally and internationally there is only one identification for helicopter routes, TK. It is proposed to add additional information on the enroute charts to identify to the pilot which routes require RNP 0.3 NAVSPEC approved aircraft and avionics. It is being proposed to add to the route information "RNP 0.3" to identify to the pilot which helicopter routes require RNP 0.3 NAVSPEC approval.

Recommendations:

Add "RNP 0.3" to helicopter route information on Enroute instrument charts.

Example:



Comments:

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Date: October 24, 2017

MEETING 17-02

Mike Webb, FAA/AFS-420, [briefed the issue](#). Mike stated that in the recent publication of Advisory Circular 90-105A a new Navigation Specification (NAVSPEC) was defined for helicopters. It will be applied solely to helicopters using GPS and with avionics capable of RNP 0.3 accuracy. Mike is recommending that for the enroute application, an RNP 0.3 indicator be added to low altitude helicopter TK routes where applicable. He pointed out that there is already a field for RNP values on FAA Airway Form 8260.16.

Ted Thompson, Jeppesen, stated that internationally, they have charted RNP values on airway identifiers. It was determined that this was insufficient and that they should be charting them on waypoints at the beginnings and ends of the relevant segments. This resulted in pilot confusion. They then decided to take them off the charts entirely and only store the NAVSPEC in the database. Ted did acknowledge that there is a need to label the narrowing of the airway and he suggested the possibility of depicting the NAVSPEC as an equipment note for the airway.

John Moore, Jeppesen, asked if all TK routes will be RNP 0.3. Mike said that the 0.3 would be an exception to the standard. He suggested a charting option to explain the standard RNP value for TK routes on chart legends and in the AIM and then chart on routes only those that are an exception. A potential confusion was voiced that this may become very complicated if the RNP values vary by segment. Mike stated that if a route is RNP 0.3, it is RNP 0.3 for the entire extent of the route and would not vary by segment.

Rich Boll, NBAA, asked if an RNP 0.3 route will be stripped from the aircraft’s database if they don’t have the capability to fly it. If it’s not extractable from the database this doesn’t work. John Collins, Foreflight, stated that the flight plan can be used to exclude a pilot from flying a procedure they aren’t capable of. Rune Duke, AOPA, added that you could be cleared to fly a route that you did not file for. He asked if the controller would be aware that a given aircraft could not fly that route. Bennie Hutto, NATCA, said ATC does not know what the aircraft is qualified for. Rune said that in that case, he believes that RNP values need to be charted.

Joshua Fenwick, Garmin, voiced that ARINC 424 has not yet added in NAVSPECS for airways.

Mike, in response to the discussion and feedback from the audience, proposed that a workgroup be convened that he is willing to chair to investigate the issue further.

STATUS: OPEN

ACTION: Mike Webb, FAA/AFS-420, will report on progress of the Helicopter RNP Values Workgroup.

Workgroup			
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MEETING 18-01

Mike Webb, FAA/AFS-420, [provided an update](#). He briefed that the ACF-sponsored workgroup had met to discuss the subject of RNP values on Helicopter RNAV (TK) routes, including their potential use, aspects of databasing the RNP values and charting. As a result of the workgroup discussion, Mike created and briefed a proposed Concept of Operations for Helicopter RNP 0.3 Routes ([see slide 4](#)).

The proposed policy requires that there be a single RNP value per route and that it will be set for the most restrictive value necessary along the length of the route. Ted Thompson, Jeppesen, pointed out that adding published RNP scalability values to TK routes would render this concept too complicated. He supports the concept of only one RNP value per route because it will make the labeling of the route much simpler and easier for pilots to understand. Mike agreed and said that if different RNP values are needed along a line of flight, individual routes with their own airway identifiers will need to be created to accommodate that. Mike mentioned that, depending on the proliferation of this type of route, his office may need to look into obtaining more route numbers to accommodate this concept.

Rich Boll, NBAA, asked if the RNP 0.3 route will be excluded from the pilot's database if the avionics don't have the capability to fly it. Mike responded that it is not that simple for helicopter pilots because they do not fly with a tailored database. John Bordy, FAA/AFS-420, stated that more investigation is needed in this area to ensure pilots are only flying routes they are qualified to fly.

Valerie Watson, FAA/AJV-553, stated that discussions are already underway within AJV-5 regarding an update of the National Airspace System Resource (NASR) database airway resource to add an RNP attribute and mentioned that the single RNP value per airway, rather than an RNP value per airway segment, would significantly simplify that work.

Mike said that his next step is to continue his discussions with helicopter pilots to gain support for the single RNP value per airway idea, work to better define the concept of operations and ultimately propose draft language to relevant FAA Orders/documents to support the necessary guidance required for implementation.

STATUS: OPEN

ACTION: Mike Webb, FAA/AFS-420, will report on progress finalizing the Concept of Operations with input from the helicopter industry and the FAA.

ACTION: Valerie Watson, FAA/AJV-553, will report on progress to add a RNP attribute in the airway resource in NASR.

MEETING 18-02

Mike Webb, FAA/AFS-420, reviewed the subject of RNP 0.3 values on [Helicopter RNAV \(TK\) routes](#), including their potential use, aspects of databasing the RNP values and charting. He said that he has socialized the Concept of Operations with the FAA and with the helicopter industry ([Slide 3](#)) and received good feedback. He stated that industry agreed that a single RNP value per airway is acceptable. The next steps are to determine the best way to database the RNP values and to develop charting specifications for adding RNP 0.3 to the route information on Enroute charts.

For charting, Mike said his proposal is to add "RNP 0.3" to the route identifier text along the subject TK Routes on the Enroute Low charts. He also opened for discussion the idea of a PBN Notes Box (supported by ICAO) in either the chart legend or as a new tabulation to identify which TK routes require aircraft and aircrew RNP 0.3 NavSpec approval. Consensus was that the RNP 0.3 needs to be charted on the route, but not in the legend or tabulated form. There was discussion about the need to update AC 90-105A, Approval Guidance for RNP Operations and Barometric Vertical Navigation, to accommodate this change. Mike said that he will look into what changes are needed to the AC once the requirements are finalized.

Rune Duke, AOPA, expressed concerns about Air Traffic Control (ATC) and flight filing that still need to be addressed. ATC will not know which pilots are cleared to use these routes. Rich Boll, NBAA, asked if there will be a PBN code assigned to RNP 0.3 so that it can be entered into ERAM (En Route Automation Modernization). He said if this is not done, only the pilot will know if they are qualified to fly the route. Mike said that he will have to talk to ERAM representatives about this issue and see if the software could be adapted to recognize a TK RNP 0.3 route. Rich commented that ERAM does recognize ICAO PBN codes and on the International Flight Plan Form, block 18, and that an equipment code can be entered, however, there currently is no code for RNP 0.3. It was also pointed out that the database may not be able to use a decimal point, so 03 would have to be used. Mike committed to working with the ERAM office to resolve these issues.

Scott Jerdan, FAA/AJV-533, said that there is a planned update of the National Airspace System Resource (NASR) database to add an RNP attribute to the airway resource. He said that once that is complete, perhaps ERAM could ingest the data from NASR.

Mike said that if ERAM is updated with the new field, pilots will have to know to file the new code. This guidance will need to be explained in the Aeronautical Information Manual (AIM). Specifically Table 5-1-6, PBN/NAV Specifications.

STATUS: OPEN

ACTION: Mike Webb, FAA/AFS-420, will verify that ERAM can be adapted to recognize a TK RNP 0.3 route and if ATC can use this data to determine who is qualified to fly the routes.

ACTION: Mike Webb, FAA/AFS-420, if/when the above has been determined to be feasible, will work on updating Table 5-1-6 in the AIM to add the RNP 0.3 PBN/RNAV Specification.

ACTION: Scott Jerdan, FAA/AJV-533, will report on progress to add a RNP attribute in the airway resource in NASR.

ACTION: Valerie Watson, FAA/AJV-553, will work on a draft IAC specification change to support depiction of RNP values on TK Routes on Enroute Low charts.

MEETING 19-01

Mike Webb, FAA/AFS-420, [briefed this issue](#). He reviewed the subject of Required Navigation Performance (RNP) 0.3 values on IFR Low Altitude RNAV Helicopter (TK) routes, including their potential use, aspects of databasing/communicating the RNP values and charting them in association with the subject airways. Mike asked if, in addition to depicting the RNP value along the charted airway itself, there should be a "PBN box" added to the body of the Low Altitude Enroute charts, listing NAVSPEC information for routes in tabular form. Valerie Watson, FAA/AJV-250, said she would prefer a legend note associated with TK routes stating that they are RNAV 2 unless otherwise specified. The group concurred with this suggestion and agreed there is no need for a separate RNP box.

John Collins, ForeFlight, asked if anything needs to be filed on a flight plan to indicate the capability to fly RNP 0.3 routes. Rich Boll, NBAA, asked if there will be a PBN code of RNP 0.3 assigned to the routes that will be entered into ERAM (En Route Automation Modernization). Mike said that they are not yet ready to update flight plan standards to add a new code for RNP values and asserted that pilots are responsible for filing for only what they are capable of. T.J. Nichols, FAA/AFS-420, emphasized that the system relies on pilots self-reporting their capabilities. Rich said pilots understand this and the Operational Approval Guidance Table on the FAA Flight Planning Information website covers it. Valerie asked Mike when he expects ERAM to be updated. He said they are waiting to see what develops internationally as far as standardization the ICAO Master Codes list before making changes to ERAM. In the meantime, he feels that this gap is covered because pilots understand that they are ultimately responsible for filing for routes they are capable of flying.

Scott Jerdan, FAA/AJV-A310, asked if there will be associated Class E Airspace changes. Paul Gallant, FAA/AJV-1130, said that currently the airspace parameters do not consider RNP, but that may need to be accommodated in the future. He said his office will consider adding specific widths to the legal descriptions.

Valerie stated that AJV-A will need to assign RNP values to airways as per the 8260-16 forms (which have been revised to accommodate RNP airway values) and that will require a National Airspace System Resource (NASR) database enhancement. Brian Murphy, FAA/AJV-A130, said that this NASR enhancement has been discussed but not yet implemented and added that the Coded Instrument Flight Procedures (CIFP) will also require update to accommodate RNP values.

Valerie asked Mike when to anticipate publication of the first RNP 0.3 TK Route. Mike said this would likely happen within the next year.

STATUS: OPEN

ACTION: Mike Webb, FAA/AFS-410, will provide an update on anticipated publication dates for addition of RNP 0.3 values to TK routes.

ACTION: Scott Jerdan, FAA/AJV-A310, and Brian Murphy, FAA/AJV-A130, will report on progress to add an RNP attribute in the airway resource in NASR and to update the CIFP.

ACTION: Valerie Watson, FAA/AJV-A250, will submit an IAC specification change to support depiction of RNP values on TK Routes on IFR Enroute Low Altitude charts.

MEETING 19-02

Mike Webb, FAA/AFS-420, reviewed the history of the issue. He reported that he does not yet have a publication date for Required Navigation Performance (RNP) 0.3 values to be assigned to and charted on IFR Low Altitude RNAV Helicopter (TK) routes. He said they are beginning work on the route from Maine to Boston, but anticipated publication of a required RNP value is at least a year in the future.

Gary Fiske, FAA/AJV-82 Contract Support, asked if existing routes will be changed to RNP 0.3. Mike responded that they will be changed to RNP 0.3 where needed, however the majority of routes will remain RNAV 2.

Scott Jerdan, FAA/AJV-A310, reported that the National Airspace System Resource (NASR) database enhancement that is needed to accommodate RNP airway values is still in progress.

Valerie Watson, FAA/AJV-A250, stated that the Interagency Air Committee (IAC) Specifications to support depiction of RNP values on TK Routes on IFR Enroute Low Altitude charts has been drafted. She [showed](#) the audience how the new RNP values will appear on the charted routes and on the legend of IFR Enroute Low Charts.

STATUS: OPEN

ACTION: Mike Webb, FAA/AFS-410, will provide an update on anticipated publication dates for addition of RNP 0.3 values to TK routes.

ACTION: Scott Jerdan, FAA/AJV-A310, and Brian Murphy, FAA/AJV-A350, will report on progress to add an RNP attribute in the airway resource in NASR and to update the CIPF.

ACTION: Valerie Watson, FAA/AJV-A250, will submit an IAC specification change to support depiction of RNP values on TK Routes on IFR Enroute Low Altitude charts.

MEETING 20-02

Samer Massarueh, FAA/AJV-A221, reviewed the issue. Mike Webb, FAA/AFS-420, reported that the first IFR Low Altitude RNAV Helicopter (TK) routes with a Required Navigation Performance (RNP) 0.3 value is being developed in Maine for Life Flight. It is expected to be ready for publication in March 2021. Mike said initially it will be published as a Special (not for public use) so air traffic can limit traffic on the route before it is converted to a public route. Publication of the second route is expected at the end of 2021 as a public route.

Scott Jerdan, FAA/AJV-A310, showed an example [FAA Form 8260-16](#) and highlighted the field on the form that will serve as the source for RNP values. He reported that AJV-A does not typically put Specials into the National Airspace System Resource (NASR) database nor are they charted. Brian Murphy, FAA/JAV-A350, reported that the NASR enhancement to add an RNP attribute in the airway resource is scheduled to be released in Spring 2021 so everything

should be in place for the publication of the first public route later in 2021. Scott then asked if the Part 71 rulemaking piece has been addressed because that could affect the timeline for publication. Paul Gallant, FAA/AJV-P210, said that any new TK routes will require Part 71 and 72 rulemaking.

Gary Fiske, FAA/AJV-P31, stated that he was part of the working group to establish the route in Maine. He reported that during the time the route is published as a special, it will have a ZK identifier. He said the intent of first publishing it as a special is to work out a repeatable process for the larger implementation of public use RNP 0.3 TK routes in the future. Paul expressed concern with a proliferation of smaller TK routes because there are a limited number of identifiers available. Gary said he does not anticipate a large number of TK routes and running out of identifiers should not be a problem.

John Collins, ForeFlight, asked if they are planning to publish guidance for pilots regarding how to file for an RNP TK route. Mike reported that guidance is being drafted for the Aeronautical Information Manual (AIM) and a new Advisory Circular (AC 90-119) is being written. He said the guidance will include information on pilot requirements to fly RNP TK routes and how the routes will be filed. He said the AIM guidance is expected to be published in Spring 2021.

Joshua Fenwick, Garmin, said that the ARINC 424 specification recently added Navigation Specifications (NAVSPECs) for airways. Josh said they would like to know the NAVSPEC that was used to design the route so they can determine what equipment can fly them. He asked if the RNP value on the 8260-16 applies to the entire route. Mike said the RNP designation on the 8260-16 will indicate the RNP NAVSPEC that was used to design the entire route. Joshua suggested that rather than an RNP field on the form, it should be a NAVSPEC field where the NAVSPEC that was used to design the route could be documented, e.g., RNAV 2 or RNP 0.3.

John Moore, Jeppesen, expressed concern for setting a precedent for publishing these as specials. He said having multiple routes that are only known to some users becomes a lot for ATC to manage. Mike said he is not sure how many will be published as specials, but the goal of the project is to publish public routes.

Bennie Hutto, NATCA, said he is concerned that ATC will have to determine if a pilot is qualified to fly these routes. He said that needs to be automated through the flight plan coding. Mike agreed and said they are working on that issue so that ATC does not have to be the regulator.

Valerie reported that the Interagency Air Committee (IAC) Specification change to support depiction of RNP values on TK Routes on IFR Enroute Low Altitude charts has been signed. She said this issue will remain open until the remaining actions are complete.

STATUS: OPEN

ACTION: Mike Webb, FAA/AFS-420, will provide an update on anticipated publication dates for the first public TK routes with RNP values.

ACTION: Scott Jerdan, FAA/AJV-A310, and Brian Murphy, FAA/AJV-A350, will report on progress to add an RNP attribute in the airway resource in NASR and to update the CIFP.

MEETING 21-01

Samer Massarueh, FAA/AJV-A223, reviewed the issue. Valerie Watson, FAA/AJV-A250, reported that there is no new update for this item. She reminded the audience that per Mike Webb, FAA/AFS-420, the first IFR Low Altitude RNAV Helicopter (TK) routes with a Required Navigation Performance (RNP) 0.3 value will be published as Specials (not for public use) so air traffic can limit traffic on the routes before conversion to public-use. Conversion to public-use is not expected before the end of 2021. Gary Fiske, FAA/AJV-P310, clarified that the TK routes that will be published as Specials will be designated as ZK routes while restricted to private-use.

Scott Jerdan, FAA/AJV-A310, reported that the enhancement to add an RNP attribute to the airway resource of the National Airspace System Resource (NASR) database occurred in April 2021. He said FAA Form 8260-16 includes an RNP field that will serve as the source for the RNP values in the database.

Valerie stated that this issue will remain open until the first public-use TK routes with RNP values are published.

STATUS: OPEN

ACTION: Mike Webb, FAA/AFS-420, will provide an update on the publication of the first public TK routes with RNP values.

MEETING 21-02

Samer Massarueh, FAA/AJV-A223, reviewed the issue. Mike Webb, FAA/AFS-420, reported that since the last ACM there have been difficulties with converting what will become TK routes from specials to public use. He said they are awaiting environmental approval. The FAA is continuing to develop the route structure so they will be ready to be converted to public use, but all routes will continue to be processed as specials at this time. Mike said it is likely to be some time before any public use RNP NAVSPEC 0.3 routes are published.

Valerie Watson, FAA/AJV-A250, summarized the issue. She said FAA Form 8260-16 has been updated to include an RNP field, the National Airspace System Resource (NASR) database has been updated to add an RNP attribute to the airway resource, and the Interagency Air Committee (IAC) specifications to support the depiction of RNP values on TK Routes on IFR Enroute Low Altitude charts are in place. As a result, when the first public use RNP NAVSPEC 0.3 route is ready, publication can occur. Valerie proposed closing this item. There was no objection.

STATUS: CLOSED