

NATCA Safety & Tech Update
Week of November 5, 2018

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

CLE/DTW Metroplex

The CLE/DTW Metroplex project is moving into the post implementation evaluation and modification phase. We have identified and modified several LOA's and created temporary procedural fixes until more permanent solutions can be implemented. We have begun working with the POC's from DTW, D21, CLE and ZOB along with industry representatives on SID and STAR concerns. Specifically, discussions were initiated regarding SID design to eliminate the use of "Climb Via Except Maintain" clearances, on the Detroit procedures. To do this we needed to resolve crossing altitude clearances on several of the SIDs. These crossing altitudes are the issue that led to the current open SID design.

Working with all parties, the team was able to evaluate current aircraft performance, and very slightly change a fix location to allow industry to have confidence that the altitude restrictions were achievable. With this issue resolved, the team then proceeded with re-connecting the open SID's and making any other changes needed to establish a Climb Via to a published top altitude of 170. A database for the proposed changes was delivered to Delta to use for validation testing.

The team also went through known issues with the STARS and captured Delta's feedback on our tracker list. An issue was identified where aircraft FMS's are operating outside the parameters of the STAR design by slowing their airspeed long before required, and below the published speed. No specific solutions have been identified to correct this issue, and it may be beyond the ability STAR design/modification to correct.

The CLE area SID and STAR modifications were discussed and proposed changes will be discussed along receiving industry input the week of December 4th.

Post implementation feedback and design review is scheduled with ZAU, ZID and ZOB the week of November 26th in Chicago. Industry post implementation feedback is scheduled for December 4th and 5th in Detroit.

We are engaging NavCanada at the publications level, to attempt to coordinate expedited timelines for the modified SIDs and STARS.

The Metroplex Leads have engaged regional resources to begin discussions of the timing of post implementation SID/STAR publications. It appears that the teams will have to move quickly to resolve open issues and modify the designs, if we have any chance of making modifications to published procedures before the end of FY19.

**Submitted by Rick Norris CLE/DTW Metroplex Lead
Denver Metroplex Update - 10/31/18**

The Denver Metroplex team worked with local facilities to update the evaluation and implementation schedule. The Co-Leads also worked to prepare presentations for upcoming select official in conjunction with the Regional Administrator. Work continues on TBFM adaptation work. Meetings will take place with the TBO work group on their planned activates for Denver in November.

**Mark Ostronic Denver Metroplex Article 114 NATCA Lead
Florida Metroplex Update**

Implementation on schedule for November 8th.

Q's and Y's:

Training 95% complete at all three facilities.

Briefed Face to Face the Following:

Jet Blue - 10/12/2018

Delta - 10/15/2018

Southwest -10/16/2018

American -10/17/2018

Allegiant - 10/26/2018

United - 10/23/2018

Briefing on Monthly Flight Fillers Telcon

Holding weekly Telcom on every Thursday with the POC's of ZMA, ZJX, & ZJU, All FTR's at surrounding facilities for updated progress of implementation of Q & Y's. SID's & STAR's

Ongoing briefings with all Airport Authorities for TPA, MCO, PBI, FLL, MIA Sid's and Star's

Beginning to brief govt officials and Noise abatement folks

ISIM builds are 90% complete

Community Involvement begins.

**Submitted by Christian Karns Florida Metroplex Article 114 NATCA Lead
CSA PBN 2018-11-01**

PBN projects for Chicago, Columbus, and San Antonio are the first of the larger projects being activated in Central. Columbus and San Antonio projects are being prepped for Flight Simulation runs done by our Industry partners. Both projects will go for noise modeling in the next few weeks. The next step will be to brief each Airport on the noise simulations and any design concerns uncovered during the Sim runs. The KORD draft procedures are in final development for submission to the Modeling Activities going on with the City of Chicago.

There are a number of pressures on the production pipeline and many orders that mandate how instrument flight procedure work is approved, completed, and implemented. NATCA has been working with (for the better part of two years)

Operational Support Group (OSG), PBN Program Office, Aeronautical Information Services (AIS) and Flight Standards (AFS) on a singular Instrument Flight Procedure process that could bring all procedure development into one consistent process and move forward in supporting national level priorities and strategies. NATCA's vision for these changes ensure facility collaboration and eliminate changes to the NAS that aren't appropriately coordinated in the field. These efforts have been abandoned by AIS and AFS. AFS and AIS are ready to implement a new 8260.43C that doesn't have the appropriate infrastructure and planning in place to simplify the process, reduce timelines for publication, or ensure complete air traffic facility collaboration. The current version being implemented does not match earlier drafts that were collaborated on.

There has been considerable work going into preparations for a singular Instrument Flight Procedure (IFP) Process. The new 8260.43C mandates how projects are approved and scheduled. Because the new .43C is completely changing how potential projects are approved, work on the new IFP process has had to stop and change its' focus to adapting to the new .43C. If given the appropriate time and development, both the new IFP Process and the new Prioritization Process could co-exist and complement each other.

Flight Check (FC) has run into large scale scheduling problems because of required airframe maintenance and FAA pilot shortages. The Flight Procedures Team (FPT) has already started pulling projects out of the November 2018 Chart Cycle, and every other chart cycle currently scheduled, to reduce the workload down to numbers that FC can accomplish. This publication reduction will impact mitigations to VORMON nav aids and many other projects scheduled through at least the end of 2019.

The effort to help ARTCCs focus on their VORMON mitigations is underway and evolving into a standard method that can be applied to any nav aid removal and mitigation conversation. Next week, Central PBN will be at ZKC with our Flight Procedures Team (FPT), OSG Airspace & Procedure Specialists, and Environmental Specialists. The ZKC Agenda is focused on VORMON mitigations for ZKC and other underlying/adjacent facilities. We will work the ZKC request for T-Routes, discuss early concepts for STARs into KMCI brought about by VORMON, and evaluate, with the facility, all PBN and Conventional procedures tied to the next wave of VORs being taken out.

We are currently reaching out to the remaining Central Service Area ARTCCs for meeting dates in the first and second calendar quarters of 2019. These activities need to remain a priority for us and getting them on the schedule helps us keep these activities from being over-run by other competing PBN requests. The immediate goal for the next 6 months is to have packages submitted for each ARTCC that cover all VORMON impacts anticipated through PHASE I of VORMON (FY2021).

**Submitted by CSA PBN NATCA Art. 114, Brent Luna
NATCA PBN Co-Lead East**

The past month in East, we worked on NEC ACR, BOS Massport Block 1 and wrapped on work on TDG VOR MON.

We have been in constant communication with ZDC, ZBW, ZNY and the ATSCC on the NEC ACR work. A Pref Route Workgroup meeting is scheduled for December 2018 along with ISIMs for ZDC. We will also be helping FL Metroplex next week by being at ZDC and ZJX for their November 8th Q/Y Route implementation.

The Boston Block 1 procedures have been evaluated by BOS, A90 and ZBW. We briefed out the results to MASSPORT, MIT and the Regional Administrators office. The Boston CAC (Community Advisory Committee) was also briefed on 10/18. Not a lot of surprises came from the CAC briefing, they are very upset we can't modify the RWY 22L Transitions, but seemed satisfied with the work on the RWY 15R departure transition and RWY 33L RNP. We are still waiting to see if we move forward with this work. The BOS Block 2 recommendations were also briefed to the BOS CAC by MIT, although the FAA still has not officially received these recommendations yet.

The work done to mitigate the removal of TDG VOR is wrapping up in order to make the Aug 2019 publication date. We have one final internal review next week before submitting the routes for publication. T-Routes were created that overly current Victor Routes and incorporate the future decommissioning of TDG, LDK, HAB, HLI, VUZ and EWA.

Joey Tinsley NATCA PBN Co-Lead East

PBN/Metroplex Design and Implementation Lead Monthly Report – 11/1/18

Metroplex: Florida Metroplex re-design work has begun on the Florida Metroplex SIDs/STARs. The current Florida Metroplex re-scoping will incorporate Q and Y routes from ZJX, ZSU, 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 Q routes (ZDC and north) have been incorporated into the NE Corridor initiative through the JO 7100.41 PBN process with a dedicated set of Co-Leads from the Eastern Service Center OSG PBN team. Detroit/Cleveland Metroplex implemented SIDs and STARs on September 13, 2018. The procedures are working very well and getting great reviews from Delta Airlines. The Denver Metroplex team continues their community involvement and engagement activities with March 2020 currently targeted for the implementation of the procedures. The Las Vegas Metroplex is now moving forward with the project as originally scoped with design work being mostly complete while also continuing to work on community involvement activities. The Las Vegas Metroplex team successfully completed the scrub of their HITL scenarios and will begin full HITL activities the week of November 13. The Metroplex Leads meeting scheduled to take place in Cleveland on August 6-10, 2018 was cancelled and the rescheduling of future meetings are TBD.

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 next F2F for the IFP Process WG is scheduled for November 13-15, 2018 in DC but will continue the weekly telcons for the workgroup. The PBN office continues to work with the VOR MON Program Office to integrate and coordinate PBN activities with the VOR MON waterfall schedule through 2025. The next PBN Co-Leads meeting is scheduled for January 15-17, 2018 in DC with co-leads represented from all three service centers to continue to work on prioritization of single site projects.

Submitted by PBN/Metroplex Design and Implementation Lead Art. 114 Ed Hulseley NATCA National Airspace Rep

We have been meeting monthly with the agency to rewrite the .41 PBN Process Order. Our goal is to rename and create the document so that it will be the one single process utilized to create and implement all procedures, not just PBN Procedures, in the NAS and reduce current redundancies. Associated with this activity is an attempt to create a better process for national prioritization, an automated system that allows proponents to submit request online, and an opportunity to create a process that will be more efficient. The current target date for completion is September of 2020.

PROFESSIONAL STANDARDS: Andy Marosvari (BOI) is the Chairman for NATCA National Professional Standards. Garth Koleszar (ZLA) and Josh Cooper (SCT) are members of the National Professional Standards committee. Their report is below.

The Professional Standards program is in its 8th year and continues to have a positive impact on the professionalism of controllers nationwide. The program has about 530 active members, with a total of over 850 trained to serve as committee members representing every facility in the National Airspace System. Committee members receive training on communication skills and conflict resolution during a 3-day course taught by NATCA. We have our next class at Albuquerque Center on November 5th through the 7th. This will be our first class without Andy Marosvari, but he is still assisting us in the planning arena because that's the kind of guy he is! As for the implementation of the RESPECT initiative along with restructuring of the PS program. We still have a few people to train in this role. We have one empty seat form the ZFW area, and we had a bit of a struggle getting one off the schedule (LAX) for training. We also had one last minute change as Lydia Baune moves onto the national team, and we replaced her district chair position with Deanna Folsom form BOI. We were also just notified at CFS that Nicole Atchley (PHL) has resigned her position of District Chair. We are working with Rich Santa to get a replacement. Once we have these positions filled we will plan training.

To date, the Professional Standards program has received 2,838 submissions with 90% of those being resolved. That's 2,558 issues that NATCA was able to resolve the issue at the lowest level, peer to peer, without management involvement in the outcome. Approximately 70% of those cases are submitted by management, demonstrating the FAA's belief that the peer to peer method used by the program is working. The recidivism rate is very low, indicating that the one on one discussions between committee members and controllers has a long-lasting, positive effect on the safety of the system and the professionalism of our controllers.

We now have an active PS tab on the NATCA website. It covers information for FacReps, Members, and PS members, with contact information for all active Professional Standards Committee member and District chairpersons. We also have a link to email us directly. Please take a moment and check it out!

If you have any questions about the Professional Standards Program, please don't hesitate to contact any of the NATCA National Professional Standards committee members at ps@natca.net.

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.

Departure Criteria Working Group (DWG)

The following information was discussed during our meeting:

1. Climb Gradient on SIDS: The sub-group recommendation is to accept the AFM-IPG issue as part of the overall SID criteria issue and work in the DWG. The recommendations provided by the AFM-IPG were not accepted at this time based on operational issues.

2. Disposition of comments on draft 8260.3 were discussed. An updated draft will be sent to DWG participants by the end of October and a meeting with industry will be set up for November.

3. Length of SIDs/Transitions (MEAs on transitions): The sub-group reversed its decision to remove MEAs based on NATCA/ATC comments that transitions are used today to replace/supplement the en route environment. Draft criteria will allow current SID en route transitions provided the full en route criteria is followed to include Minimum Crossing Altitude (MCA) evaluations and RNAV 2 Nav Spec. MEAs/MOCAs will be required on en route transitions and must meet the definition of criteria and not be raised to support ATC operations.

4. Changes to JO 7100.41: The appropriate Line of Business's (LOB) are engaged in the changes to JO 7100.41, so the sub-group agreed to close this item.

5. 16-DWG-016 - Low Close-in Obstacle issue: The DWG discussed the AJV proposal and had some concerns reference not publishing all of the obstacles. No

LOB agreed to fund and manage proposed changes by the Flight Operations Group. AFS-420 will evaluate to see if survey or grouping changes could help resolve the issue. AFS -420 will evaluate the need to list the low, close-in obstacles in the front of the Terminal Procedures publication (TPP). Evaluate ICAO process of just indicating that there are low, close-in obstacles.

6. 16-DWG-017 - ODP with Multiple Sector Departures: AFS-420 is reviewing the draft criteria to ensure there is no issues with pilot confusion or multiple sectors with climb gradients.

7. 17-DWG-021 - Copter criteria: The DWG approved the recommendation for further action and recommended to combine the Copter recommendations into one larger action to update and harmonize Copter Criteria in FAA Orders. The DWG decided to have a sub-group to work the issue and will provide updates monthly.

8. 17-DWG-022 - RNAV Departure Climb-in-hold documentation guidance: AFS-420 will draft guidance in Order 8260.46 and coordinate with the group.

9. 17-DWG-023 - Departure CG in Transitions: AFS Flight Ops has evaluated the AJV proposal and determined that it could cause climb performance issues. It was decided that an approval would be needed to exceed the en route climb gradient in the transition.

10. 17-DWG-024 - DP RNAV Early Turn Distance Greater than Leg Length: AFS-420 will work with MITRE and AJV-5 to create draft criteria to resolve the issue.

11. 18-DWG-026 - MSA on Departure SID/ODP: The issue will be sent back to the ACM-IPG for further discussion with a broader group to include industry. A proposed change to MSAs will be briefed at the ACM-IPG (see attached). Our next meeting is November 7 from 2-3PM CDT (3-4 PM EDT)

Pilot Controller Procedures & Systems Integration (PCPSI)

We met in Henderson, NV on October 30th-November 1st where the following information was discussed.

1. Wrong Surface Operations: Received a briefing from Julie Purdy, Manager of Flight ASAP from American Airlines where she her team had done research focusing on landing clearances. They selected four events where ATC had changed the landing runway and although the pilots read back the correct information still remained lined up on the wrong runway. Due to these events a recent FAA Notice 7110.761, Landing Clearances became effective on October 26, 2018 indicating that "CHANGE TO RUNWAY (number), RUNWAY (number) CLEARED TO LAND" is the phraseology that must be used when changing a landing runway clearance.

2. Airspeed Scenario Issues: A presentation was given by Lev Prichard, Allied Pilots Association (APA).

3. Conditional Clearances and Large Height Deviations: A presentation was given by Dr. Kim Vardosi, VOLPE, which focused on using conditional clearances such as “*CLIMB/DESCEND TO REACH (altitude) AT (time (issue time check) or fix, waypoint) or AT (time) CLIMB/DESCEND and MAINTAIN (altitude)*”.

4. Climb Via Except Maintain: A presentation was given by Gary McMullin, SWA where he recommended that CLIMB VIA Except not be allowed to be used because its causing issues with pilots.

5. PCPSI Terms of Reference (TOR): Kathy Abbott, PCPSI Co-Chair gave a briefing on the workgroups TOR and asked for recommendations by our next meeting regarding any changes to the language based on the various issues this workgroup is involved with.

6. Nav Canada PBN Update: Yan Picard, Nav Canada

7. FAA's Class B Excursions SRM Panel progress: Charlotte Boyd, AJI-314, Safety Engineering gave an over view the work that has been recommended by the Class Bravo Excursion SRMP. It is still in draft form and she would not release it but say she would talk with the FAA about getting this group a summary of the recommendations.

8. Phraseology Subgroup Update: Bennie Hutto (NATCA) & Michael Cipriano (UAL) are the Co-Leads of this subgroup and our first face to face meeting occurred on October 30th. The subgroups task is to evaluate and discuss the differences between the phraseology used within the FAA and ICAO concerning Climb and Descend VIA and see if there is any possibility of harmonizing it.

9. Runway Transition Assignment and Changes Update: Andrew Duda (AJV-8) gave an update based on the FAA 7110.65, Section 4-7-1 Document Change Proposal from the Safety Risk Management Panel (SRMP) where a change in requirements and phraseology was allowing controllers to issue runway changes if required without having to provided radar vectors provided the lateral and vertical path of the runway transition was identical. Although Industry provided the requirements during the SRMP on what they could accept and this change incorporated those changes, it was met with opposition by Gary McMullin of SWA even though he had participated in the simulator exercises for this change. He requested that a study be accomplished using line pilots to gain a better understanding of the impacts. He believes if continues as written, then it will have major impacts on pilots as well as the potential to create problems within the NAS. AJV-8 wanted to continue with sending the DCP out to the field for comments, then look at whether or not a study would be required.

10. Clearance Altitude – Expectations on Visual Approach Go Around: Marc Henegar (ALPA) gave a presentation regarding an aircraft going around on a visual

approach where he advised that based on the information contained within the AIM and Part 121 aircraft not having easy access to the traffic pattern direction and altitude, it could create an issue between the pilot and ATC. He would like have ATC provide the traffic pattern direction and altitude if ATC is placing the aircraft into the local traffic pattern. Rune Dike (AOPA) advised they are required to know this information prior to departing or obtain it once airborne if they are executing a visual approach and Part 1121 should not be treated any different. I advised that this information should be provided by the airlines to their pilots and when they brief the approach, then they should also brief the traffic pattern direction and altitude. This may be discussed further at future meetings.

11. A-RNP Update & AFS-400 Reorganization: The group received a briefing from Jeff Kerr (AFS) on the restructuring of Flights Standards.

12. Visual Separation Applied to Takeoff Clearances: The LAS ATCT/TRACON was supposed to give a presentation but they could not make it due to staffing. However, a discussion still took place where Industry pilots had questions about when visual separation ended when they accepted pilot applied visual separation. It was explained that ATC must have approved separation before and after the application of visual separation and the Airmens Information Manual (AIM) provided guidance on this topic as well. Industry did believe the AIM contained the right information and they felt it would be best if ATC advised the pilots when visual separation was no longer required due ATC issuing diverging courses or when vertical separation was reached. The Nav Canada representative advised the group that their requirements instruct the controllers to advise the pilots when visual separation is no longer being applied or required by the pilots. I am sure this topic will be discussed further at future meetings.

13. EoR Operational Concerns: A briefing was given by Brad Sims, Southwest Airlines Pilots Association (SWAPA) concerning an issue that occurred at KDEN where one aircraft was cleared for an RNAV (RNP) approach with a RF turn to RWY 16R while another aircraft was cleared for a visual approach to RWY 16L. The pilot flying the RNAV (RNP) was concerned about the aircraft on the visual approach and turn off the RNP towards the airport and received a Pilot Deviation. Although this was a legal operation under FAA 7110.65, Section 7-4-4 c, Industry believes it creates a human factors issue, especially on closely spaced parallel runways. In this case, the runways were separated by 2605 feet and they feel it would be better to have the aircraft conducting the visual approach to be established on final prior to the point where the RNP is turning onto final.

Our next meeting is being held in Atlanta, GA on December 13th and 14th.

PARC NAV WG

Our next meeting is scheduled for November 7th and 8th in Atlanta, GA where Josh Haviland will be covering for me due to other obligations. During that meeting, a presentation will be provided by Ron Renk (UAL) regarding STAR Terminus Altitudes being lower than the initial altitude at the Initial Approach Fix (IAF) or

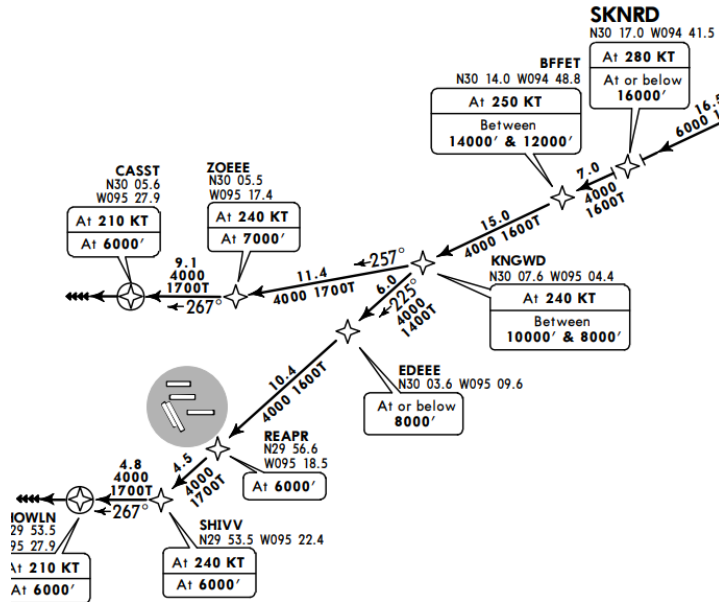
Initial Fix (IF) of an Instrument Approach Procedure (IAP). Below is a copy of his statement.

STAR Terminus Altitudes – Problem Statement

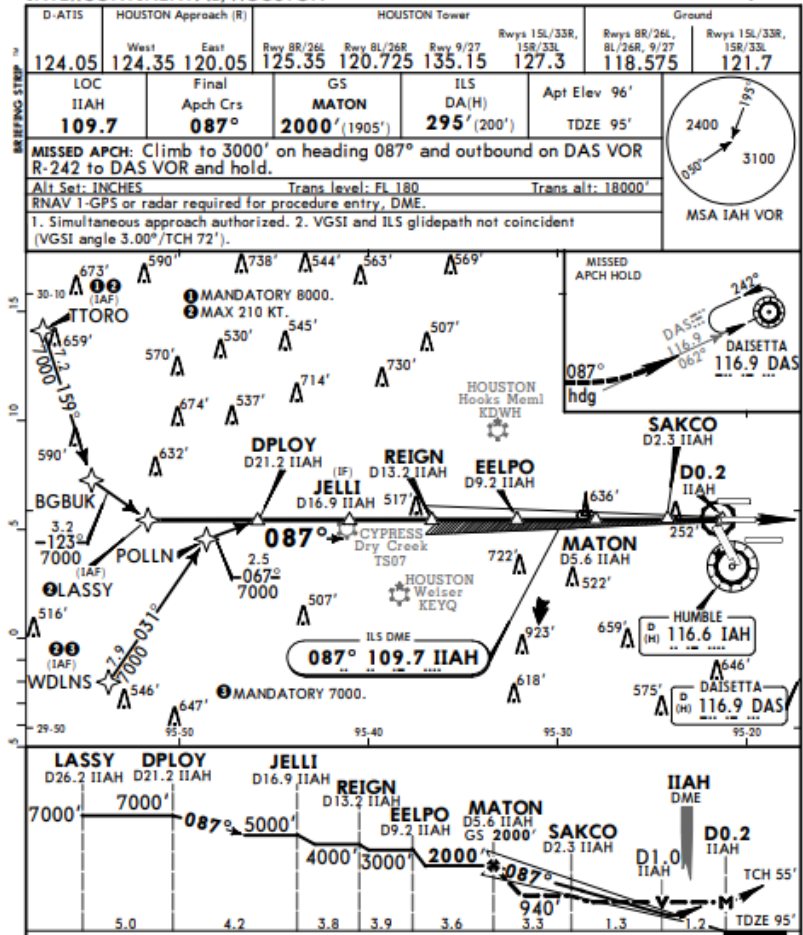
As Performance Based Navigation (PBN) procedures started to make their way through the National Airspace System (NAS) an issue surfaced when the Standard Terminal Arrival Route (STAR) terminus altitude was lower than the altitude at the initial approach fix (IAF) of an instrument approach procedure (IAP). In this case, most modern Flight Management Computers (FMC) will not allow the entry of a descent to the bottom altitude of the STAR, followed by a climb to go back up to the IAF altitude coded on the approach. While common not to allow such an operation by the FMC, there are variations on how FMC OEMs handle this exception which can cause further pilot confusion. One example is the GE FMC which will not allow the execution of a route that has this descent, followed by climb operation. In the GE handling, if the pilot misses an obscure scratch pad message when loading the STAR and approach, later they will not get an execute light on the MCDU and must discover why they have a MOD route with no EXEC light.

We mainly see this issue at locations where the STAR ends on a downwind but the approach is built to handle both the downwind and straight in traffic. The primary cause of this problem with PBN routing is that an effort was made to improve aircraft energy management while flying PBN routes. On the older conventional STARS, terminus altitudes on the downwind were often higher but created unstable approaches with high energy if ATC turned the aircraft early on VMC days (and it's simply a fact we have more VMC days than IMC at most locations). On the newer PBN procedures industry asked to use existing ground tracks on VMC days to figure a STAR terminus altitude that would remove the high energy, unstable approach problems we saw with the conventional procedures. Let's look at a practical example of this problem, then look at some potential solutions:

KIAH in East configuration using the SKNRD RNAV Arrival with the ILS RWY 08R. Using the North downwind, the SKNRD RNAV Arrival ends at CASST at 6,000 ft.



When the pilot goes to load the ILS RWY 08R, the only relevant options from CASST is to load the FMC from EELPO (no transition) or LASSY transition. Most pilots would know they will likely not get turned in by EELPO and therefore would want to load the LASSY transition to be prepared to be turned onto final further out. The only problem is that the LASSY transition starts at 7,000 feet which is higher than the STAR terminus of 6,000 feet. In this case, the pilot will not be able to EXEC this routing into the FMC without some modification. Since most operator's train pilots not to modify approach attributes in the FMC and we of course cannot modify the bottom altitude of the STAR, this leaves little options for the pilots to work with.



Possible Solutions

There are multiple ways to handle procedure design that would correct this issue:

- 1) Add an IAF on all IAPs that starts at or below the STAR terminus altitude. In our example, JELLI could be made into an IAF as pilots could load the JELLI transition with the 5,000-foot altitude.
- 2) Require the STAR terminus altitude to always be at or above the highest straight-in IAF. Consideration should be maintained for the energy management state of the aircraft flying these procedures so that may restrict the location (laterally) of where the STAR terminus is located. In our example, CASST could be raised to 7,000 feet but by raising the altitude 1,000 feet, the location may need to be moved back 3 miles to keep the energy management state consist with current operations.

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

-Continued to establish contact with FACREPs from other facilities to better educate and prepare them for upcoming briefings and exercises and to answer any questions they may have.

-Also continuing to socialize through contact with FACREPs from other facilities for gaining more Real Time knowledge of events in which TANR was used.