

NATCA Safety & Tech Update
Week of May 15, 2017

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.

Kyle Andrews, NATCA Representative to the Surface Concept Team, participated in an ATD-2 SRM Panel at CLT on May 10 and 11. Representatives from CLT ATCT/TRACON, AAL, NASA, NATCA NextGen, NATCA ATD-2, and CLT Airport attended. Here is his report. One of the goals of ATD-2 is to decongest the surface (movement area and non-movement area) by allowing planes to get to their gates potentially at the expense of planes pushing exactly on time. This is the ongoing conflict with the airlines' time-honored belief in the D-Zero metric. This is going to take a comprehensive rethink by all involved, including: airline management, ramp controllers, pushback crews, and aircrews. Any one of these entities could resist, under the guise of "this is the way we are measured for on-time performance by the government."

Possible safety issue: as ATC becomes reliant on ATD-2 technology, would that reliance make them expect ATD-2 to prevent them from doing something they shouldn't. Example - AEFS has the ability to inhibit "next logical action" when a strip indicates that a pilot has not received the most recent amendment to his flight plan. Could AEFS also be adapted to prevent a controller from rolling a closed fix? How would that stopped fix be entered into the logic for AEFS to recognize? Could ATC become dependent on that system preventing the roll of a stopped fix aircraft, and accidentally rolling one when the AEFS isn't updated in a timely manner? Is this any worse than what happens today, when a controller is expected to have this knowledge from an updated IDS4, but either the IDS4 is not updated or the controller isn't aware that there has been a flow change?

The determination of the safety panel was that there was no credible likelihood of any of the various aspects of ATD-2 being a hazard to the participants (ATC, pilots, ramp). On the contrary, the increased information sharing and resulting situational awareness should increase safety. Although there are possible scenarios where ATD-2 might give erroneous information, the expectation is that the affected party would quickly realize that ATD-2 is temporarily faulty, document the situation for analysis, reject ATD-2's data output, and revert to pre-ATD-2 procedures.

In the Phase 1 ATD-2 ConUse document, language was used that implied that CLT AAL Ramp Control has authorization over tactical metering to improve efficiency in the short term (10 to 20 minutes into the future). This is contradictory to the SCDM ConOps, which gave the 51% vote on implementing any metering program to ATC.

It has to be made clear every time this subject comes up that if anyone other than ATC is authorizing any form of surface metering, that it is only if ATC has temporarily ceded that authority, but ATC still has final say. A rationale for allowing another entity other than ATC to have metering authorization power is that there is a difference between tactical metering, which takes place within the Departure Metering Program (DMP) planning horizon freeze (typically 30 minutes), and so is out of the ATC Departure Reservoir Coordinator's (DRC's) purview. However, the 30 minute planning freeze window is a changeable metric, and a change could produce a time overlap of jurisdiction between ATC and the Ramp Coordinator, which should be avoided. SCT members present at the safety panel worked with NASA to amend the ConUse language to designate ATC as the 51% vote on any metering, but that ATC could designate another party with the role of introducing a metering program, as long as ATC was informed in a timely manner. NASA will draft a proposed amendment to the ConUse that the SCT will review.

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

Hybrid Mode, WAM, IOC, software, and TWP1; these five things took up most of the month. MDM (Main Display Monitor) evaluations continue throughout the NAS and within the WJHTC (William J. Hughes Technical Center). Both TPA and S46 have been testing hybrid mode, FSL (Full Service Level) with a digital feed and EFSL (Emergency Full Service Level) in analog. TSLE (Second Level Engineering) would like to go nation wide with this configuration. It seems that the shifting, blanking, and vertical lines reported go away with a digital feed. TAMR NATCA has advised the agency we support the initiative as long as in parallel, testing is done for a digital switch that will run both systems in digital.

WAM (Wide Area Multi-Lat Radar) will be available at SCT at the end of the summer. With this new radar input it should fix the tracking issues in the LA basin that is caused by poorly placed ASR9 radars. SCT seems to be the only facility that is having major issues with tracking. In the short term TSLE will once again deploy resources to SCT. They will be working with Mike Sanders (SCT) and Matt Morter (SCT) to improve the tracking portion of the adaptation.

Mr. Rose attended the Baton Rouge, LA transition from ARTS 2E to STARS ELITE on April 22nd. The transition was smooth, the facility ready, and Greg Jahn (NATCA OSF) played an important role ensuring BTR adaptation was up to par and issues corrected.

Tech Center testing the week of May 8th saw the conclusion of a three week software test which included a trackball test and evaluation. NATCA TAMR is taking seriously the reports from the field about poorly performing trackballs. We have tested and made suggestions about trackball cursor speed that should be changed in software.

TWP1 (Terminal Work Package 1), which includes improvements to software within the STARS baseline were tested by the Terminal CHI team this reporting period. TWP1 will now become part of the TAMR teams' responsibility for testing and evaluation. It includes upgrades and new functionality like inter-facility pointouts. Utilizing the keyboard for more ERAM functionality vice using the FDIO and includes spacing and sequencing functionality.

Mr. Rose is working closely with Mickey Vitti (ART 114 ATPA Rep) on the turnover of duties to the new ART 114 ATPA Rep Adam Rhodes (I90). ATPA will eventually be baseline STARS. NATCA TAMR is looking forward to working with Adam.

Working Nashville's request for early MDM transition. Training of tech ops starts in early June with MDM transition scheduled later in the month. This is almost a year earlier than scheduled.

Jeff Woods (ART 114 PMO) and Mr. Rose have been working the Corpus Christi (CRP) and Joint Control Facility (JCF) issues. Coordinating with the DOD (Department of Defense) to ensure NATCA members at each facility have the proper functionality to ensure a safe operation.

Congratulations to R90, Y90, BTR, MLI, and MOB on achieving IOC this reporting period. Each facility was very unique with one exception, the controllers. They were prepared and helpful at every step.

Mr. Rose attended numerous meetings and telcons to include weekly TAMR Segment 2 deployment telcons, N90 Post ORD, hardware system engineering, IOC, ORD, adaptation, STRWG, and PTR meetings. Coordinated SME releases for Moses Lake (MWH) training, and TWP1 meetings scheduled at MITRE end of May.

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

After several weeks of travel restrictions due to Activity 5, TAMR is getting back on track. During the Activity 5 restrictions, TAMR was limited to those activities that were directly linked to Initial Operating Capacity (IOC) supporting events. This required that work on future transitions be delayed while we all waited for a funding bill. With that behind us, a major reworking of the waterfall is being accomplished to make up for lost time. This includes all ARTS IIE to STARS G4 ELITE, G1/2 to STARS G4 and G1/2 to STARS G4 ELITE.

The Common Terminal Digitizer (CTD) is scheduled for an Operational Test and Evaluation (OT&E) for the week of June 5-9, 2017.

NATCA will have a team of 4 on site: 3 controllers who have seen the CTD at prior events and 1 engineer. As the system is currently configured, there are known issues with the CTD: some are hardware related and some can be fixed with software. The PMO is on track to have the issues resolved. NATCA nationally has entered into an agreement to achieve IOC at the 2 Key Sites (RFD and ROA) with a limited number of outstanding issues.

On May 17, 2017, NATCA will be meeting with the CTD PMO, AJV-7, PASS and AJW to draft what is being called the Initial Operating Capacity (IOC) to In Service Decision (ISD) agreement. This plan will spell out specific system states with workarounds for controllers and technicians during this IOC to ISD period. As part of the agreement, no other CTD system can achieve IOC until all listed issues are resolved and a regression test is satisfactorily completed. This approach will allow the PMO to move forward and meet waterfall and APB milestones. Tech Ops training can be completed while holding the vendor and PMO accountable to bring the system to a truly operational and fully functional state within a defined period of time. Until the agreement is fulfilled and all listed issues are resolved, no other ASR8 will be digitized with the CTD and no sites other than RFD or ROA will have access to the sensor feed.

As the CTD prepares for its first IOC in January 2018, installation and deployment activity increases. The ASR8s across the NAS are in a very uneven state of performance. Some perform well while others have had issues that span years. To address program management deployment issues, NATCA has partnered with TAMR to bring well-defined deployment strategies to a new team in the surveillance group. Later this month, NATCA AT and engineering SMEs will be joined by the CTD and TAMR deployment teams for a joint meeting to further refine the deployment process and to help manage the state of the ASR8 in the NAS.

Major activity since the last update:

R90 Omaha TRACON (R90) achieved IOC on STARS G4 ELITE on 4/19/17.

BTR Baton Rouge (BTR) achieved IOC on STARS G4 ELITE on 4/22/17.

MLI Moline Tower (MLI) achieved IOC on STARS G4 ELITE on 4/24/17.

Y90 Yankee TRACON (Y90) achieved IOC on STARS G4 ELITE on 5/10/17.

MOB Mobile, AL (MOB) achieved IOC on STARS G4 ELITE on 5/12/17.

These 5 transitions have eliminated 3 MORE ARTS IIE from the NAS and 2 aging G1 systems! Congratulations to the facilities and all those involved in the transition.

SAT San Antonio, TX (SAT) achieved IOC on G4 STARS 3/26/17. ORD was declared on 4/28/17 and the old G1 system has been decommissioned and will be uninstalled.

IND MDM (11) transitions have begun. The legacy Sony 2K displays are being removed from the operational area. .

MKE STAMP approval letter submitted. The STAMP is finalized equipment order for a facility.

BHM Site Prep: On-going. Adaptation for the new system has begun.

ASE Site Implantation Review (SIR): The SIR is the activity where the PO reviews all site prep work to ensure the site is ready for equipment delivery and install of STARS.

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FAY Initiated IOC planning telcons.

GGG Initiated IOC planning telcons.

BGR Initiated IOC planning telcons.

SBA Initiated IOC planning telcons.

MWH Initiated IOC planning telcons.

PSC Initiated IOC planning telcons.

Software & Hardware Engineering Submitted by Kyle Ness (M98)

MSAW/CA Board

The Board has been looking to acquire improved and more accurate terrain information other than Digital Terrain Elevation Data (DTED). National Elevation Dataset (NEDS) was the suggestion from AVN. There are 3 types of NEDS data with as much as 400GB in one dataset. The benefit would be a gain in granularity but the large datasets can pose problems. Until the board has better tools to handle large datasets, the Board agreed to not move to NEDS and continue with the DTED data.

The Board reviewed a report from A90 that an IFR aircraft acquired in VFR status with MSAW processing inhibited. Further investigation showed the condition was controller induced, but the investigation process also revealed an issue with STARS playback, which explained why the problem was initially misidentified. A PTR will be opened to fix the problem.

System Technical Reports Working Group (STRWG)

Good news is that a proposed enhancement to the STARS weather display is said to be coming soon. This is in response to the NATCA's push to improve on distinctions between various weather levels with something other than light and heavy stippling.

NATCA and AJV-7 recently elevated a condition related to aircraft weight category not syncing correctly from STARS FSL to EFSL. It was discovered that when switching to EFSL, the software is attempting to derive aircraft weight category and synched weight class simultaneously, which produces varied and undesirable results. The proposed solution and change to requirements are under review.

Stakeholders are discussing the feasibility/option of allowing STARS the ability to display the NAS ERAM assigned flight plan assigned altitude (Field 08) on a terminal track and use that altitude for STARS automation processing.

Proposed solutions to two problems reported by C90 are nearing concurrence by all stakeholders.

Program Trouble Report Working Group (PTRWG)

NATCA SMEs from D10, PHL, TPA and NCT attended the May 11 meeting at the tech center. Among items of interest were: ATPA transfer to EFSL, STARS display duplication, military alert suppression zones, disassociated beacon codes and restriction areas.

Operating Testing and Evaluation

NATCA SMEs from M98, PHL, SCT, D01, ABE, NCT, BTV, TPA and P50 participated in three weeks of software testing at the tech center April 24 – May 12. In addition to testing new functions, SMEs conduct numerous tests to ensure merged function perform as expected. NATCA SMEs identified five discrepancies during testing that will be reviewed by the Discrepancy Review Board and will eventually move to PTRWG.

NATCA SMEs had a chance to test two prototype trackballs at the tech center, each proposed to replace the existing STARS trackball. Comments were focused on the movement of the cursor and the structure of the hardware. One had a very fluid motion and the other is a very resilient design almost impervious to contaminants. Another review session with revised prototypes is planned for the future.

Upcoming System Engineering events:

S6R6 RFR OT&E	June 12-30
S6R4a RFR OT&E	June 19-30
PTRWG	June 8

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

A few representatives from the NY area (ZNY TMU, ZNY NATCA TMC, LGA ATM) came down to DC on May 11th for a demonstration of the 3T (TFDM, TBFM, TFMS) programs and how the subsumption of their Departure Spacing Program (DSP) would be accomplished. They shared concerns of such a widespread switchover, covering ZNY, N90, EWR, JFK, LGA, TEB, ISP, HPN, and PHL. Mainly concerned with covering a switch from all 3 phases of flight in a single switch.

Their other main concern was the deteriorating status of DSP as it stands today, and that TFDM will not subsume it until 2022; how do they make it work between now and then when it's already on it's last leg?

We, unfortunately, did not have an answer for that but we intend to help them in any way we can.

There is a MITRE 3T meeting set for 5/31 and 6/1. This would be the third such meeting with MITRE, designed to give an early look at the functions of all of the 3T programs and how they will work together. The primary focus for this meeting is the surface, so it is unfortunate that the freeze for travel will likely push this meeting back until sometime later in June or July.

Advanced Electronic Flight Strips (AEFS)

With the travel restrictions, the training and implementation of AEFS in CLT is still at risk, however, the Program Office was able to 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.

The new 32" monitor from 3M was approved by NATCA and AJV-7 as suitable, and a purchase order is being made this month.

- **PHX**
 - Nothing new
- **CLE**
 - Nothing new
- **CLT**
 - Began training the local cadre team the week of April 17, and will continue with the rest of their bargaining unit until their new IOC date of June 13th. Currently, 37 of 62 BUE's have received the training.
 - They began "Shadow Operations" the week of May 4th and will continue through their IOC, to supplement their training.
 - NATCA and AJV-7 Requirements was also in CLT to test local adaptations with ZTL's ERAM adaptations and for the tech center to do regression testing; both tests passed.
- **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.

However, more concerns have risen the last month with rumors that this prototype is being used in operational areas without NATCA's collaborative efforts.

Traffic Flow Management System (TFMS): Brian Campos (DCC) represents the NATCA membership as their Article 114 Representative to the TFMS project. His report is below.

April moving forward is the time to refocus and reorganizing how TFMS DT will adapt to changes bestowed upon them. With the TFMS system growing as one with external systems (like ERAM) and parallels (like TBFM) into one NAS system will be a struggle given everyone's current dedicated role in their system.

Previously, TFMS DT (Deployment Team) solely dealt with being handed tasks from AJV7 and determining how to marry them into the existing TFMS system. Within the last 20 months, that has changed to include testing with enhancements and system bug fixes to improve the systems health as things get missed or dropped in order to get the full value of the TFMS system. This role becomes now more important as TFMS reliability is in discussion to be on a better path in meeting this new challenge. The TFMS DT is finishing up fixes for the recent release of Protected Segments along with the long awaited tool of the RAD with ABRR and PDRR capability. This is only the first phase of the RAD tool and necessary for additions to be added to it to make the tool completely fully NAS capable which in its current initial deployment state is not.

Shortfall RAD additions need to require development such as Field 11 amendments for PDRR and soon after ABRR. ABRR field 11 will help correct failures to communicate readily system strategies to the controller such TMIs as Capping and Tunneling. Additional requirements lacking, include the first tier facilities and Command Center SVRWX area to have the ability to share a needed RAD tactical reroute to a neighboring facility and for the Command Center to share with any facility. Command Center today is the largest issuant of Tactical Reroutes to a number of facilities to adjust and manage regional changes with strategic alterations based on changes in multiple weather systems NAS wide. These Command Center initiated primarily ABRR tactical adjustment can address airborne flights movement up to 5 hours.

Today these activities are done through phone calls or NTML which are primitive and the reason the RAD was built but only internally for a facility on the first release.

The group is using the current shortfall list from the development of the RAD tool and adding it to many other much needed enhancements to current tools. These enhancement resolution can make the difference of making a previous poorly designed tool, to a highly desirable and functional tool in the current and future system. Tools such as RRIA and CTOP along with baseline

enhancements are just a few that will need attention. Team continued the list for categorizing and prioritizing necessary enhancements for the system. This is a task that will require a lot of work since it was never allowed to be fully addressed by the deployment team which meant it never reached a truly operationally proficient team to determine value and priority. This has been a big loss to delivery and sustainment of a tools success and looking for change in the future.

Team reviewed the changes to deliver a Roadshow product which provides field Enroute TMCs the chance to discussion and demonstrate with qualified personnel to teach the tools and related concepts. The Roadshow funding is constantly at risk due to current times, however the team will have it ready to go at a moment's notice when called upon.

Finally, Reviewed the status for Patch 9 delivery to TFMS which in conjunction with ERAMs update of 600 will allow ABRR and PDRR with the RAD functional. TFMS side feels confident the fixes should cover the problems discovered in January. First facility is expected to have Protected Segments and RAD with ZLC on May 7th.