

NATCA Safety & Tech Update
Week of February 5, 2018

ATO OPERATIONAL CONTINGENCY GROUP (ATOC): Jason Grider (ZFW) is the Article 114 Representative for NATCA. Also, included in Mr. Grider's duties is Article 114 representation for the Business Continuity Plan (BCP). Mr. Grider's report for this month is below.

During the month of January, the ATOC worked to develop guidebooks for facilities to use while building OCP's. Mr. Grider has been working closely with members of the group to identify lessons learned from ATC-0 events in the past. They have been consolidating the information and putting it into a format that can be used to build OCP's that can be implemented in a short period of time.

They have been working with TechOps and 2nd level engineering to build cutover plans that will allow traffic to be worked from a support facility whenever the effected facility cannot provide ATC services.

The group will visit several sites in March to begin the validation of the guidebooks and cutover plans. With these items validated the group will start a waterfall to reach out to all core 30 facilities and ARTCC's to facilitate them building their OCP's.

AUTOMATED TERMINAL PROXIMITY ALERT (ATPA): Mike Sanders (SCT) represents the membership as the Article 114 Representative for ATPA. Mr. Sander's report is below.

We are in current development for controller training in an eLMS course. In late February we will be conducting an Operational Try Out (OTO) testing the eLMS course at SCT to evaluate and determine suitability. This will include 6 BUE's from various levels of facilities and experience using ATPA. If all goes well this should be available and fielded for use late March.

Any facility that would like to turn ATPA on, please contact me so we can go over adaptation options. That way when the ELMS/CBI training is completed your facility will be ready.

DATAComm: Chad Geyer (ZLA) is the Article 114 Representative for DataComm. Below is his update.

It was a busy month after the holidays. The year began with a visit to Cleveland ARTCC to brief personnel on what will be involved with the implementation of DataComm. The briefing is a full two days and includes an Overview of what DataComm is, Functionality, CHI, Program Status, Architecture, Procedures, Adaptations, Training, Implementation, Service Volumes and Load-ability. The facility was great to work with and was very interactive in the briefing.

The Program Office hosted a Pilot Demonstration at the WJHTC. The Demo is an opportunity for pilot representatives to view how the avionics will work with the messages being sent. The test lab uses actual ERAM code and Network Service to send the messages. This event also helps the representatives with material that will be needed in their training.

There was an initial look at Full Service route messages that would come from the flight deck. Several DataComm SME's were questioned about what could possibly be sent from the flight deck and depending on the content, how would the controller want it to be displayed. Full Service is planned to be rolled out about a year or two after initial services to provide additional functionality to controllers.

The Tower Core Team met in OKC to discuss what additional functionality will be added in Version 12.6 of the Tower Data Link Services (TDLS) system. This will be the last build that the Program Office supports before it is handed over to operations. The group also held a core team meeting to discuss future facility visits for a question and answer briefing to help with the understanding of how the system works and ways the facility can use the functions for their benefit. Since TDLS has been deployed, there are now 28 sites running auto mode compared to 5 prior to version 12 being deployed. Version 12.5 should allow for many other sites to use auto mode. Auto Mode is a way for the initial clearance that is sent to aircraft to be automatically delivered without controller interaction to send the message.

The DataComm Implementation Team (DCIT) met at Harris in Melbourne, FL to discuss all aspects of the program implementation. Main topics for this meeting were how aircraft will participate during the roll out. There will be difficulties with aircraft that depart from sites that do not have CPDLC turned on in the beginning of deployment. Since the key sites are ZKC, ZME and ZID, how will a pilot know to logon and when will they get service.

ENTERPRISE-INFORMATION DISPLAY SYSTEM (E-IDS): Amanda Richardson (ZOA) is the Article 114 Representative for Enterprise-Information Display System (E-IDS) work. Mrs. Richardson's report for the membership is below.

Background: The Enterprise Information Display System (E-IDS) project aims to replace all existing IDSs in the NAS, providing the Agency with one enterprise solution across facility types. While some customization is necessary and should be available, one system will reduce overall costs for upkeep and training, and resolve the upcoming end-of-life issues we have with our current IDSs in the field (IDS-4, ERIDS, etc.). The project is working towards finalizing requirements by the summer of this year, with a contract scheduled to be awarded in 2019.

I continue to work with the Program Office on the scoping document governing the future use of Cadre and SMEs. We are working towards a mutually agreeable approach that ensures early NATCA end-user involvement, while still remaining fiscally responsible with our limited resources. Staffing in the field continues to impact our ability to secure SMEs off the watch schedules, but we must have input now to avoid delays during deployment. E-IDS SME and Human Factors work is next on the agenda.

Upcoming activities:

- Tower and TRACON demo work with SMEs (ongoing)
- En-Route focus group and demo work with SMEs (ongoing)
- Human Factors workgroups NATCA, FAA, and PASS
- E-IDS Team Tech Center site visit
- Weekly / bi-weekly program status and engineering telcons

FLIGHT DATA INPUT OUTPUT (FDIO): Corey Soignet (LFT) is the FDIO Article 114 Representative. Also included in Mr. Soignet's duties is Article 114 representation for the Electronic Flight Strip Transfer System (EFSTS). Mr. Soignet forwarded the information below for the membership.

FDIO

The first article testing is still on going. The FDIO Team completed all software tweaks to the new printer and is preparing for key site testing. The key site install is now on track to begin in April 2018. The plan is to have 5 key sites consisting of a Tower and TRACON and due to their unique printer demands we are also planning on using Honolulu, Alaska and Puerto Rico.

EFSTS

There is nothing to update at this time.

FIDI

There is nothing to update at this time.

INTEGRATED DISPLAY SYSTEM REPLACEMENT (IDS-R): Richie Smith (N90) leads NATCA's efforts on the IDS-R project as the Article 114 Representative. Below is Mr. Smith's report.

While the IDS Replacement (NIDS) waterfall is complete some facilities will be receiving NIDS when they consolidate into others. A site survey is being set up for March of 2017 in preparation for the CLE/CAK/MFD (TRACON) consolidation scheduled for March of 2018. The 804 workgroup has handled all the details and the only responsibilities of IDSR are to negotiate display placement and aid in database development.

The next release of software is still on track for a summer release with testing being tentatively scheduled for mid April. No key site has been discussed yet.

After the distribution of NIDS software 3.6.3 some networks have experienced an accumulation of large log files on individual workstations. This issue was supposed to be fixed in 3.6.3 and currently under review with the vendor thinking that this is a new issue rather than one that was not fixed.

NAS VOICE SWITCH (NVS): Jon Shedden (ZFW) represents the NATCA membership as their Article 114 Representative to the NVS project. His report is below.

The **NAS Voice System (NVS)** schedule has officially slipped. The FAA and Harris continue to work on a new schedule. The detailed schedule is expected around the April time frame.

Mr. Shedden is traveling to the WJHTC February 5th-8th to assist with validation testing of the FAA's NVS system.

Next Generation Air-Ground Communication (NEXCOM) continues deployment of new CM300/350 V2 radios to terminal facilities across the country. Some terminal facilities in the NAS using very old radios hear a pop back or "squelch tail" when they release their transmitters. The new radios being deployed under NEXCOM Segment 2 do not have this "feature" as the squelch tail is generally regarded as undesirable in radio communications. This issue has cropped up twice now during deployment and the program office should brief future affected facilities prior to install.

NAS Voice Recorder Program (NVRP) is the replacement for existing NAS voice recorders (DALR, DALR2, DVRS, DVR2). The Program Office presented to the JRC and received approval to proceed to Final Investment Analysis, leading up to the Final Investment Decision. Key site for NVRP will be Seattle Center in the 2018 time frame.

NVRP is currently in the source evaluation phase.

Grand Rapids Tower/TRACON (GRR) is reporting multiple issues with their aging voice switch. There's one outstanding issue where a RADAR site is causing interference in the Tower Cab. That issue continues to be worked.

Springfield ATCT (SGF) has been having issue with their newly installed IVSR. There was a telcon on November 22nd discussing the issues with the facility. Monique Pauley (2nd Level Support - IVSR) continues assisting them with their issues.

SURVEILLANCE BROADCAST SERVICES (SBS) OFFICE: Eric Labardini (ZHU) is the Article 114 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 114 Rep, **Craig Bielek (A90)**, **Dan Hamilton (SFO)**, National Airport Surface Surveillance Capability (ASSC) Rep, **Andrew Stachowiak (I90)**, **Tom Zarick (ZDV)**, National Interval Management Rep, and **Chris Aymond (MSY)**, National Terminal Interval Management Rep

ADS-B:

- As of January 1, 2018, the number of Rule Compliant ADS-B Out aircraft in the US reached 42,133. ADS-B In equipped aircraft reached 36,593. The growth in aircraft equipage has been significant, and some areas of the NAS are seeing high percentages of traffic equipped. However, the projections are still falling short of the numbers needed prior to the January 1, 2020 deadline to equip. So far, the Agency has been clear that the deadline is firm.
- Most, if not all, Air Carriers have provided the Agency with a plan to meet the deadline. However, the means to achieve those plans in the short amount of time remaining is becoming a larger question. United Airlines, Rockwell, and the SBS Program Office have partnered to make significant progress in upgrading the United B737 Rockwell avionics fleet with 110 planned ADS-B installations complete. American, Delta, Alaska, and many other airlines are showing increased fleet ADS-B equipage.

- For General Aviation, the very rough estimate of avionics installation capacity nationwide is 50,000 aircraft per year. The rough estimate of all NAS aircraft that need to equip is 160,000. The actual number that needs to equip could be much lower depending on the number of users that remain outside of ADS-B Rule airspace (where a transponder is required). Users that wait too close to 2020 may find that the capacity for installation falls short of demand.
- The military has already indicated they will be unable to meet the 2020 deadline. Several of their older airframes simply cannot accommodate the new avionics. The military does expect to equip newer fighters and all of their larger aircraft. To deal with the exception, the Agency is working on agreements with DOD to ensure identified radar sources remain in place.
- ADS-B IOCs have been completed at all Enroute (ERAM and MEARTS) facilities. All ERAM sites have promoted ADS-B to the top of their sort cells.
- 116 of 155 Terminal sites have reached their ADS-B IOC, and 108 are operating on Fusion. The majority of 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:
 - Augusta (AGS) ADS-B Flight Inspection 1/17
 - Duluth (DLH) Fusion Operational 1/17
 - Fayetteville (FAY) ADS-B IOC 1/17
 - Longview (GGG) ADS-B IOC 1/18
 - Longview (GGG) Fusion OSD 1/18
 - Moses Lake (MWH) ADS-B IOC 1/19
 - Abilene (ABI) Fusion Operational 1/23
 - Rochester (RST) ADS-B/Fusion Kickoff 1/30
 - Reading (RDG) ADS-B/Fusion Kickoff 1/30
 - Asheville (AVL) ADS-B/Fusion Kickoff 2/1
 - Great Falls (GTF) ADS-B/Fusion Kickoff 2/1
 - Sioux City (SUX) Fusion Operational 1/31
 - Pasco (PSC) ADS-B IOC 2/1
 - Fayetteville (FAY) Fusion OSD 2/5
 - Champagne (CMI) ADS-B Flight Inspection (Wx Reschedule) 2/6
 - Pasco (PSC) Fusion OSD 2/7
 - Longview (GGG) Fusion Operational 2/7
 - Fayetteville (FAY) Fusion Operational 2/7
 - Lake Charles (LCH) ADS-B/Fusion Kickoff 2/13
 - Madison (MSN) ADS-B Flight Inspection 2/14

ADS-B Avionics Issues:

- 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 aircraft reports include this information, and automation systems compare it to the filed call sign. When a mismatch occurs a Call Sign Mismatch (CSMM) alert can be generated. The issue has been highlighted in Equip 2020 meetings since ADS-B dependent applications (CAVS, Advanced Interval Management, etc.) are dependent on this functionality. Monthly tracking continues to trend upward. ***The SBS Article 114 work group has recommended disabling CSMM alerts across all automation platforms.***
- NATCA SBS continues to work with the Agency toward a more proactive approach to ADS-B avionics issues that result in position error. Though these are infrequent occurrences, the Agency's ability to respond has been hampered by a lack of resources, bureaucracy, and legal constraints. 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. Multiple ATSAP reports have been filed on the known issues to date. Controllers and facilities are encouraged to report any identified events through ATSAP and any other mechanism.
- In order to reduce the number of safety compromising events in the NAS an effective, efficient response mechanism is needed. The Agency has deployed additional mitigations including enhanced validation (EV) and a No Services Aircraft List (NSAL).
 - The NSAL will likely always be needed, but its use as an effective response to issues identified is hampered by the response time. An issue identified and reported immediately still takes a minimum of one day to implement in the SBS network.
 - The latest enhanced validation (EV) technique increased the real time responsiveness to invalid ADS-B targets within 15nm around Terminal Radar, and initial review of the operational benefit is positive. Additional EV techniques are being investigated to expand the range beyond 15nm and tighten the parameters used. EV is a real time benefit that limits the effect of ADS-B spoofing on operations. SBS Article 114 members were briefed on the concepts, and most should be in place in 2018. A few remaining EV techniques are still indefinite with regard to funding and timing. With 2020 approaching rapidly, these changes are needed sooner than later to limit the random effects of avionics issues.

- SBS Article 114 work group discussions resulted in all B787 aircraft being placed on the NSAL. These aircraft have a latent avionics issue that causes false position information to be displayed to the controller. This has alarmed several facilities and caused both SCT and NCT to demote ADS-B in their sort cell priorities. Boeing has released a Service Bulletin to address the problem. United, American and a few foreign carriers have confirmed completing the Service Bulletin allowing them to be removed from the NSAL. Another 400+ B787 aircraft are slowly being pulled off of the NSAL as verification of the Service Bulletin is received by Flight Standards.

Advanced IM

- A-IM Team has met several times over the holiday months. Still working and Safety and Requirements material.
- A Paired Approach Ground Tools HITL scheduled for April at Mitre.
- The AIRS Project Team met in January. Several topics were discussed including Project Schedule, Benefits, Public Outreach, and AIRS Draft ConOps Review.

ASDE-X Tech Refresh:

- Dan Hamilton is working with Bridget Gee (runway safety Rep) In the development of Taxiway alerts. Testing yielded positive results in Dec. Some further testing is taking place in OKC.
- If the Taxiway alert enhancement is deployed on a national scale, the PMO would need to take control. As of right now, SEA is the only facility scheduled to receive this enhancement.
- SNA is the latest facility to receive the latest ASDE-X system upgrades. MEM was completed in January
- Discussions are well underway to help determine a path moving forward for the ASDE3 SMR (surface movement radar), which is well past its service life.

ASSC:

- ASSC Field familiarization scheduled to begin the week of Feb 12. That date will move right if government shuts down again.
- CVG IOC currently scheduled for March.
- MCI, MSY and PIT are all in the construction phase.
- The agencies new Internet security requirements continue to plague the ASSC system.

FMA in Fusion:

- The SRMD allowing the combined use of FMA and Fusion reached final approval on November 1, and the Notice allowing the operational start is now in place. Facilities that use FMA can now use Fusion on these positions as well.
- The change in procedure is not anticipated to require additional controller training as these facilities are already trained on both FMA and Fusion.
- Fusion on the FMA position, like all other positions, requires a thorough understanding of contingency plans should a radar sensor fail.

MEARTS Fusion:

- 3nm Fusion in MEARTS is a complex undertaking requiring multiple Tower, Approach, and Enroute sectors to come online with Fusion at the same time. The lessons learned in this undertaking will help the effort with future MEARTS and ERAM sites.
- ZAN has been on Fusion since August 2015. HCF has been on Fusion since August 1, 2017.
- A significant amount of support was provided the week of January 29-February 2 at ZUA (Guam CERAP). NATCA and SBS Ops Support conducted a kickoff at the facility, provided Air Traffic Cadre training, and conducted a multiday Operational Suitability Demonstration. ZUA Air Traffic feels confident they will transition to Fusion by the end of March 2018.
- A kickoff meeting and Air Traffic Cadre training session for San Juan (ZSU) are planned the first week of April.

Surveillance Portfolio Analysis Work Group

- Eric Labardini and James Keith (NATCA AJV-7) have been working closely with the Agency's multifaceted analysis of post 2020 radar infrastructure needs. The ADS-B business case was built on an assumption that today's robust radar infrastructure could be reduced once ADS-B becomes the predominant surveillance source.
- The Agency built their business case on an assumption that 100+ secondary radar sources could be removed throughout the NAS. This causes concern in airspace that does not require ADS-B (many Class D or other Approach Controls). NATCA has been pointing toward another option, removing overlapping radar sources completely rather than harming operational capabilities nationwide. There seems to be an awakening to this idea and analysis of the benefits is underway.
- An SRM Panel was held August 1-3 to analyze the risks associated with partial or complete removal of radar systems in a post 2020 environment. The conclusions of the Panel were that partial removal actually resulted in higher risks than complete removal. This assumes that complete removal would only occur where the effects were minimized by other overlapping radar sources nearby.

Terminal Fusion:

- The Fusion Focus Group continues to track and resolve facility reported issues with Fusion. These are largely issues with the underlying surveillance infrastructure, and experts from all fields are available to assist. Please report any issues to your OSF and our NATCA SBS group for assistance. It is critical that actual data is recorded for evaluation and resolution.
- 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. The CTD schedule is the driver for TAMR Elite rollout and therefore the drive for the follow up ADS-B/Fusion rollout.

- SCT fusion issues continue to be a large focus. NATCA SBS is heavily involved in the Surveillance Automation Analysis Team (SAAT), which is examining long-term alternatives to help improve overall surveillance in the SCT airspace. The result is a multi-faceted approach including WAM, raising LGB radar, introducing other nearby radar feeds, STARS software changes, and radar software changes. In addition, SAAT is focused on mitigating tracking issues in the LA Basin due to the construction of a new NFL stadium on final approach to LAX.
 - The LGB radar site is now back online and in use at SCT. The radar site was raised from 37 feet to 67 feet. Feedback from SCT has been positive.
 - Agreements are being worked with the military to ensure availability and performance of the North Island radar. Adding this additional surveillance source shows promise for tracking issues around SAN airport.
 - The first phase of WAM at SCT achieved an IOC on August 10, and was soon promoted to the highest priority in sort cells. Analysis of formerly identified radar tracking issues showed much improvement with WAM implemented. However, numerous issues with certification procedures and other events have led the facility to disable WAM. SBS and others are working with SCT on a plan to re-enable.
 - The second phase of WAM at SCT is expected to be operational by May 2018.
- SAAT has been analyzing Potomac (PCT) Fusion issues for potential solutions. The facility has been struggling with a number of issues related to problem radar sites or a lack of coverage. Radar analysis is confirming the benefit of adding Quantico (NYG) radar to PCT as well as reducing obstructions near Dulles. Funding for the additional NYG feed is being sought.
- SBS Article 114 agreed to a path forward to add multiple radars to CLE in support of Fusion. The radar sensors should be incorporated at CLE by June 2018.
- Recent N90 discussions on a transition to Fusion have centered on the continued staffing concerns. The facility is in a critical state and does not expect to be able to support Fusion transition activities until September 2018.

Vehicle ADS-B:

- 1281 vehicles equipped at 20 airports.
- Further inquiries continue to come in regarding equipping airports in the NAS.
- The Vehicle team met with Harris Corp. to layout new guidelines and procedures for deployment that will streamline the process and minimize errors that the team has identified through this point.