NATCA Safety & Tech Update
Week of June 20, 2016

Airport Capacity Decision Support Tool (ADEST): Kristen Laubach represents the membership as the Article 48 Representative for ADEST. Her report for this week is below.

> Airport Capacity Decision Support Tool (ADEST) (formerly called SET) will eventually be a tool used to support, monitor and update Airport Arrival Rates (AAR). ADEST will take known factors including runway configurations, weather and aircraft types to assist traffic management in determining the daily AAR. Users will have the capability of inputting future scenarios such as runway closures to determine the effect on AAR and/or if a Ground Delay Program (GDP) needs to be considered.
> Unfortunately getting a base line program working has been a challenge. ADEST currently goes back and forth between development and staging phases trying to correct basic issues such as updating weather and calculating the AAR correctly. Once a base line is operational, the team will start collecting specific details associated with individual airports.

AIR TRAFFIC PROCEDURES (AJV-8): Andy Marosvari (BOI) is the Article 48 Representative in the AJV-8 Office. Mr. Marosvari forwarded the summary below for this update.

> The work of the 7110.65 Revision Steering Committee completed work on 15 changes to the .65. The process can be frustratingly slow but our voices are being heard. Andy will be sending out a request for proposed changes within the next month. The process by which these proposals are accepted may change but NATCA will have the opportunity to effect changes that will clarify confusing paragraphs and limit the need for interpretations.
> As the Article 48 representative in the Procedures office at HQ, Andy has been able to be part of almost all of the changes that the FAA is proposing. It took almost a year to foster a working relationship with AJV-8 that allows NATCA to be part of the process from the beginning to end. It's not perfect and some changes have been in the works well before the Article 48 position was created. Don't hesitate to contact me with any questions.
> Andy participated in a DATA COMM meeting June 7-9 in Washington, DC. The use of DATA COMM in the en route environment will begin at Indianapolis ARTCC in 2017. The purpose of the meeting was to identify those paragraphs in the 7110.65 that will need to be changed or created to provide guidance for the controller workforce.

Andy has been working with the FAA on Document Change Proposals (DCPs) for Takeoff and Landing Performance Assessment (TALPA) and Dependent Converging Instrument Approaches (DCIA).

The FAA just announced that some publications will no longer be printed for distribution to field facilities. Included in this is the 7210.3, Facility Operation and Administration. This Order contains guidance that governs how we do our job and the decision to discontinue the printing of this Order was made without NATCA input.

Professional Standards Update

The Professional Standards National Committee conducted three recent training classes with a total of 58 new committee members trained. The two classes held for ATC were in Salt Lake City and Boise. A class was held in Westbury, NY for Region X committee members.
To date, over 600 committee members have been trained to perform as committee members. NATCA has committee members in every every facility in the NAS.
The National Committee will hold a training class at Atlanta ARTCC August 23-25. We will announce FY17 classes sometime in early September. If your facility is need of a new committee member or is currently without one, contact Professional Standards at ps@natca.net and we will work to schedule a training slot.

For the most up to date data on the success of the program, go to: https://docs.google.com/spreadsheets/d/1AH_lu2lv7pnyvePzUjKdebN0DccYoVRCpuBb_XLERrE/pubhtml?gid=1&single=true

AIRSPACE TECHNICAL DEMONSTRATION 2 (ATD-2): Pete Slattery (CLT) represents the membership as the Article 48 Representative for ATD-2. His report for this week is below.

On Thursday June 16th, Mr. Slattery met with members from NASA, FAA ANG, FAA AJM, FAA AJV, and FAA AJR in Washington DC to discuss ATD-2 and its integration with existing FAA technologies such as Traffic Flow Management System (TFMS), Time Based Flow Management (TBFM) and electronic flight data (EFD). A key topic was the NASA proposal to integrate the ATD-2 surface system (TFDM stand-in) with TBFM IDAC. This proposal gained support to proceed with more detailed planning among the required parties targeting identification of the software changes required to enable this in TBFM release 4.7 scheduled for Spring of 2017.

If accepted, this integration approach will allow direct electronic negotiation of APREQs with ZDC from CLT's ATD-2 surface system with minimal impact to ZDC workload.

Another key area of discussion was the current status of AEFS software. Specifically dates by which a readiness decision needs to be reached to successfully support ATD-2 needs. If AEFS is not deemed satisfactory for use in ATD-2, NASA may explore other EFD options for use at CLT. This decision will come later this year.

Finally, live data is flowing into the CLT ATD-2 lab. This capability allows NASA to display all existing ATD-2 data on its prototype user interfaces. NASA will be formally opening its ATD-2 lab at Charlotte Douglas airport on June 24th. See the tweet for more info about NASA Administrator Bolden's visit to the lab:
(https://twitter.com/NASAAero/status/743783178414989312).

Engineering shadow evaluations will begin occurring at the CLT ATD-2 lab during the month of July. Controller HITLs will follow soon thereafter.

RNAV and PERFORMANCE BASED NAVIGATION (PBN): Bennie Hutto (PCT) is the Article 48 Representative for RNAV and PBN criteria work. Mr. Hutto's report for the membership is below**.**

NextGen Integration Work group (NIWG) PBN

A briefing to the NAC was scheduled to be held on June 17, 2016, for their approval of the recommendations provided by this workgroup, which included several of the topics listed below.

Established on Departures (EoR)

EoR enables controllers to clear aircraft on an RNP approach while on the downwind to the airport without the need to use the standard 1,000 feet of vertical or 3 nm lateral separation when the aircraft turns to align with the runway centerline. This change allows aircraft to turn to align to the runway closer to the field, reducing track miles, fuel burn, and noise. EoR provides safety, reliability, and efficiency benefits in the NAS.
The Team identified EoR as a key capability for the FAA to complete the required safety assessments and implement at identified locations. The Team identified that the ultimate objective is to deploy Radius to Fix (RF) legs at locations that will leverage the EoR standards. In the interim, as operator capabilities evolve, the Team recommends that FAA leverage the existing equipage of prevailing traffic at each location when determining how to

implement EoR. Pending safety and applicability studies, this may include the interim use of Track to Fix (TF) legs as appropriate. The Team also recognizes that full use of EoR may require Decision Support Tools (DSTs), especially at large, busy airports.

Required Navigation Performance Authorization required (RNP AR)

Is a subset of RNP EoR. It has been mentioned that a possible mandate (more of a goal according to the new PBN NAS strategy) of requiring RNP AR and/or RF by 2021, in which National Business Aircraft Association (NBAA) along with possibly Delta and Regional operators would have a problem with due to equipage, especially in the East. United and Southwest Airlines are carriers that are supporting this. Over the past few years, there has been much discussion concerning this topic as TF legs work for everybody and can be easily converted to RF legs later, but does slow the progress to a PBN centric world. Operational approval for RNP AR at most airports is below 50% and well below at a lot of them, which may be more important than the lateral path issue. This is because of the cost of training and availability of approaches. You don't have to be RNP AR to use an RF leg but a lot of approaches that have RF legs are RNP AR, so procedures need to be developed to accommodate this to bridge the gap between RF equipped capable and approved for RF (RNP AR).
SWA pushed hard to increase usage of EOR at DEN and have said it is working extremely well. However, it was pointed out that although it is working well, the controllers are working very hard to put aircraft in a position to use RNP AR and the RF legs because of mixed equipage, which will happen at other airports if they are set up to take advantage of it.

Advanced RNP (A-RNP)

The Advisory Circular (AC) 90-105A update was published in March 2016, which contains a description of A-RNP. A-RNP is a navigation and operational specification that provides a streamlined approval for PBN procedures. It also facilitates the use of some Authorization Required (AR) capabilities in non-AR applications (i.e., RF legs, scalable RNP value). It is expected that this new guidance will greatly expand the eligibility of aircraft and operators to fly procedures with RF legs. The Team is recommending that the FAA identify one or more demonstration locations and the industry will identify operators who will engage in the new approval process.

Enhanced Flight Vision Systems (EFVS)

Currently, EFVS can be used only for continued operation between the Decision Altitude/Minimum Descent Altitude (DA/MDA) and 100 feet height above touchdown (HAT) zone elevation. The PBN Strategy indicates that the FAA will issue updated regulations and guidance material to enable EFVS

operations through the entire visual segment, from 100 feet HAT to touchdown. The new regulations would be applicable to any approach with vertical guidance. The Team is recommending that upon publication of the final regulations, the capability would then be applied at the selected location.

Optimized Profile Descents (OPD) using Area Navigation (RNAV) Standard Terminal Arrivals (STARs)

The Team recognizes that the FAA and Industry have been successful in implementing OPD procedures at many locations in the NAS. Using these procedures aircraft burn less fuel because they allow aircraft to descend from high altitude airspace using minimal engine power with minimal use of level off segments. The PBN Strategy indicates RNAV STARs will be increasing in availability across the NAS through 2025 and will be provided at other location based on specific operational needs associated with safety, efficiency, capacity, or access. Benefits achieved may be affected by revisions to existing and development of new according to criteria. The Team has identified several additional high priority locations for OPD implementations.

RNP to xLS (with RF/TF)

The Team recommends the deployment of hybrid procedure designs that integrate an RNP initial and an intermediate segment that includes a Radius-To-Fix or Track-to-Fix leg-type with an ILS approach. The RF/TF leg would connect to the ILS at or outside of the final approach fix. An RNP (RF/TF) to ILS procedure design can allow for a shorter final approach while providing the lowest available minimums. The PARC WG work has completed its recommendations and provided them to the FAA. The Team recommends the FAA conduct an assessment of implementation at the industry identified locations and the identification of pre-implementation milestones.

Established on Departure Operations (EDO)

The Dallas and Atlanta Metroplex developed RNAV SIDs that use a transitional waypoint into the terminal or enroute environment where once the lead aircraft passed the transitional waypoint, the longitudinal separation could be discontinued as the routes would be procedurally separated. The Atlanta waiver was originally denied and the agency never responded to the Dallas waiver. Since no movement had been made by the agency for over two years, it was brought to light when the Atlanta Metroplex implemented their RNAV SIDS and could not use EDO, which decreased the planned efficiency. Recently, a meeting was held in Atlanta, which set the stage to create an EDO Study Workgroup to evaluate the safety and efficiency of using EDO as originally presented. The workgroup is attempting to have the study completed, which would be nationally as opposed to just Dallas and Atlanta

and if successful, a Safety Review Panel would convene sometime in January 2017.

New Vertical Guidance

Many runways in the NAS have not been eligible for instrument approaches with vertical guidance due to the proximity of obstacles and legacy design criteria. The FAA working with industry published new criteria in March 2016 that expands the eligibility of runways and will allow for additional sites to have procedure developed with vertical guidance. The Team is recommending that the FAA begin implementation of the new procedures at industry identified locations.

Decision Support Tools

Fundamental to the successful implementation and operation of PBN across the NAS is the need to advance the development, deployment, and use of Time Based Flow Management Decision Support Tools (DSTs) essential to ensuring more efficient traffic flows that fully leverage available system capacity. These merging and spacing tools must be specifically developed to support the PBN operational environment and to enhance traditional controller techniques of vectors, level-offs, and speed assignments for optimizing capacity. The Team is recommending that the FAA prioritize the development and deployment of these capabilities and endorses the current FAA plan.

National Strategic Production Planning (NSPP)

Atlanta and Charlotte Metroplex: March 31, 2016 - published 1 RNAV STAR, canceled 3 RNAV SIDs and 3 RNAV STARS, April 28, 2016 published 1 RNAV STAR, May 26, 2016 published 3 RNAV SIDS and 1RNAV STAR.

Pilot Controller Procedures & Systems Integration (PCPSI)

A meeting is scheduled during the week of June 20, 2016, in which the following items will be discussed.

- Top Altitude and Climb Maintain clearances- At the Aeronautical Charting Forum (ACF), NATCA raised concerns that definition contained in the FAA 7110.65 and AIM as now made every SID a Climb Via procedure, which was never the intention. A recommendation has been made to change the definition, therefore allowing Maintain or Climb and Maintain clearances to be issued when there are no altitude constraints published at a fix/waypoint.

- Charting Complexities
- Variables Associated with Procedural Compliance
- STAR Runway Transition Guidance – Follow up discussions from the Houston and Oklahoma City Flight Simulation regarding changing an aircraft's Runway Transition when the aircraft is within 10 miles of or has passed the proposed guidance and procedures
- TCAS phraseology – NBAA proposes Traffic Alert and Collison Avoidance System (TCAS)/Airborne Collison Avoidance System (ACAS) Resolution Advisory (RA) phraseology for inclusion in the AIM, and if needed, FAA 7110.65
- STAR Top Altitude Charting - NATCA & AFS-420 raised concerns at the ACF about only being allowed to publish a maximum of two Top Altitudes on a SID when those SIDS also cover additional airports and each airport would have the SID published for the airport. A recommendation is to allow more than two Top Altitudes for the additional airports on a SID.

RUNWAY SAFETY: Bridget Gee (DFW) is NATCA's Runway Safety Action Team (RSAT) Representative. She also serves as the Article 48 Representative to the Runway Status Lights (RWSL) Program. Below is her report to the membership

Runway Status Lights (RWSL):

ORD: Being conducted in three phases: Phase 1, Runway 10L/28R, was turned online April 27, 2016. Phase 2 and 3 are scheduled to come online 2017.

- Phase 1 (10L/28R): Initial Operating Capability (IOC) took place 4/27/16.

- Phase 2 (10C Enhancement) – Date shift due to south airfield shelter. Completion now scheduled for Spring 2017.

- Phase 3 (9R Enhancement) - scheduled to begin Spring 2017.

DTW: Hardware issues fixed and Commissioning was 4/20/16.
Phase 2 (21L): Circuits to be installed Fall 2016 or later

EWR: Joint Acceptance Inspection (JAI) and ORD completed 4/12/16. Commissioning planned for 5/17/16.

BWI: Construction is ongoing. System set to come online in 2017.

SFO: Installation is complete with the exception of fixtures, due to be delivered July 2016. IOC planned for Nov 2016.

JFK: ORD declared on 6/8/16. System operating well.

BOS/DFW: Work is ongoing to secure funding from the Agency and agreements with the airport operators at BOS and DFW. JRC scheduled for September 2016.

Runway Safety

Runway Incursion Device (RID)/Runway Incursion Prevention Device (RIPD) SRMP:

- The SRMP panel was completed for the removal of the RID/RIPD systems from facilities. The panel followed the Agency's SMS 4.0 process to evaluate the risk associated with the removal of the RID/RIPD. A thorough description of the process will be contained in the SRMD. The Agency provided no statistical difference in the rate of runway incursions caused by an Operational Incident (OI) at known RID/RIPD airports. The provided data consisted of one year. The panel agrees that the RID/RIPD is a good tool as it is just as effective as other tools used in the NAS. In light of new data/information that the panel did not have, a follow-up to the original panel via telcon was conducted on 5/12/16 to discuss the new information. During the call, Ric Loewen and Bridget Gee brought up several key elements but are not limited to: the RID to surface memory aid change is different than adding a requirement because non-RID facilities are accustomed to confirming runway status with a scan of memory aids in the tower while RID facilities are accustomed to an audible reminder when they key the mic making the learning curve and associated change risk higher. The fact that the data doesn't reflect the success rate of the RIDs as reported by facility personnel. The fact that the change proponent can't show the supposed risk to the NAS caused by a system that has been plugged in since 1988. An additional call took place on June 8. The data provided by the Facility Representatives of the facilities that would be affected by this change was very influential. 5 out of 7 present on the call agree there is a risk of significant increase of runway incursion with the loss of the RID. However, there is considerable disagreement on what weight to apply to the data, how to quantify it, and whether we can get better data. An information request through the Dos for similar data to what we provided was requested. Further information to follow.

Closed Runway Occupancy Prevention Device (CROPD):

- Live Testing is scheduled initially at JFK for the month of August then RNO and MDW into next year. CROPD if proven reliable will be the first use of voice recognition to provide safety alerts. Each facility's test will run for a month after which all test equipment will be removed by the contractor, data examined by MITRE, and next steps planned. Initial train-the-trainer training will be conducted on July 12th. Ms Gee will be present for the initial facilitator as well as some live testing.

Airport Construction Advisory Council (ACAC):

- The ACAC continues to support construction activities throughout the NAS. NATCA representatives are reminded that Bridget Gee represents NATCA on the council and can assist with challenges associate with airport construction. Due to recent events at uncontrolled airports, both non-towered and towered, a communication gap in NOTAM distribution has been uncovered. A construction notice automation process is being worked. The funding portion has been approved. Our next step is to do a design review and the detailed requirements in which myself and the ACAC will be involved with during the development.

Root Cause Analysis Team (RCAT):

- Bridget Gee is now the RCAT Industry Co-Chair on the RCAT. The RCAT met on 6/2/16. We reviewed 4 Category "B" incursions which included DTW, FLL, HNL, and LGA. Finalized minutes once completed will be sent out.

BNA CAR:

- Ms Gee is currently working on a CAR for BNA due to the airport being expanded twice since the control tower was opened in 1981. The expansions have resulted in multiple runway and exit areas having limited or completely obstructed views from the tower. The inability to observe aircraft exiting the runways, or holding in position makes it difficult for BNA controllers to effectively control traffic. Final report will be sent out once completed.

Timely Airport Maintenance Notification CAR:

- This CAR has not been inbriefed yet but will be on June 21st. More information to follow.

Runway Safety Call 2 Action Communication Initiative – A Runway Safety Best Practices Workgroup will be taking place June 20-24. Workgroup tasking and Charter will be disseminated next week.

UNMANNED AIRCRAFT SYSTEMS (UAS): Steve Weidner (ZMP) is the NATCA Article 48 Representative for UAS. Jeff Richards (ZAU) is assisting Mr. Weidner on this project due to the workload and activity associated with it.

UAS Ops at SYR

On June 15th, the New York ANG began flying regular unmanned operations from the Syracuse (SYR) airport. MQ9 Reapers are flying in the same pattern with manned aircraft. The NY ANG previously conducted operations from Ft. Drum, NY, but have now moved their operation to SYR. This marks the first sustained operation of unmanned aircraft at a non-military, FAA controlled airfield. A great deal of coordination and effort went into preparation of these operations. Great work by our controllers at SYR who worked hard to make this operation possible.

Small UAS Rule (sUAS) - Part 107

The FAA will release the final version of the long-awaited small UAS rule, creating 14 CFR Part 107 in the near future. This rule will dramatically change the way small UAS are able to operate in the NAS. Commercial sUAS operations will no longer have to apply for, and receive, a Section 333 exemption and a certificate of authorization (COA), provided their flight will be operated in accordance with the specifications laid out in the rule. The rule will take affect 60 days after publication. Mr. Weidner and Mr. Richards have been working with the FAA on implementation communications and procedures. Expect more information over the next several weeks. NATCA has set up an email address (part107@natca.net) to field any questions our members may have on Part 107 and how this new rule will affect the NAS.

Global Hawk COA Workgroup

NATCA and the FAA have assembled a one-day Global Hawk COA (certificate of authorization) workgroup that will meet on Wednesday, June 22nd at FAA Headquarters. The purpose of this workgroup is to discuss national Global Hawk operating procedures and work toward an updated national Global Hawk COA. Mr. Weidner and Mr. Richards will lead this effort for NATCA along with Scott Gardner (AJV115 Emerging Technologies Manger). NATCA will also be represented by Jeff Plendl (ZLA), Derrick Liffrig (ZMP), Rich Ferris (NCT), Danny Watson (ZAB), and Greg Daughenbaugh (ZOA). There will also be FAA representatives from the service centers, AJV8 (Air Traffic Procedures), AJT (Air Traffic Services), AGC (FAA Legal), and AJR2 (ATO

Security). Additionally, there will be representatives from the US Air Force in attendance