**NATCA Safety & Tech Update**
**Week of April 17, 2017**


**AIR TRAFFIC PROCEDURES (AJV-8):** Andy Marosvari (BOI) is the Article 114 Representative in the AJV-8 Office. Mr. Marosvari forwarded the summary below for this update.

AJV 8 (Air Traffic Procedures) has been very busy for the last few months and NATCA has worked with the Agency on the changes for both the 7110.65 and 7210.3 effective April 27, 2017. In addition to the changes being published, work continues on the following topics:

- TALPA (Takeoff and Landing Performance Assessment) - After the introduction of TALPA on Oct 1, 2016, several modifications are being proposed to move the guidance out of the Braking Action paragraphs in the 7110.65, address concerns about opposite direction operations and FICON NOTAMs in the en route environment.

- STARs and Runway Transitions- NATCA and the FAA continue to work on updating the guidance for the assignment of runways when utilizing Descend Via clearances. Currently, some en route facilities issue a landing runway and some issue landing direction. The use of chart notes to indicate an arrival runway has been questioned by several carriers and we are attempting to modify existing language for clarification.

- New guidance for Formation Flights is being worked on based on several differing interpretations regarding separation responsibility within the flight. Working with the Air Force and Navy, NATCA and the FAA are writing new guidance to address Formation Flights. In addition, Seattle Center's Local Safety Council submitted an excellent proposal that includes language for formation flight join up procedures that will be considered for inclusion into the 7110.65.

- After several incidents with A380 wake turbulence, AJV 8 is addressing possible changes to separation standards for these aircraft.
  Other guidance being worked on includes Class G Airspace, separation standards of non-participating aircraft near Special Use Airspace and a clarification to Special VFR.

**COLLABORATIVE DECISION MAKING (CDM):** Kyle Andrews (ORD) is the NATCA Representative to the Surface Concept Team (SCT). Mr. Andrews forwarded the information below for the membership.

> Mr. Andrews attended the annual CDM Spring Session on April 11 and 12, held this year at Southwest Airlines Operations Center in Dallas, Texas.
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> Until now, queue length has been considered to be the number of aircraft in line at a runway waiting to depart (queue count). A new metric to describe queue length has been introduced - queue time, which measures how long an aircraft joining the back of a queue can expect to wait until cleared for takeoff. The benefit of tracking the queue by time is that the automation will be expected to incorporate additional variables that the queue count version would not. Using queue count, a queue might be considered to be overrunning the desired length due to the additional time for the departure of heavy aircraft or due to a shared use runway situation. By instead tracking the time that a plane waits in queue, the unaccounted for variables will be included in calculations for Target Movement Area Times (TMATs).
>
> Another new concept introduced was Metering Participation App. General Aviation or low volume air carriers at a specific airport might not have access to infrastructure that accurately updates Earliest Off Block Time (EOBT). An app has been proposed that would allow these pilots to send updated EOBTs to System Wide Information Management (SWIM), increasing predictability, which in turn reduces the chance that a runway queue may over or undersupplied. The benefit to the pilot to make the effort to update the EOBT is that the plane can be confidently issued a TMAT and reserve space in the queue, instead of being assigned a later TMAT at call-for-service.
>
> Some ATC specific questions that the SCT will be exploring in the upcoming months - With multiple EOBTs at the same time for aircraft of different airlines and/or function, how does the Departure Metering Program algorithm choose which planes to put ahead of others on the timeline for TMATs? Is there an effort to prevent blocks of one airline getting TMATs close together to prevent the appearance of favoritism? How is the fix mix/runway mix balanced?

**TERMINAL AUTOMATION MODERNIZATION REPLACEMENT (TAMR):** Aaron Rose (NCT) is the TAMR Article 114 Representative for NATCA. His report to the membership is below.

> New York TRACON declared ORD (Operational Readiness Decision) on April 7 to close out the Segment 1 portion of the TAMR waterfall. This means that ARTS 3E no longer exists within the National Airspace System. Thank you goes out to all NATCA TAMR representatives both retired and active. In

addition, thanks goes to the 11 facilities on the Segment 1 waterfall for all your hard work and patience during the last 6 years; without your sacrifice and dedication to the membership this could not have happened.  It was a long road with many obstacles but due to hard work and collaboration this chapter of TAMR is now closed.  This does not, in any way, mean that each of these facilities is left high and dry.  The NATCA TAMR team is available to support and assist all 11 facilities.  Working collaboratively, whether it is locally or nationally, always brings the best results.

In other news, San Antonio and Columbus both transitioned this reporting period to STARS.  Congratulations!!!  Welcome to the club.

F & E money for travel and the deployment of STARS throughout the NAS was suspended the week of April 3rd.  There were 3 facilities during the reporting period that were affected.  MWH (Moses Lake, WA) was unfortunate in that their IOC (Initial Operating Capacity) was cancelled 4 days prior to transition.  MWH is now scheduled for IOC the morning of June 11th.  R90 (Omaha TRACON) was rescheduled as was BTR (Baton Rouge, LA).  All three facilities stepped up to the plate in difficult times to ensure their membership was adequately represented.  Looking further down the waterfall, travel money has been allocated to perform IOC events and events supporting IOCs. Each R4 software briefing was initially cancelled but upon further review some will be necessary for sites to transition.  Those sites affected will be rescheduled and travel funds made available.  With limited resources available for travel some events needed to be put on the back burner to include new trackball testing.

There have been reports of trackball failures throughout the NAS that we hope to mitigate with a newly designed piece of equipment.  This test is now scheduled for April 27th at the Tech Center.

Mr. Rose has been working a number of issues.  With the approval of Section 804 consolidations in the Mid-West, training the members staying behind at the towers is of major importance.  Bill Spence (BTV) is working with Raytheon on a tower only course that will be utilized at these facilities.  Still working STARS LITE/ARTS1E site transitions, telcons are scheduled for next month.  ORD tower has now been approved for an additional TDW suite and TAMR is acquiring the funding.  Joint Control Facility Edwards automation meetings are on hold due to travel restrictions.  Coordination with the FacRep Jonathan Wigfall is complete and Jeff Woods (NATCA PMO) is working with Aaron Rose to reschedule missed meetings.  Telcon scheduled next week for CRP (Corpus Christi) on the handoff issue with Naval Air Station Corpus.
The face-to-face Article 114 meeting scheduled for April 11 was cancelled.  It was replaced with a two-hour telcon. Discussions revolved around the FAA Helpdesk and how they can better assist terminal facilities in resolution of

issues. How to convey to terminal facilities that all issues need to start at the FAA Helpdesk. NATCA TAMR will still field calls from terminal facilities though. The workgroup also talked with the new program manager for CTD (Common Terminal Digitizer), Mike Weiler. We stressed the importance of this piece of equipment to the deployment of STARS and how it impacts TAMR. TAMR has two more Article 114 telcons scheduled before our next face to face in June. Hopefully it will not be canceled as well.

Mr. Rose traveled to N90 with Jeff Woods and the TAMR agency leadership team to discuss AT Coach issues and find mitigation prior to needed fixes. We are moving forward with a work around and looking into an iSim product to bridge the gap between now and the delivery date of AT Coach fixes in September 2017.

The NATCA TAMR team spent the entire week of April 3 working thru travel issues and providing NATCA national all events affected. In the event that a CR (continuing resolution) is passed by congress and not a budget, travel for the foreseeable future will be affected. Deployment of STARS and IOC activities may not be impacted. That is the impression the agency is passing down thru the ranks.

Software & Engineering Report Submitted by Kyle Ness (M98)
MSAW/CA Board

When ARTS IIE was installed in Aspen, Colorado a method of MSAW adaptation called Terrain Contour Monitor (TCM) was developed to account for the mountainous terrain while providing terrain safety alerts. STARS software does not process MSAW the same as CARTS and TCM so the MSAW/CA board is seeking to modify existing STARS functionality to provide similar safety logic. Approach Monitor Volumes (AMVs) are typically used to provide MSAW for aircraft in the approach phase of flight. The intent is to allow AMVs to be adapted with a negative or level glide-slope and process approach paths 180 degrees of the adapted heading. This will provide the needed fix for Aspen to transition to STARS next year.

System Technical Reports Working Group (STRWG)
C90 requested longer Predicted Track Lines (PTL) when in Final Monitor mode. The length of the PTL is tied to the alert look-ahead parameter, which makes the PTL very short when in FMA mode. A previous attempt to fix the problem increased the maximum look-ahead value, which would not necessarily change the PTL length. STRWG is reviewing proposed specifications.
It was recently discovered during software testing the STARS system display priority fails to display an Interface Failure (IF) in field 5 of the data block when field 5 already displays an 'OLD' message. 'IF' indicates a handoff failure, while 'OLD' indicates a loss of the track position (LAT/LONG) and

velocity. NATCA concurred with other stakeholders to change the display rules priority to display 'OLD' at a lower priority in the clock phase, which will make the controller aware of an interface failure when both conditions are present

Conflict Alert has three components; LINCON (projected track based on speed and heading), MANCON (two aircraft maneuvering) and PROCON (current relative position or proximity). Raytheon has proposed enhancements to PROCON logic to reduce nuisance alarms especially in cases where a track pair is already diverging. NATCA is definitely interested in reducing nuisance alarms and is reviewing the proposal.

Program Trouble Report Working Group (PTRWG)
NATCA SMEs from MKE, SCT, M98 and NCT participated in the April meeting. Stakeholders reviewed several problems and improvements including:  ESFL, data playback, mirrored displays, AT Coach and tab list sizing.
Operating System Replacement

STARS will transition from the Solaris 10 operating system to the Red Hat Enterprise Linux (RHEL) operating system prior to January 2021. This will apply to all STARS G4 and G4 ELITE systems as well as the STARS Central Support Complex and Operational Support Facilities. NATCA is reviewing transition planning especially as it pertains to the operational approach. By utilizing a disk partitioning scheme and the three-processor image areas, STARS processors can simultaneously support both operating systems for transition and provide a fallback mechanism.

Upcoming System Engineering events:
S6R7 Risk Mitigation OT&E  April 24 – May 12
PTRWG                                May 11


STARS and Common Terminal Digitizer (CTD) Deployment Update Submitted by Scott Robillard (K90)

Over the past several weeks, due to Activity 5 travel restrictions, many TAMR and CTD activities were canceled. Initially, even transition activities (IOC) were canceled, meaning no site could transition from ARTS IIE to STARS or from G1 to G4 STARS. The Program Office (PMO) worked through channels to explain that the TAMR waterfall is not accomplishable and the NAS cannot transition to NextGen if transition activity is not continued. The 2017 TAMR waterfall is extremely aggressive in order to meet the congressional ADSB requirement of 2020. No STARS, no ADSB or any NextGen project.  With the newfound ability to travel for TRANSITION ACTIVITY ONLY during the travel restrictions, NATCA was able to work with the PMO to save 3 out of the 4 IOCs that had been canceled during the month of April. Moving forward in

the next two weeks are MLI, R90 and BTR. The only lost IOC was MWH. MWH has been rescheduled for June 11th. This date was selected between other IOCs in the waterfall. TAMR did not believe a cascading of the waterfall was in the best interest of the NAS. The program balanced the need to transition MWH as soon as possible without causing 3 or 4 equally important sites to be negatively affected. Stable government funding for April 28th and beyond is a topic that cannot be ignored. If another Continuing Resolution (CR) is the means of funding the government, travel restrictions will continue for TAMR, many planned activities to prepare sites may be canceled and this will affect sites transitioning in late 2017 and all of 2018. If there is a government shutdown, all activity and transitions in 2017 are in jeopardy and 2018 may be affected. This would threaten the completion of the TAMR waterfall in December 2019. Even with these challenges, the TAMR team succeeded at the following sites with these activities:

SAT     IOC on STARS G4 3/26/17. Congratulations to San Antonio.
IND     Early MDM delivery:
Tech Ops MDM Training.  Four Sony 2Ks picked up on 3/29/17. Remaining MDMs (11) to replace the Sony 2K were ordered on 3/9/17 for delivery between 4/21/17 and 4/26/17.
ELP     STAMP approval letter submitted. The STAMP is finalized equipment order for a facility.
DLH     ASR-8/Mode S/TDX Site: Radar Coverage Assessment 2 (RCA-2) was completed.
GSP     ASR-8/BI-5 Site:  Radar Coverage Assessment-1 (RCA-1) was completed.
TUL     Contractor Acceptance Inspection (CAI) The G4 STARS ELITE equipment has been installed and accepted by the FAA for TUL.
ACT     Contractor Acceptance Inspection (CAI) The G4 STARS ELITE equipment has been installed and accepted by the FAA for ACT.
BGR     STAMP has been approved. The STAMP is the official equipment order for a facility.
ILM     ASR-8/Mode S Site: pre-System Performance Verification (SPV) was initiated.
ASE      Site Implementation Review (SIR) was completed. ASE is a challenging site for Low Altitude Alert (LA). Software changes to the STARS baseline may be required and the ASE IOC date will be changed to allow for the proper software to suit the needs of the site.

MSN     Contractor Acceptance Inspection (CAI) The G4 STARS ELITE equipment has been installed and accepted by the FAA for MSN.

IOC planning at the following sites is occurring weekly: DLH, MOB, MLI, GGG, Y90, SBA, BGR, CLT, CMI, FAY, and SUX. A user evaluation of the Common Terminal Digitizer (CTD) with a suitability call is scheduled for the first week of June. Without proper funding of the TAMR program, all these activities are at risk.

NATCA TAMR Training Report submitted by Bill Spence (BTV)

Due to travel restrictions the following R4 software briefs were canceled in April. BUF, ROC, EVV, ABQ, ROW, GEG, BIL, TYS, CHA, FAI, ICT, MCI, LBB, AMA, PIT, and CRW. Mr. Spence spent a great deal of time prepping for IOC events and coordinating lost R4 briefs.

Mr. Spence worked with Chris Falcone (MDT) on completion of the tower only course. The course is complete and should be in the hands of AJI for the official approval. NATCA TAMR is planning a test run within the next two months to gauge the length of the course. The expectation is that we have a 3-day course that will save a significant amount of time and money. The current course length is 7 days.

The Simulation Strategy Workgroup will have their initial meeting the week of April 17. The workgroup will focus their attention on simulation training across the NAS.

Coordinating numerous training briefs at upcoming ARTS 2E to ELITE sites. Scott Robillard and Bill Spence joined Pat Carter (D10) and Scott Kendrick (North TX OSF) at D10 to train site SMEs. 15 site reps completed the TAMR rep SME class held over a 3-day period to ensure NATCA reps are briefed on STARS and the process of transitions.

**TERMINAL FLIGHT DATA MANAGER (TFDM):** Matt Baugh (IAH) is the Article 114 Representative for TFDM. Mr. Baugh's update is below.

**Terminal Flight Data Manager (TFDM):** Matt Baugh (IAH) is the TFDM Article 114 Representative. His update for the membership is below.

The implementation team visited Phoenix (PHX) and Mesa Gateway (IWA) towers in mid March to provide early awareness of implementation and to attempt to mitigate any risks related to physical constraints in the facilities equipment rooms.

With the travel freeze that began in late March across the FAA, the ongoing efforts of building a successful product for controllers is at an extremely high

risk.  We continue to attend meetings via telcons and view power point presentations demonstrating what CHI may look like once designed.  Use Cases are also coming in continuously, covering every requirement for the system in one-way or another.  These use cases are used to give Leidos an initial starting point for design work, so that they don't waste time heading down the wrong road.  However, the ability for our team to be physically at a terminal and in front of the contractor, Leidos, to help them build TFDM, puts us in a very difficult position in terms of meeting the needs of the NAS in a timely manor.

We attended the Training Guidance Conference (TGC) March 29-30.  During this time, NATCA, AJR-E (FAA Surface Office), AJI (Safety & Technical Training), and Leidos, began building a training plan.  Requirements, content, and schedule were all at the forefront of discussion, as we attempt to develop a suitable training plan for such a vast and customizable system.

The Program Office was able to find funds to send the 3 NATCA SME's and myself to Gaithersburg from April 12-14 to attend the first of 6 Post Release Demonstrations (PRD's) for Build 1.  At this demonstration, Leidos showed us the final product of our release 1 efforts over the last few months.  Build 2 will also have 6 PRD's as well as 3 Early User Involvement Events (EUIE's).  We are in the process of obtaining additional Build 2 EUIE's due to the importance of its capabilities and frequency with which we are expecting to utilize the scheduling tools contained within.

**Advanced Electronic Flight Strips (AEFS)**

With the travel restrictions, the training and implementation of AEFS in CLT is at risk, however, the Program Office did find a few extra dollars for our team to travel to CLT to accomplish training.  The team also continues to push through all problem reports and enhancement requests in order to improve the system for each facility and their particular operating procedures.

3M have finally, after nearly 8 months, provided us with another attempt at a 32" monitor.  Their most recent update to the 32" was found to be unsuitable for our needs and we sent it back in hopes that they would be able to perform additional modifications and enhance the clarity and touch capability.  Due to the travel restrictions, we have only been able to evaluate the monitor once, for about 2 hours, so additional time will be needed in order to make a final purchase decision.

- **PHX**
    - We are still awaiting the delivery of a new color printer for the QA position.  With no more paper strips and AEFS's multitude of color options for strip marking/highlighting, it is necessary to have a color

printer for AEFS for the purposes of training, accident/incident investigations, and general use.

- **CLE**
  - Build 5.3.0.3 has been in operation since early in the year and continues to show improvements in both reliability and speed.
- **CLT**
  - A new training schedule was published, and was slightly off from the original plan to have the facility trained by May 12th.  This new plan has training continued out until the end of May and going right up to Initial Operating Capability (IOC).  This, combined with the travel restrictions, increases the risk of not having CLT trained and using AEFS to meet their original IOC date of May 31.
  - Initial cadre training will take place the week of April 17, and will finish up with the first class of controller training that Thursday.
  - NATCA and AJV-7 will be testing, on the midnight shifts, CLT's adaptations and the stability of the build with ZTL ERAM the week of April 17.
  - ZTL will be turning off an adaptation in ERAM for coordination fixes that might cause flight strips to print with no aircraft type.  Although we were unable to find even a handful of instances of this happening in the last year, we are glad to be getting help from the ZTL ERAM team in solving this issue.
  - Cab modifications have been completed and the facility and engineering services have designed temporary strip holders for the facility to use in case of a failure.  These will be tested this week while we are testing their adaptations.

- **SFO**
  - Nothing new
- **LAS**
  - Nothing new
- **EWR**
  - Nothing new

### SWIM Visualization Tool (SVT)

We are still in the process of assessing the NAS Operational Dashboard (NOD) tool that is in use at the Command Center against what TFDM's Surface Situational Awareness (SSA) tool will be.  It will ultimately be up to the Traffic Flow Management System to finalize the capabilities of the SSA, which will be used in TRACONs and Centers across the country.

**WEATHER:**  Matt Tucker (ZTL) is NATCA's Article 114 Representative for Weather.  His update for the membership is below.

Weather and Radar Processor (WARP)

WARP has a couple of changes that are being deployed or will be deployed in the next month. A decision was made to lower the Moderate layer of precipitation on ERAM from 30 DBZ to 26 DBZ to pick up some of the precipitation that aircraft were deviating around that controllers were not seeing on ERAM. The reason for the change was under the old radar mosaic on ERAM there was only 8 levels of precipitation detection, the new mosaics that were deployed in the fall have 256 levels of detection so the moderate level use to display previously was actually showing light precipitation that would be close to the 30dbz level of moderate precipitation. Lowering the moderate layer to 26dbz will pick up some of the precipitation that was not being displayed without producing extra clutter on the ERAM display.

The next update to WARP is the high confidence mosaic; the meteorology evaluation was just completed and is in the coordination process. Once the evaluation is signed off the new mosaic will be deployed to ERAM. This mosaic will have all the data quality editing and AP mitigation algorithm's running, this will remove most of the AP and interference that controllers are currently seeing on ERAM. This should roll out towards the end of April.

NextGEN Weather Processor (NWP) and Common Support Services Weather (CSS-WX)

NWP and CSS-WX are progressing through the development stages. As part of this program is the Aviation Weather Display (AWD), this display will replace ITWS, CIWS, and the WARP displays in facilities that have them. The current AWD was on display at CFS in the Raytheon booth and most feedback was very positive and controllers expressed the desire to have the display available at the sector and not just on supervisor desk in the back of the control room.

The airport alerts on the display will be able to be inhibited at TRACON and ARTCC sites.

Remote Oceanic Meteorology Information Operational (ROMIO) Project

The Team made site visits to ZOA, ZHU, and ZMA to brief on the ROMIO project and discuss how controllers can support the test that will be starting toward the end of the summer. This project will be sending polygons to the tablet that pilots use for access to weather and flight information.  The data is derived from the GOES-E and GOES-W satellites, which National Center for Atmospheric Research (NCAR) then creates a Cloud Top, and Convection

product that will be transmitted to the flight deck via the airlines commercial Internet provider. This test is being conducted with, Delta, United, and American Airlines. The plan is to use B777, B787, and possibly A350 airframes on long haul flights. This product is being targeted for the Inter-Tropical Convergence zone (ITCZ) where there is convection almost year round. ARTCC access to the product would be through a website and will be for situational purposes only. The pilots involved so far do not really see any change in how they operate but may result in earlier requests for deviations to allow for better decision-making.


Aviation Weather Observation Taskforce

The agency has been conducting audits of Human Weather observer sites (HWO)/(LAWRS), a number of the issues that are coming up are failing to sign off the ASOS OID when a tower closes, not documenting manual observations that are required for currency, augmenting the ASOS when a sensor is out of service or sending the weather observation through AISR when the ASOS communications is out of service. The group is looking at some kind of recurrent training, as the only one that has been out in the field other than the full LAWRS ELMS is basically a refresher on how the OID works and not on how to actually take a manual observation. Recommendations are to create a national refresher instead of leaving it up to the facilities to develop their own refresher training.

Collaborative Decision Making Weather Evaluation Team (CDM-WET)

The WET team has been working on two tasks. The first is the Traffic Management Collaborative Forecast product (TCF) is a replacement for the old Collaborative Convective Forecast Product. The TCF starts with an automated first cut at the forecast and then meteorologist from NWS and industry collaborate on changes to the forecast which is then transmitted every two hours and covers a 4,6, and 8 hour convective forecast this product is available via the TSD or the Aviation Weather Centers website.  The second task is to create a convective forecast product that runs out to 24 hours and beyond for next day weather planning. The first cut of this product is running on the AWC test bed and will go live later in the year.