

NATCA Safety & Tech Update Week of August 13, 2018

AIRSPACE: Jim Davis (PCT) is the National Airspace Representative for NATCA. Below are reports from the various airspace team leads and Mr. Davis

Cleveland/Detroit Metroplex Design & Implementation

DTW was scheduled to start running the ILS Y (offset) 8/6 in a dual configuration and on 8/13 in a trip configuration. We as a project were notified 8/4 that AFS did not follow their order for writing a Safety memo to allow for the trip configuration to be "legal" as far as their regulations go. We have been fighting this because this could add delay to our project implementation, as well as added GDP/MIT in and out of DTW..

Two NATCA ATSAP reps have been secured for 9/13-9/15 for implementation. One rep will be assigned to cover D21/DTWT and the other will be between ZOB/CLE. We do not see a need for a third at this time. However, three were requested back in May and still waiting to see if NATCA Safety can provide another Rep.

My counterpart and I briefed the NCF this week regarding our implementation plan. SWA/Delta have concerns about "Climb Via" and how we plan to use it at DTW. We held a telcon with Bennie Hutto to ensure we are in compliance and are following our rules. We were given the approval that we are, so we have notified industry that we plan on moving forward with how we have it designed and trained but are willing to make on the spot corrections if and where they may be needed.

Our last phase of CI is scheduled for the week of 9/13-18 in both Detroit and Cleveland. Here we will provide a briefing for the surrounding congressionalist and local Mayors. We do not foresee any issues with these briefs.

Report submitted by Michael Taylor CLE/DTW Article 114 D & I liaison

Denver Metroplex Update - 08/09/18

The Denver Metroplex team visited Charlotte to observe their operation. This was done to see if the TMU and runway assignment techniques used by Charlotte would be of benefit to Denver. Work continues on preferential routing incorporation along with TBFM adaptation work. Next week the core team will be meeting with the Western Service Center Directors and Regional Administrator to discuss project status, environmental work, and community involvement. The team continues to prepare for the upcoming LOA meetings in September.

Mark Ostronic Denver Metroplex Article 114 NATCA Lead

Florida Metroplex Update

JUNE

At ZJX did week of SIM's with ATAC for STAR and SID's for MCO and TPA. 25th-29th

JULY

Reviewed and made minor adjustments to MCO and TPA Star and Sid's from review of ISIM runs in Jacksonville. 9th-13th

Conducted final SRM panel @ ZMA for the Implementation of the Q & Y's 16th -20th

Began design work with ZMA, MIA, FLL, and PBI on the STAR and SID's for their airports. 23rd-28th

AUGUST

Continued design work on SID's and STAR's for MIA, FLL, PBI, 30th-3rd

ISIM scrubs with ATAC at ZMA for 10 scenarios 6th-10th

Briefed the CNS-Taskforce on the Implementation of the Q and Y's for Nov 8th

Briefing was on the 7th in Seattle.

WEEKLY

Held weekly Telcom on every Thursday with the POC's of ZMA, ZJX, & ZJU for updated progress of implementation of Q & Y's.

Submitted by Christian Karns Metroplex Article 114 NATCA Lead

Western PBN Update – August 2018 Post SoCal Metroplex

Post-implementation procedure amendments are nearly completed since transition to single site PBN (7100.41). Eight SIDs and four STARs are pending revisions—anticipating a final publication cycle of January 3, 2019. All single site amendments have been initiated in the IFP Gateway IAW the 7100.41 process. Due to chart production limitations, the requested seven SID amendments and sixteen STAR amendments are slated to implement in four separate charting cycles (TBD).

Hawaiian Islands

Full Work Group design has been completed and undergoing procedure finalization for flight simulator testing. Nine SIDs, ten STARs, four RNP IAPs, and four T-Routes were developed—anticipating implementation in four separate charting cycles, starting with Kahului (PHOG) in April 2019.

Josh Haviland, Western PBN Rep

CSA PBN 2018-08-09

PBN & VORMON Projects and publication schedules are being turned back on. PBN projects for Chicago, Columbus, and San Antonio are the first of the larger projects being activated. Central PBN Co-Leads and our Environmental Specialists briefed the Great Lakes Regional Administrator & Staff last week about the Columbus PBN Project. We discussed proper steps to re-engage with the Columbus Airport and we've confirmed our next Full Workgroup Meeting for September 4-7. Last week we also met with the Southwest Regional Administrator to discuss bringing the San Antonio PBN project back online. We have San Antonio Full Workgroup Meetings confirmed for the week of September 10th. We will also meet with the San Antonio Airport and start where we left off in December on development of our overall Engagement Strategy for those communities.

We have meetings planned with ZAU at the end of September to discuss and finalize their T-Route requests. These T-Routes are to mitigate concerns brought on by VORMON. ZAU has done an excellent job during the budget crunch and they have done a majority of their T-Route design and coordination in-house and with their adjacent and underlying facilities. We look forward to finalizing those designs and moving them onto publication.

Our RNP amendments for KIAH are on schedule to publish 9/13/2018. These slight modifications were made for the Established on RNP (EoR) project led by the NextGen Office. We have an additional request from I90 for two more RNPs to create unique paths to the outboard runways in both east and west flow.

We are currently working on a set of amendments for 4 RNAV SIDs at KDAL that D10 has requested and Southwest Airlines briefed the OSG this week about the need for two new RNPs for KELP Rwy 08R because of significant terrain close to the airport and limited airspace on our boundary with Mexico.

VORMON mitigations continue to be an immediate focus. Planning telcons with each ARTCC in Central are being coordinated. The intent of these "VORMON refresher" telcons are to identify areas where the facilities need additional information or analysis. We will provide support to help each facility decide what the scope of their mitigations need to be. The immediate goal for fall of 2018 is to have packages submitted for each ARTCC that cover all VORMON impacts anticipated through PHASE I of VORMON (FY2020).

In September, we will work on-site in Columbus, San Antonio, and Chicago ARTCC. There is one week of Co-Lead Meetings in DC and NATCA is also involved in the development of the new Instrument Flight Procedures (IFP) Process. In the near future, all IFP development for both PBN and Conventional products will follow the same process. It is our goal to ensure all facilities are appropriately coordinated with and collaborated with. We still have too many instances where flight procedures get changed without the knowledge or expertise of the field facilities.

Submitted by CSA PBN NATCA Art. 114, Brent Luna

NATCA PBN Co-Lead East

Recently in East, we worked on the PXT VORMON STARS, NEC ACR project, BOS Massport Block 1 Study and TDG/LDK/EWA/HAB VORMON activities. There has also been a lot of time spent projecting our schedule and work in FY19.

The work on the PXT STARS is almost complete. Still need to finish the criteria waivers required for the STARS within PHL ATCT. After this work is completed, we will get everything turned in for the 10/10/19 publication date.

We have been in constant communication with ZDC, ZBW and ZNY on the NEC ACR work. There have been monthly telcons with all the facilities and they have received their design packages and green book routes for review. The deadline for design package review and signatures is 8/31/18. The green book deadline is 10/5/18. The big workload will be finishing the green book routes and combining everything into one document to be given to industry and the Command Center. This document will also be used to amend all the playbook routings.

There was another BOS/Massport Block 1 meeting the week of July 9th. During this meeting A90, BOS and ZBW worked on designing midnight use RNPs and STARS. A lot of good work has been accomplished to meet the goals for RWY33L and RWY22L. We have another meeting scheduled 10/2-10/4 to finalize the designs and present them to Massport.

A meeting is scheduled for the decommission of TDG/LDK/EWA/HAB VORs. The telcon/goto for this work is scheduled for 8/22/18 with ZTL, ZME, BHM and the appropriate Military installations.

Joey Tinsley NATCA PBN Co-Lead East

PBN/Metroplex Design and Implementation Lead Monthly Report – 8/9/18

Metroplex: Florida Metroplex re-design work has begun on the Florida Metroplex SIDs/STARs. Part of the current Florida Metroplex re-scoping options is to incorporate a portion of the original Atlantic Coast Routes Project (ACRP) Q/Y routes from ZJX and ZMA. The Florida Metroplex team will work to connect the Q routes to the existing SIDs and STARs for a November 8, 2018 implementation. The team will then reconnect the future Metroplex SIDs and STARs to the Q routes at a later date. The northern ACR Q routes (ZDC and north) have been incorporated into the NE Corridor initiative with a dedicated set of Co-Leads from the Eastern Service Center OSG PBN team. Detroit/Cleveland Metroplex is working towards a September 2018 implementation. The Denver Metroplex team began the re-start of the project the week of June 8 and just completed work in Charlotte to observe operations. The Denver Metroplex team will also begin LOA work with the local facilities towards the end of September. The Las Vegas Metroplex is now moving forward with the project as originally scoped and continues to work its way through the design phase of the project with its 75% design complete briefing upcoming. FAA leadership has been made aware of the resource constraints at L30 with the lack of training, airspace, and automation support structure. The Metroplex Leads meeting scheduled to take place in Cleveland on August 6-10, 2018 was cancelled.

PBN Policy and Support (AJV-14) is currently working with Flight Standards (AFS), Aeronautical Information Services (AIS), Service Center Operational Support Groups (OSGs), Flight Inspection, and PASS on a workgroup to look at ways to streamline the Instrument Flight Procedures (IFP) development processes to improve the way we validate incoming IFP requests. This workgroup will also look at ways to better prioritize valid requests that aligns better with safety needs and the PBN NAS Nav Strategy. This workgroup kicked off on March 28, 2017 with a week-long meeting in Seattle. The timeline for completion of the draft implementation plan was June 2018 and now has stood up an additional workgroup to define function and roles/responsibilities to incorporate into the new JO 7100.41B for IFP implementation. The PBN Co-Leads meeting will be held in September in DC with co-leads represented from all three service centers as we continue to work on prioritization of single site projects.

RNAV and PERFORMANCE BASED NAVIGATION (PBN): Bennie Hutto (PCT) is the Article 114 Representative for RNAV and PBN criteria work. Mr. Hutto's report for the membership is below.

PBN Criteria Update:

Standard Terminal Arrival (STAR) Criteria WG

1. John Lindsey (AFS-420) provided status update for 8260.3D Chg1 (cancelled) and waivers to replace it.
2. We continued in-depth discussions on the subject of Minimum En Route Altitudes (MEAs) on STARS. The attendees agreed that MEA's are probably not needed, but need to obtain industry input.
3. We continued in-depth discussions on the subject of Minimum Obstruction Clearance Altitudes (MOCAs) on STARS which contained no charted altitude restrictions. This topic was originally generally agreed upon at the previous face/face meeting, however with more thought and discussion it appears that MOCAs may not really serve a beneficial purpose. Further discussion is required with industry reps as well as AFS-480 and AFS-410.
4. Continued discussions over Minimum Safe Altitudes (MSAs) being charted on STARS. General feeling is they are not a good fit for STARS considering the intended purpose of the Aeronautical charting Forum (ACF) item, but further discussion is required.

Departure Criteria Working Group (DWG)

Will be traveling to Oklahoma City for our next face to face meeting in September 2018.

Pilot Controller Procedures & Systems Integration (PCPSI)

We met on June 28th and 29th in McLean, VA at the MITRE Corporation and discussed the following:

1. STAR Runway Transitions FAA 7110.65 4-7-1 DCP slated for implementation on February 28, 2019 – The background on this change is for Standard Terminal Arrival (STAR) procedures that provide course guidance to multiple runway transitions, pilots must be provided with runway transition information. This allows pilots to program the Flight Management System (FMS) and fly the proper decent profile associated with the runway transition that was issued. On March 1, 2013, a memorandum was issued clarifying FAA Order JO 7110.65, Paragraph 4-7-1. The memorandum stated that Air Route Traffic Control Centers (ARTCCs) should issue a landing direction and Terminal facilities should issue runway transitions. In limited situations when the procedures are covered in a letter of agreement, ARTCCs may issue the runway transition in lieu of Terminal. Once the aircraft is established on the runway transition, due to the behavior of some FMSs, runway changes become problematic for pilots. Currently, on bi-directional STARS utilizing multiple runway transitions, controllers are required to vector aircraft to the final approach course when a runway change is issued after passing the point 10NM from the runway transition waypoint. This change provides tightly limited relief from that requirement.

This change cancels a Memorandum, issued in 2013 by En Route and Oceanic Support, AJE-3 (now AJV-8) by incorporating the clarification that ARTCCs should issue landing directions (when chart notes advise the pilot of the runway transition to land) and Terminals should issue runway transitions. For descend via clearances issued on STARS with multiple runway transitions incorporating vertical guidance, controllers must issue the runway transition using a runway number. Where chart notes identify what runway transition to fly, a landing direction may be issued in

lieu of a runway number. In certain cases, relief is provided from the requirement to vector to the final approach course after a runway change is made inside the point 10NM from the runway transition waypoint. Controllers can now avoid vectoring after a runway change is issued provided that after the change, the lateral and vertical paths of the transition remain the same to the end of the STAR, and when the change is issued, 10NM exists between the aircraft and the point the change becomes effective. Emphasis that pilots need sufficient time to program such changes is added. Figures are added for clarity. Legacy terminology no longer used has been removed.

Additionally, we have discussed and agreed upon defining a Runway Transition Waypoint within FAA 7110.65.

2. Speed Cancellation Guidance FAA 7110.65 5-7-1 slated for implementation on February 28, 2019 – The background on this change is a climb or descend via clearance cancels any previously issued speed restriction and requires pilots to meet all published speed restrictions on the procedure. But what is expected of a pilot when there are no published speed restrictions on the procedure? If an airspeed was previously assigned, is the pilot expected to maintain that speed, or does the climb or descend via clearance allow the pilot to operate at any speed? The Pilot Controller Procedures & Systems Integration (PCPSI) work group discussed this issue and identified that FAA Order JO 7110.65 does not match the Aeronautical Information Manual (AIM). The AIM advises pilots that a climb or descend via clearance cancels any previously assigned speed. It does not specify that a procedure must have published speeds for that guidance to apply. The 7110.65 is being revised to match the guidance in the AIM. If a controller requires a speed to be maintained on procedures without published speed restrictions, then the controller must assign the speed in conjunction with the climb or descend via clearance even if a speed was previously assigned.

3. SID/STAR En Route Transition Assignments slated for implementation on February 28, 2019 – The background on this change is when a SID or STAR is involved, flight management systems (FMS) only display the downstream fixes on the transition the aircraft has been cleared on. When the need arises to clear an aircraft to a different transition on the same procedure, specific phraseology must be used. This alerts pilots to look to the transitions page of the FMS to find the fix on the new transition they are being cleared to.

PARC NAV WG

We met on August 1st and 2nd in Seattle, WA at the Boeing Company and discussed the following:

1. Final to Miss OCS Transition (Work Session): Mike Cramer (MITRE) opened the discussion by reviewing (with Gary Petty AFS-420) the material from our last Face to Face (F2F). This was essentially Gary's presentation on the differences between how the transition is done for RNP AR and LNAV/VNAV. A very wide-ranging discussion ensued because once we harmonize the methods, it could be possible to add advanced RNP minimums to an RNP AR chart in the manner of Cat I, II, and III ILS being on a single chart. This led to discussion of what would be in the PBN box (seems like it could have two NavSpecs), what possible RNP values could be used for advance RNP (ICAO is heading toward allowing only two values, 1 NM or

0.3 NM), and which OPSPEC would pertain. None of this really addressed the harmonization of the procedure design criteria, but it is all pertinent and will have to be addressed in a recommendation. There is major support for allowing both AR and advanced RNP (as well as GLS and LPV) mins on the same chart from the operators.

During this discussion we realized that there was a misunderstanding within the WG regarding the application of 2xRNP OEA to IAPs requiring advanced RNP. The intent of the recommendation to FAA had been to apply the 2xRNP OEA to all segments of the approach including the final segment. Some members had not taken the recommendation to apply in the final segment. Once the discussion was finished the group consensus once again was that the OEA must apply to all segments. Because of the misunderstanding within our own group, the Nav WG will need to follow up with an amendment to the recommendation and send to the SG for transmittal to AVS-1. Mike Cramer and Barry Miller (will take this action.

Another side issue that arose was whether the Nav WG needs a more detailed (lower level) "roadmap" than the PBN Strategy to guide our efforts. The preceding discussion is an example of needing such guidance. There was discussion of requesting the PARC SG to break down the PBN Strategy into a more detailed roadmap for PARC in support of the strategy. Open issue.

Mike then pulled the group back to the original topic, which was harmonizing the criteria for the OCS final to missed approach transition. Mike and Gary P. worked together walking through a very detailed comparison of ICAO and AR methods which was provided by Bill Fernandez. It is an excellent comparison of the two methods and is on the Nav WG website in the meeting folder. Gary P then presented his ideas for how the methods could be made the same, which would also finally solve the 250' HAT problem for RNP AR as well. A review of two cases (RNO RWY 16R and SAN RWY 27) will be done to confirm that the proposed methods could in fact lower the RNP AR minimums. The Nav WG consensus agreed with Gary's proposed method, so Mike asked that Gary prepare a detailed recommendation draft by the end of September if possible for final review and approval in the Q4 F2F. Gary agreed, and Mike asked Gary McMullin (Southwest) and Ron Renk (United) to help with an early review and comment on the draft before it goes out to the whole group for review. Mike will also review.

2. TF Overlay for RF (Work Session): Mike opened the discussion by noting that the group needed to reach consensus on several factors; particularly the design variables that need to be considered, the criteria for successful overlay, technical issues that could affect the designs, and atmospheric conditions that could result in failure of the designs.

The design variables that will affect the overlay design for an RF were determined to be the radius, turn extend and groundspeed. The factors affecting the TF design were determined to be the FMS design bank for the flyby, the number of flybys turns used to emulate the RF, and the distance of turn anticipation for each flyby turn. The interplay among all of these factors will determine the possibility of an overlay but will not be definitive in terms of the "goodness" or robustness of the TF overlay. Mike had designed a spreadsheet to explore the impacts of each of the design factors which he demonstrated and also shared with the WG members.

Discussion of the criteria for a successful overlay revolved around how well the TF track needs to emulate the RF. In general, the tracks cannot be made coincident because each flyby turn will be constructed with a bank angle greater than that required to traverse the RF, so there will be bank angle changes as the aircraft follows the flyby design track, resulting in differences between the two particularly between the flyby fixes. Consensus was that we will need to define a quantitative measure of the “closeness” of the two tracks and a maximum difference that can be allowed (what is acceptable to ATC, etc.).

Regarding RF applications that could stress any TF design, it was agreed that any application with multiple RFs in sequence, whether they have the same radius or not, could be very difficult and/or risky to emulate using flyby fixes. Turn reversals, i.e., a left RF followed immediately by a right RF, would be in the same category. We might consider a blanket recommendation that in such RF instances a TF design would not be allowed.

Atmospheric conditions, e.g., wind speed and direction in particular, will affect groundspeed, and even in conditions where the RF is unaffected, discontinuities in the TF designs could result. We will likely have to limit the overlay to RFs of a certain radius or larger to prevent possible wind induced discontinuity in the TF track.

3. Design Bank Limit for RNP<1: Closed. Submitted to AVS-1 July 31, 2018.

4. Intermediate Segment Length: Closed. Submitted to AVS-1 July 31, 2018.

5. Outstanding Issues List Review: Mike walked the WG through the 2018 remaining issues list to discuss / choose another issue or two to work on prior to the Q4 F2F. The issues list was updated to show closure of the latest recommendations sent to AVS-1. The WG agreed to add two of the outstanding issues to the 2018 work plan; the goal is to have final recommendations after the Q4 F2F for:

1. Use of block altitudes on departures (SIDs) and
2. STAR terminus altitudes (when not connected to an approach, they are sometimes lower than the start of the approach which does not play well in the FMSs).

Another item which the group is interested in working is the difference between the standard method of doing obstacle evaluations for approaches and the method used for RNP AR. If the two preceding issues can be resolved, the group will begin to address this issue.

6. Future Meetings: The 2018 quarterly meetings have been scheduled and invitations sent via Outlook calendar. The F2F and next virtual meeting has been added to the website calendar.

1. Virtual Meeting – August 29, 2018, 1 PM EDT
2. Virtual Meeting – September 26, 2018, 1 PM EDT
3. 2018 Q4 F2F – November 7 & 8, Atlanta hosted by Delta

7. New Business: Ron Renk (United) noted that they have been doing some notional work on GBAS procedures at KSFO that in some sense emulated the RPAT idea to the LDA final on 28R. He asked if the WG would consider reviewing the ideas and contributing to them as they move forward. The WG members were receptive

and Mike C asked that Ron prepare a more formal briefing in the near future so the work could be added to our inbox with SG approval.

PBN NIWG

Participated in several PARC NIWG PBN Team Meetings.

TACTICAL ACTION NOTIFICATION RESPONSE (TANR): Shannon Jenkins (ZME) is the Article 114 Representative for Tactical Action Notification Response (TANR). His report to the membership is below

-23 July through 26 July participated in 2018 Crosstell in Portland Oregon. Discussed several aspects of TANR with fighter pilots, Secret Service members, Border Patrol members, Civil Air Patrol, NORAD and several other military members to include some with the Western Air Defense Sector.

-During Crosstell exercise I was given the opportunity to have a familiarization flight in an F-16. This flight allowed for me to gain a true “pilots perspective “ of TANR. The pilot I was with noted the positive aspects of TANR throughout the flight as well as before and after the flight. During the familiarization flight, 3 simulated aircraft intercepts were accomplished. TANR was utilized throughout.

-Was able to converse with multiple fighter pilots throughout the 3 day exercise and they were all in agreement that when TANR is utilized, their “helmet fire” is greatly reduced and that the overall TANR process is very beneficial to them, ATC, and the Air Defense Sectors.