NATCA Safety & Tech Update
Week of September 19, 2016

DATACOMM: Chad Geyer (ZLA) is the Article 48 Representative for DataComm. Below is his update.

> The Tower Data Link Services (TDLS) Version 12 has been deployed to 54 sites and only 18 remain. 44 of those sites are Controller Pilot Data Link Communication (CPDLC) capable and only 11 remain. Across the country, approximately 1600 CPDLC clearances are being sent everyday with that number increasing as more sites become operational and additional aircraft begin to participate.
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> This week I thought it would be a good idea to cover AIMS reports. AIMS stands for Automation Issues Management System. This is the system that is used to track problems with Tower Data Link Services (TDLS), flight deck issues, automation issues, network issues, and also a way to track enhancements that the field would like to see added to the system. Each facility has a local 48 team comprised of one management lead and one NATCA lead. These individuals have been trained to be able to enter this information into AIMS. One thing that you can do as a controller is to document as much information as possible for your local 48's so when they enter the issue they can give the program office enough information to fix the issue. When you document the issue to give to your local 48 team, please include the ZULU time that the event occurred, what was the status of the different Icons on the TDLS display was there any other strange things happening at the time you wrote the issue? You should also include the flight ID and CID with the flight. Also please include if the issue you saw was in history, the pick list, the CPDLC list or even the PDC list. Where there any flight ID's that were grayed out or were buttons not available to be selected when you thought they should. If there was an alert box, what did it say? There should be a form next to your TDLS system to fill things out for your local 48. It is not a bad idea to request the strip to include in the report.
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> AIMS reports are also a good avenue to report flight deck issues. When a pilot tells you he can't logon or the route doesn't match or anything else that seems incorrect, write it up. Issues that affect flight deck training are passed along to the airlines to help address their issues. We also have avenues to address network and radio coverage issues as well.
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> Just remember that we cannot improve the system unless you give us the information to make it better.

ENROUTE AUTOMATION MODERNIZATION (ERAM): Julio Henriques (ZNY) leads the ERAM efforts for NATCA. This update is provided by Dan Mullen (ZID).

- The En Route radar displays are due to be replaced soon, and the National User Team (NUT) and Computer/Human Interface (CHI) have been evaluating possible replacements. They have been doing site analysis to see if a larger monitor is feasible. Bigger monitors are desirable, but the size limitations of the consoles is a problem at side-by-side sectors and sectors that rely on strip bays. An eval is planned the week of Sep 26 to get a hands-on test of potential replacements.
- The National Packaging Team (NPT) met the week of Sep 5 to determine the content of the next few ERAM builds. The next two major releases, EAD600 and EAD700, have very large amounts of new content, so testing and deployment will be challenging. They are planned to be released by December, and early next summer, respectively.
- The ERAM National User Team (NUT) meeting was held in Scottsdale AZ, September 13-15 2016. The Tech Reps from the EnRoute facilities, Second Level support from the FAA Technical Center, Data Com team members, and NATCA National Representatives were in attendance. Some highlights:
- <u>GIMS</u>
- Michelle Simmons and Christ Medina briefed on the status of GIMS. They discussed the existing issues with the system and the current and proposed deployment. A task team is in place to provide support for this capability.
- <u>Sector Enhancements</u>
- Three sector enhancement topics were briefed: Path Stretch, 3-Mile Conflict Probe and AIMMs S3 SAA Capability. Task teams were formed for each capability and that team will meet to review the material and create use cases as appropriate.
- <u>Inconsistent Aircraft Types CAR</u>
- A briefing was given for the Corrective Action Response (CAR). The issue is a discrepancy ERAM and STARS reference aircraft types. Certain STARS tools will only recognize ICAO aircraft types while ERAM will accept non-ICAO formats. If a non-ICAO type is encountered STARS may not process the right weight class for separation on final. A task team was formed to review the data and provide a response.
- <u>TMU briefing</u>
- The team was briefed on the current TMU tools and processes used to manage traffic flows. As more TMU based tools such as GIMS and ABRR are integrated into the system it is important that the team to develop a more in depth knowledge of TMU operations.

- ABRR
- The task team briefed on the ABRR deployment plan, procedures, training and proposed waterfall. Also discussed were the individual sites use of PDRR and the implications of auto insertion of FRC. Updated information will be provided to the team on regular intervals through deployment.
- ER 72542 AID Starts with a Number
- The teams work on the problem statement is complete. The procedures office is evaluating simplified guidance and will also facilitate a work group meeting to discuss a long-term solution. Updates will be provided, as the procedural solutions are determined.
- ER 89502 SIG 1742 Overdue Aircraft
- A solution for this SIG was engineered however the SLOC was too high for it to be packaged. The desired behavior is to prevent flights that are coded for deletion from being removed by the system without controller input. An alternate solution was discussed that will greatly reduce the cost and still provide the basic desired behavior. This new solution will be further engineered and brought back to the team when it is complete.
- Data Com Briefings
- The Data Com team provided briefings on the following full service capabilities: full altitudes, full routes, holding, advisory messages and the proposed waterfall for CPDLC deployment. Also discussed were three ERs, 165266 Uplink Message, 162586 Emergency PID SIG 1737 and 161507 TOC Setting, SIG 1730. The team was in agreement with the solution for all three ERs.
- ER 76279 ADSB Broadcast Call Sign
- The team discussed the ER, which address the issues caused by broadcast call signs not matching the aircraft call-sign/flight ID and the lack of validation for the call signs. A task team was formed to investigate the issue and determine if there is a viable solution other than what is currently available; not displaying the broadcasted call sign.
- 8-1-1 Guide and Controller Card
- Both products will be updated for the EAD600 system. The draft versions will be available to support key-site testing and the final versions will be available when the system is released nationally in December.

NAS VOICE SWITCH (NVS): Jon Shedden (ZFW) represents the NATCA membership as their Article 48 Representative to the NVS project. His report is below.

> **NAS Voice System (NVS)** demo labs are currently running on Build 12A. Harris continues to focus on stability and fixing bugs as we lead up the FAA Stability Demonstration. The Stability Demonstration is the precursor to the beginning of the FAA's Factory Acceptance Test (FAT). FAT was scheduled to begin in November 2016, but it has been delayed until February of 2017. Harris also continues to work on feature integration.
> Chris Lloyd (ZDC), NVS Training Lead, is currently participating in Task And Skills Analysis (TASA) for the controller, supervisor, and configuration specialist user roles on NVS.
> Mr. Shedden was in Melbourne, FL at Harris HQ August 29th-September 2nd and September 12th-16th to provide on-site support for development and defect detection.
> **Next Generation Air-Ground Communication (NEXCOM)** continues deployment of new CM300/350 V2 radios to terminal facilities across the country. Deployment is going well.
> Testing of a new RCAG at **Houston Center (ZHU)** has begun. This RCAG will replace the ARINC's VHF Extended Range Network (VERN) in Cancun. The FAA successfully replaced the Key West VERN last summer. These RCAG/VERN radios provide long-range directional radio coverage in the Gulf of Mexico. The area rep, Shawn Sharpless, indicates that initial testing shows the site works as well as the VERN in regards to signal strength and coverage. The issue where the controllers hear bleed over from Mexican ATC during incoming transmissions has been resolved, and testing has resumed. Mr. Sharpless indicates that testing continues to go well.
> **NAS Voice Recorder Program (NVRP)** is the replacement for existing NAS voice recorders (DALR, DALR2, DVRS, DVR2). The Program Office will be presenting to the JRC next week. Meetings will resume after. Key site for NVRP will be Seattle Center in the 2018 time frame.
> Plantronics was awarded the **Headset** contract so almost everything will remain the same. There will be a few headset models that will no longer be available under the new contract due to obsolescence. Mr. Shedden is working with the program office and LR to develop a briefing on the changes.
> The **Headset Splitter** final design has been completed. The splitter which is designed to allow three or four headsets to be connected to existing voice switches should be produced and deployed later this year. A SRM Panel was completed on July 19th and 20th. The splitter will also be a part of the headset contract and may be ordered in the same manner as headsets. Air Traffic Services is attempting to obtain funding for deployment of the splitter.

Grand Rapids Tower/TRACON (GRR) is reporting multiple issues with their aging voice switch. The Voice Switching Team in Oklahoma City (AJW-173) is working closely with GRR to resolve their issues. There's also a radio coverage/spectrum issue being worked. The controllers have presented a list of issues to Tech Ops and AJW-173. Air Traffic and Tech Ops continue meeting to develop a plan to address the outstanding issues.

Waterloo Tower/TRACON (ALO) is reporting issues with the phone system used operationally in the tower. One of the issues has been resolved (inaudible phone) while the second one remains in work.

Mr. Shedden is participating in the rewrite of **FAA Order 6510.4 (A/G Order)**. The last version was written in 1980. There are both new and existing requirements in the order dictating how Air Traffic must use A/G frequencies. NATCA will receive a briefing from the FAA's Spectrum office on September 27th to better understand the issues surrounding these requirements.

SURVEILLANCE BROADCAST SERVICES (SBS) OFFICE: Eric Labardini (ZHU) is the Article 48 Representative to the SBS Office. Below is the update for SBS.

The NATCA Surveillance and Broadcast Services (SBS) team includes: Eric Labardini (ZHU), National SBS Article 48 Rep, Craig Bielek (A90), Dan Hamilton (SFO), National Airport Surface Surveillance Capability (ASSC) Rep, Andrew Stachowiak (I90), and Tom Zarick (ZDV), National Interval Management Rep

ADS-B:

- As of this update 16,677 of 24,475 equipped aircraft are broadcasting ADS-B Rule compliant avionics in the NAS. SBS and Flight Standards (AFS) have been working to standardize how they count ADS-B traffic. The numbers above reflect about 10% of all traffic in the NAS are ADS-B Rule compliant and would be higher if not for problem avionics, that are normally screened by ATC automation systems.
- An issue not screened by automation systems but an important assumption for future ADS-B dependent applications is the broadcast call sign of the user. ADS-B sends this information to automation systems for comparison to the filed call sign. When a mismatch occurs a Call Sign Mismatch (CSMM) alert can be generated. Data from ZAN showed over 2100 CSMM alerts were generated in just one month (March). This prompted SBS Article 48 to recommend all MEARTS sites disable CSMM alerts and poll all ERAM sites to gauge the extent of the problem. In July, over 44,000 CSMM conditions were present in all ERAM sites! Obviously, a lot of work is needed and fortunately CSMM alerts are disabled in all ERAM, STARS, and ASDE sites. MEARTS sites expect to do the same very soon.

- The SBS PO rough estimate of avionics installation capacity nationwide is 50,000 aircraft per year. With the January 1, 2020 deadline to equip quickly approaching, concern is high that equipage levels will fall short of the estimated total NAS fleet (100,000-160,000). Users that wait too close to 2020 may find that the availability of installers falls short of demand.
- ADS-B IOCs have been completed at all EnRoute (ERAM and MEARTS) facilities.
    - All but two ERAM sites have promoted ADS-B to the top of their sort cells. Still awaiting a decision from ZMA and ZAB based upon their workloads.
- 77 of 155 Terminal sites have reached their ADS-B IOC and 73 are operating on Fusion. The remaining Terminal sites are ARTS 2E sites awaiting an upgrade to the ELITE (STARS) build. The Terminal ADS-B/Fusion transition proceeds in this order: Kickoff meeting, ADS-B Flight Inspection, ADS-B IOC, Fusion Operational Suitability Demonstration (OSD) and Fusion Operations. The most recent and upcoming Terminal events:
    - Fargo (FAR) OSD completed Aug 23
    - Fairbanks (FAI) Flight Inspection completed Aug 24
    - Colorado Springs (COS) Kickoff meeting Aug 25
    - Atlantic City (ACY) Flight Inspection completed Aug 31
    - Gulfport (GPT) Flight Inspection completed Sept 7
    - Fargo (FAR) started Fusion Operations Sept 7
    - Spokane (GEG) Flight Inspection completed Sept 13
    - Tallahassee (TLH) Kickoff meeting Sept 15
    - Las Vegas (L30, LAS) OSD completed in new facility Sept 16
- NATCA SBS continues to work with the Agency toward a more proactive approach to ADS-B avionics issues. Although these issues are rare, the Agency's approach to date has been hampered by a lack of resources devoted to investigating flagged issues within the SBS Compliance Monitor. These issues occur when standards for installation or configuration within aircraft or ground systems are not met. ADS-B is a cooperative surveillance source relying on the position information determined onboard the aircraft. In order to reduce or prevent the number of safety compromising events in the NAS we need a proactive, timely response.

Advanced IM/FIM-S

- Kicked off the Advanced IM ConOps Working Group. Completion date July 2017.
- Meeting scheduled with the Agency and ALPA on Sept 20th to discuss growing concern of separation responsibility involved with some future IM applications.

ASDE-X Tech Refresh:

- The first of several training meeting have taken place to wrap up the next big rollout of system enhancements.
- This program continues to run smoothly with minimal issues

ASSC:

- ASSC is currently running in the old tower and new tower at SFO as we continue field familiarization. Controller reports are minimal and any issues that come up have been addressed promptly
- The team plans to IOC by the end of this month so SFO's new tower can commission with ASSC on October 15th.
- As SFO nears completion, efforts at CLE, (site #2 on waterfall) are increasing. The team will be meeting in CLE to finalize the schedule.
- Training should begin in CLE around the end of the year.

FMA in Fusion:

- The safety analysis work is the remaining major step in this process. Operational evaluation and SRMP have concluded, but the safety analysis documentation needs to be incorporated before the SRMD can be circulated for approval. Timelines continue to project an operational start by mid-2017.

GIM-S:

- ZSE resumed GIM-S operations albeit on a limited basis.
- MITRE hosted the ZKC Adaptation Demo the week of Sept 12th with limited success. Continued problems with the lab persisted throughout the week. Recommending all future adaptation activities be performed at WJHTC rather than MITRE.
- ZDV now fully operational on two arrival streams utilizing GIM-S. Next action will be to meter SLC arrivals to ZLC boundary.
- ZFW GIM-S Kickoff now scheduled for Sept 27th with the caveat that it may be postponed due to TBFM Ops Team availability.

MEARTS Fusion:

- Coordination continues with Honolulu (HCF) to execute a transition to Fusion. The SRMD is progressing well and all documentation necessary to move forward is expected to be completed by October 2016.
- The transition to Fusion in MEARTS is complicated by the fact that Fusion is an "all or nothing" display mode. Unlike STARS, sectors cannot change easily between display modes. Instead, the entire facility and all facilities that receive a feed from the host facility go to Fusion at once. This means all on site Fusion evaluations and training for all sites needs to be accomplished within 45 days per the SBS MOU. A complex and resource intensive effort.

NCS: (Non-cooperative Surveillance)

- Quick refresher…NCS is a new program that is looking into what the replacement will be for the ASDE3 radar which is currently well beyond its life cycle.
- This program came about due to all the attention behind ASSC adding back in SMR (surface movement radar.)
- The agency sent out a market survey, which did have NATCA participation. The timeframe for questions has passed with 7 manufacturers showing interest.

- Market survey results are upcoming and we hope to provide more info to you soon.

Terminal Fusion:

- NATCA remains very focused on the Common Terminal Digitizer (CTD) effort necessary to incorporate numerous ASR-8 sites into STARS Elite as well as Fusion.
- An issue with TDW displays seems to be close to resolution. Both the Agency and NATCA agreed that an adaptation parameter could resolve the issue with target size. After Operational Eval, the change was pushed forward to our key site, Evansville (EVV). Provided on site evaluation is successful, the pixel size change will be forwarded on to all other affected sites.
- SCT issues continue to be a large focus. NATCA is heavily involved in the SAAT team, which is examining long-term alternatives to help improve overall surveillance in the SCT airspace. The first efforts are aimed at mitigating the effect of the new Stadium near LAX. NATCA and the Agency have agreed to move forward with raising the LGB radar site. We are also working on a Wide Area Multilateration (WAM) design. Funding and timelines are a constant battle in these efforts.

Vehicle ADS-B:

- The spectrum office continues to be difficult to work with as far as transmit map approval goes. The transmit map for BDL has finally been approved a year after the team conducted the initial outreach.
- HNL, MCO and LAS have contacted the agency regarding Vehicle ADS-B. The team hopes to visit those sites in the upcoming months.

Traffic Flow Management System (TFMS): Brian Campos (DCC) represents the NATCA membership as their Article 48 Representative to the TFMS project. His report is below.

> September 13-15 meeting involved a day and a half the new RAD tool for Airborne Rerouting (ABRR) and Predeparture rerouting (PDRR) to understand on how to pull the information to train in January. This involved lab discussion in understanding current problems and the best way to train. It was best decided to develop Q and A area for field for further support. Some workflow was reviewed to determine just how to approach the training on the big event. During this process another critical issue was discovered and believed to be a setback for release 4. Release 4 was supposed to be delivered September 17th then it was pushed to early October and now first week of November. Any further critical finds may further jeopardize its launch. They are still working on resolving the critical found in August.
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> Additional work areas involved refining the RAD 2 ideas for next delivery.

We reviewed the ABRR/PDRR initial look of the CBI part 1. Some minor adjustments were made to it and discussion continued on how it will frame the training in January.
It was discovered the National ERAM team decided to file an AMES to turn off automatic FRC when the TMC uses the RAD to make a route amendment for PDRR. This came as a surprise since in March it was decided to make the automation do this until TFMS can do everything from the RAD into ERAM which is field 10 and 11 amendments. The current TMC's environment uses the EDST, where the TMC amends one for one doing everything at the EDST for Field 10 and 11.
The problem with the new RAD and not having automatic FRC insertion is a TMC can edit up to 25 flights at once in TFMS with only the ability to view 5 at once. Also, selections made to the other 20 flights can be made without direct visible knowledge to the TMC when making/sending amendments to ERAM. Once the amendment is sent, the TMC has no way to recall what amendments they made to ensure all flights received FRC through the EDST process. The TMC has to rely on memory to ensure all actions are always fully complete with entry of FRC in EDST. The increased risk of missing an input for FRC with so many capable flights to send, would greatly increase the risk of sending an amendment without an FRC where required. With so many young TMC in the field and forcing the TMC to rely on memory, Chris and I deemed it too risky to miss an FRC and suggested not to turn on PDRR.

We recommend waiting until PDRR's RAD design can do all required functionality in the RAD relating to route (10) with remarks (11) fields or automatic insertion be left enabled.

More discussion with ERAM group is expected in the next weeks on the topic.

WAKE TURBULENCE: Kevin Connelly (SAT) is the Article 48 Representative to the Wake Turbulence Office for NATCA. His update for the week is below.

The month started off with a refresher principles meeting at SCT the first week so that with the new Phase II of RECAT coming in it had changed the program from the initial 1.5 briefing that occurred back in 2015. Working with SoCal TRACON they were able to set a meeting with NATCA/FAA at NCT and all the associated RECAT Towers (ONT, SAN, LAX, SNA, BUR) in a conference call. Overall the reception for the program was good, San Diego sector at SCT had concerns about required wake separations between large and light small in category F, and we were able to answer the questions. The briefing went well and in monitoring the operation the limited issues I saw in the San Diego sector just meant that there was a brief need to stop climb/descent of small aircraft until wake separations existed.

Began training at SCT on Sunday August 14th. The first week of training went well and we seemed to make headway. The new Category G was really understood well and overall the controllers understood the program and are ready to implement. The first full week of training went really well with the HSI contractors being able to run the power points and answer questions on their own.

At the end of the week notice came in from Tech Center that they had completed onsite testing of RECAT at Anchorage and all the systems are ready for IOC. A conference call confirmed that the testing was done onsite at A11 and the strips/scopes were all completely functional in the building. A decision was made to take the "week off" of the 3rd week in August to get A11 to IOC before the end of the month. I went up to A11 with the AJV team and we successfully implemented RECAT on August 25th. The facility was completely functional and after 1.5 days of sitting with the controllers they understood where they are gaining benefits.