NATCA Safety and Tech Update

Week of March 19, 2018

FLOW EVALUATION TEAM (FET): Tony Smith (DCC) is the Article 114 Representative to the Flow Evaluation Team (FET) for Collaborative Decision Making (CDM). His report is below.

The CDM/FET subgroup is finally meeting again after months of cancellations due to budget uncertainties. Our next meeting will be a Human in the Loop (HITL) testing of the Integrated Departure Management (IDM) tool with NASA. That testing is being planned for March 20-21, 2018. This project is working on combining a controlled departure time to an airport (such as a GDP/AFP or CTOP) with a required time to arrive at a fix in order to blend in with the TBFM into the destination.

The team will meet again at the end of April during the Spring CDM General Meeting in Memphis, TN. We hope to resume work on the possibilities with the Airborne Reroute (ABRR) and Pre-Departure Reroute (PDRR) capabilities and with the use of Mexican SWAP Routes.

NAS MONITORING EQUIPMENT (NME): Corrie Conrad (PDX) is the Article 114 Representative for Navaids Monitoring Equipment (NME), Integrated Control Monitoring System (ICMS) and Remote Radio Control System (RRCS). Ms. Conrad's report to the membership is below.

RRCS Update

Vendor will be chosen at the end of March.

ICMS Update

ICMS Pop-Up Window Issue at Cleveland (CLE) – week of March 12, 2018. Having a follow up telecom this week.

Because all the ICMS systems are baselined using Local NCPs, all parties (FAA parties, that is) agree that CLE needs a new Local NCP to show the Workstation version change from Version 4.6.0 to 4.6.1.

Because a Local NCP cannot be approved before the proposed installation date (early March), CLE Techops will issue an Emergency Mod that will allow them to get the change installed before the Local NCP is actually approved.

ICMS Power Supply Upgrade at 12 sites – starting early March, 2018

OKC AJW team has a contract in place with NBP to upgrade the power supplies at 12 ICMS sites.

AJW initiated an NCP to get the upgraded ICMS power supplies approved for connection to critical power at ATCT facilities.

Currently, ICMS is not officially approved for use with ATCT critical power.
ICMS needs to be connected to conditioned, uninterrupted power (i.e., critical power) because, if power to the ICMS is interrupted, any radiating (ON) ILS system will automatically turn OFF, which is extremely undesirable.

UIC

Installation of UIC Rev 3 "Restricted" software at Houston Hobby (HOU) – Week of March 26
Rev 3 Restricted will not allow any additional navaid interfaces (than those currently available) to be connected to the UIC.

Rev 3 Restricted is the first test of the mods needed to implement Far-Field Monitor (FFM) policy changes that were included in Change 2 to Order 6750.24E.

The installation will include software mods to the UIC, as well as a firmware mods to the ILS LOC and GS stations, and their respective RCSUs.

NME

No new update

SURFACE CONCEPT TEAM (SCT): Kyle Andrews (ORD) is the NATCA Representative to the Surface Concept Team (SCT) for Collaborative Decision Making (CDM). Mr. Andrews forwarded the information below for the membership.

The SCT and CAT held a joint telcon on February 28. Also attending were representatives from major airlines, NBAA, the NASA/ATD-2 team, and representatives of CDM airports.

Once again, there was lengthy discussion about the benefits being realized at CLT airport as they implement Surface Metering and automated call for release. A point of emphasis is how the tech transfer from NASA to the FAA can be accomplished in such a way that the general benefits are easily translated to other airports beyond CLT. There is a concern that the automation being developed to handle live traffic is reflective of specifically the CLT Airport environment, and some benefits will be lost at introduction to future airports if the automation cannot be easily tailored to their specific details.

The other major discussion focused the percentage of CDM vs non-CDM operations at the top twelve airports (top twelve ranked by number of operations). Early in this project, there was a

concern that LAS, with a significant portion of its traffic being General Aviation, would not be easily adapted to SCDM automation, because the automation is dependent on accurate pushback projections and taxi out times and this could be a hard metric for GA pilots to provide. However, the highest percentage of non-CDM aircraft occurs at JFK, which has been running a reduced form of Surface Metering for over a decade, providing measured benefits for all users. By focusing on how JFK handles its non-CDM participants, SCDM should be able to translate those benefits to airports like LAS, LAX, and FLL with their high number of non-CDM operations.

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

HUF joined the STARS family in February completing the 68th out of 94 ARTS 2E/1E to STARS transitions. In addition, OKC transitioned from legacy STARS to STARS G4 ELITE. Both facilities were a joy to work with and no problems reported at either site. Thank you, HUF and OKC, for watching out for your controllers and always demanding the best from NATCA TAMR representatives.

Issues continue to crop up from legacy equipment throughout the National Airspace System (NAS). Sony 2K monitors at Corpus Christi need replaced as soon as possible and NATCA TAMR is attempting to deliver new Main Display Monitors (MDM) early, in the meantime we are working with local tech ops to ensure everything that can be done to improve the displays is done. Issues with the display of weather from ASR11 and ASR8 radars continue to plague both large and small facilities. There is a new firmware build that is being tested for ASR11 radars to improve the way precipitation is interpreted. Upon completion of a successful test this firmware will be released throughout the NAS. Matt Tucker (NATCA ART 114 WX) is working with AJW (FAA Surveillance) and NATCA TAMR pushing for the same fix on ASR8 radars. Talks are underway and more information to come in the following months. Equipment delivery was completed for the 6 new Tower Suites for Chicago O'Hare tower. Install will start in late March to early April.

Mr. Rose spent a week in Marlborough, MA with Operational Support Facility (OSF) NATCA and Kyle Ness (M98 NATCA) reviewing an upcoming software build. We refer to these early looks as playdates. Randy Garcia (Denver OSF and Terminal Automation lead) led a team which reviewed upwards of 30 improvements the OSF uses and will eventually make life easier while creating adaptations. Mr. Ness and Mr. Rose reviewed 20 improvements. This new software will be released late in 2018 or early 2019.

R3F software, which will only be released at SoCal Tracon (SCT), was tested the week of March 12th. Mr. Rose worked with Mike Sanders and Matt Morter (SCT NATCA) to review the tracking update which will be released in the next software build, R6A. Testing completed March 15th with install on the SCT operational string on March 29th.

NATCA TAMR is continuing to work with Raytheon and FAA PMO on the new Tower Display Monitors (TDM). Operational tests at the William J. Hughes Technical Center last month produced 4 discrepancy reports. There is an issue with reading text from a position greater than 45 degrees away from the display. Glare in natural light is the other issue that needs to be mitigated. EIZO, the company which produces the monitor is developing filters and one display which is bonded, meaning the glass is bonded directly to the LCD screen. More testing with mitigations will be held in the May time frame.
March 13, 2018 TAMR held its Article 114 meeting via telcon. Discussed how R8 software would be released and how facilities not on the Terminal Spacing and Sequencing (TSAS) tool would have usable software. We agreed to have two OT&E events. One with TSAS enabled and one with TSAS inhibited. This will ensure TSAS facilities will have updated software even though TSAS may not be found suitable. Discussed TDM production, mitigations, and waterfall impacts. Potomac Tracon is in the midst of testing the new optical trackball. Two are installed on the training and support string with two more being delivered by end of March. All four will be installed on the operational string in early April and used on a daily basis. This will prove the reliability prior to the agency purchasing hundreds as replacements.
Mr. Rose participated in numerous telcons throughout the month. Weekly telcons include NATCA/TAMR PO, SRMP, and Hardware systems engineering. Completed OKC IOC telcon, SAAT bi-weekly, STARS/TSAS, EGE CAI out brief, TAMR look ahead, and MKE ELITE shakedown telcons.

TAMR NATCA Training submitted by Ross Costa (RSW)

Mr. Costa traveled to ALO for an on-site training briefing in mid-February. During this meeting, we discussed the training schedule. We also held an additional meeting with Management and NATCA to discuss the entire transition to STARS. We have scheduled S6R7 Material Review for April 2-6. Bill Spence (BTV NATCA) will be travelling to El Segundo for this review. We have also scheduled a March 22nd test at Raytheon to ensure that the R7 functionality changes are tested by Mr. Spence. We are working closely with Mike Sanders (SCT NATCA) who is currently designing an ELMS course for ATPA. We will attempt to incorporate some edits into our STARS course materials.
In early March, Raytheon and NATCA began reaching out to 804 transitioning sites in an attempt to develop training plans for those transitions. We are working closely with deployment to address scheduling and training concerns for those transitions.

TAMR Software/Hardware Report Submitted by Kyle Ness (M98)

<u>System Technical Reports Working Group (STRWG)</u>
Stakeholders are reviewing a software modification to change preference-set priority and sign-on reporting when a trainee and OJTI sign-on to STARS. Stakeholders also came to agreement on an improved method to alert controllers when safety alerts (CA/MSAW/MCI/MASZ) have been inhibited system-wide via keyboard command. This improvement will more robustly show these indications in the system status area on the STARS display by using color and adding more descriptive text.
<u>MSAW/CA Board</u>
The Board meeting with Raytheon to discuss expectations and methodology related to proposed software changes designed to reduce nuisance Conflict Alert alarms. The general idea is to define the criteria for successful reduction of alarms while ensuring that reduction does not

degrade existing safety performance. Additionally, the group discussed what data should be used to test the software as well as the process to get that data. It was agreed that data collection should focus on dense traffic sites that consistently report excessive alarms with parallel and triple landing runways. NATCA will work with the Board to identify potential sites.

Operating Testing and Evaluation (OT&E)

Aaron Rose and Mr. Ness attended a software preview at Raytheon's campus in Marlboro Massachusetts. There are several functions and changes coming in the R9 build and getting an early look at these changes allows the Raytheon software developers to use NATCA feedback and make applicable modifications before a formal build is delivered to the agency. R9 will bring several changes that controllers will see on the glass such as improvements to ATPA, point-out data blocks and coordination lists. A major change will be a new way to move lists on the STARS display – tab lists, SSA, coast/suspend, etc. By using the center trackball button, controllers will not only be able to see the location of all lists on their display but can relocate lists by simply selecting with the middle button and moving the list with the trackball. This not only rectifies a long-held complaint about list overlap but gives controllers a great tool to place lists exactly where they want.

The current STARS Tower Display Monitor (TDM) made by General Digital has been declared end-of-life and is due to be replaced by the digital TDM made by EIZO. To ensure the new TDM performance meets or exceeds existing hardware, an OT&E event was held at the Tech Center's mock tower in Atlantic City. NATCA SMEs from MDT, TLH and GEG participated in testing and evaluation and found significant shortfalls of the new TDM when compared side-by-side to the current TDM. SMEs spent two days examining the old and new TDMs at different times of day and with varied light levels. They observed undesirable glare/reflections, blurred text and other anomalies all of which prevents the OT&E from meeting successful exit criteria. Discussions are ongoing with Raytheon and EIZO as to options to resolve these discrepancies with an improved product tentatively to be delivered in May.

NATCA SMEs from A90, ABE and PHL will conduct OT&E for the R4c build March 20-22 at the Tech Center. This build will support sites using new hardware routers.

NATCA SMEs from PCT, M98 and A80 will attend STARS Enhancements 2 exercises at MITRE March 20-22 as well.

Program Trouble Report Working Group (PTRWG)

NATCA SMEs from M98, SCT and PHL will participate in the March meeting. SMEs will rank a number of new software improvements and fixes.

TAMR Deployment and Common Terminal Digitizer (CTD) Update Submitted by Jim VanZee (GRR)

HUF IOC on 3/4/18 (ARTS2E to STARS) - this was 68th out of 94 on the Seg2 waterfall
OKC IOC on 3/4/18 (Tech Refresh)

CTD deployment is moving forward with one remaining Air Traffic related PTR to address. The remaining PTR (WX related) is expected to be lowered to allow key site IOC. Tech Ops training is on schedule. Expecting to IOC STARS and CTD at 3 key sites (ROA, RFD, BFL) in June 2018

Operational Support Facilities (OSF) Update Submitted by Scott Kendrick (North Texas-OSF)

- Attended the S6R9 software playdate at Raytheon Feb 26th –Mar 2nd. Evaluated TAMR site rules that are being implemented into the STARS baseline.
- Attended TAMR/STARS TSAS telcon, continuing to work issues with the "TBFM in a box" simulator. Working with P50 and OSF's on identified risks.
- Attended the TSAS Ops meeting at WJHTC Mar 5th – Mar 9th.
- Traveled to Denver OSF 3/19 – 3/23 to work early procedures to connect TBFM in the box to STARS in order to support TSAS adaptation, development, and testing.
- Attended the STARS/TAMR Program Trouble Report Work Group (PTRWG) telcon – Reviewed and ranked current PTR's.
- Attended the System Technical Reports Working Group (STRWG) stakeholder's telcon and reviewed thin specs for requested changes to STARS software.
- Attended the TAMR Look Ahead, TAMR TAGUP and OSF Technical telcon.
- STARS Strategic Planning Meeting (SSP): Coordinate and get feedback on integrated hardware and software planning among TAMR stakeholders, identify risks to the hardware and software plan and propose risk mitigation solutions with stakeholders' input.
- Attended the STARS Pre-CCB telcon: bring forward potential Change Control Board (CCB) changes and adjudicate the benefits and impacts with all stakeholders.

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

The last week in February Leidos hosted an Integrated Baseline Review (IBR) for Build 2, which will contain the Surface Metering portion of TFDM. This IBR resulted in 0 major and 1 minor issue, with 17 action items to the FAA and Leidos. This is a great first step in the design process and paves the way for the remainder of the build schedule.

One concern for TFDM is the security/connectivity of ATD-2, the surface metering prototype in CLT (Art.114 is Pete Slattery, CLT), and the connection with the prototype advanced electronic flight strips (AEFS). You can see Pete's updates for additional information, but the risk is with the timelines. Different connections require different security clearances and we missed one with ATD-2 and AEFS. No functionality will be lost on either program, but the waterfall may slip a few months.

The Program Office has begun review of the most recent J6/10/11 documents, dealing with requirements, waterfalls, etc. One new requirement we are adding and finalizing is the ability to handwrite on the electronic flight strip. We have chosen to stay with nearly the same method as is available in AEFS. The hope is that the system is flexible enough for the TFDM facilities to not need handwriting, but you never know.

Meetings have begun with the Time-Based Flow Management (TBFM) and Traffic Flow Management System (TFMS) groups to finalize requirements that each of our programs is asking of the other. Most of these deal with how the interfaces will react with one another, who has

priority and when. A major component of these interfaces will be the gathering of APREQ times from Integrated Departure/Arrival Capability (IDAC) and how that will appear on the electronic strip.

Another risk with TFDM is the training and the associated schedule. It is going to take each site and its NATCA administrators/cadres about 6 months to build their facilities configurations/adaptations. Currently, Leidos has the configuration/adaptation formatted in XML, which is nearly impossible to read if you've not had extensive training. They are working on a more controller-friendly user interface, but until that is completed, each site will need assistance from Second Level Engineering to create their configurations. This risk is more associated with the logistics of getting each site up and running than it is with the capabilities of the system, but it is something we are very aware of and are trying to mitigate.

Advanced Electronic Flight Strips (AEFS)

Suitability testing for the next build, 5.4.0.0, was completed on Thursday, March 15 (beware the Ides) and an official Suitability call from AJV-7 (Requirements) and NATCA was sent to the Program office. NATCA representatives from PHX, CLE, CLT, EWR and IAH were all in attendance for the testing and during an out-brief Thursday, made the determination that the build was ready to be installed in CLT, PHX and CLE.

The next build, 5.5.0.0, and its requirements are still being worked but there is a working date of late August for its suitability testing and installation sometime in September. This build will be mostly dependent on what CLT will need with its interface with ATD-2. There will be other improvements/enhancements made, but CLT and ATD-2 will be the priority driver of requirements.

- CLT
  - Training is underway for the new build, 5.4.0.0, and site testing will begin Monday, April 2. If the site gives their final approval, the build will be left on and support will be provided through April 20.
- PHX
  - Nothing new
- CLE
  - Nothing new
- LAS
  - Nothing new
- SFO
  - Nothing new
- EWR
  - Nothing new

SWIM Visualization Tool (SVT)

ZBW is still in the process of getting the program office its IP addresses for the screens they want to display SVT on. The current working date is to have them reach Initial Operating Capability (IOC) late March.

VOR MINIMUM OPERATING NETWORK (MON): John Vogelsang (P31) is the Article 114 Representative on the VOR MON project. His update is below.

The program held an initial educational meeting at ZFW this month. We are planning another one for ZOB on 3/21. We will be having our semi-annual program meeting in DC next month. The following VORs have entered the NR process for decommissioning:

YRK-York, KY

ORW-Norwich, CT

BML-Berlin, NH

TEB-Teterboro, NJ

CRI-Canarsie, NY

LDK-Crimson, AL

EWO-New Hope, KY

WAKE TURBULENCE: John Murdock (PHL) is the Article 114 Representative to the Wake Turbulence Office for NATCA. His update for the week is below.

RECAT Monthly Update, March 2018

SAT and PHX initial meetings where canceled and SAT was rescheduled for April 5th. PHX initial meeting has not been rescheduled at this time. DTW/D21 is concluding workforce training in the next two weeks and will go IOC on March 27th and 28th.

SAT should be the last facility to implement Wake RECAT. Every facility going forward, that is currently identified to implement Wake RECAT, should implement the Consolidated Wake Turbulence (CWT) separation standard.

The CWT separation standard eliminates the majority of the negative effects of Wake RECAT. We will begin implementing CWT at facilities on the waterfall for Wake RECAT once the order is signed. The SMS is almost completed for the CWT and the SMRD should be finalized in the coming weeks.

The number of implementations will increase in the second half of 2018. Six facilities are identified to implement by the end of 2018 and two in 2019. Once all facilities that are identified for Wake RECAT have implemented the goal is to implement CWT NAS wide and incorporate it into the 7100.65