NATCA Safety & Tech Update
Week of September 18, 2017

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.

> August was a very busy month for Mr. Grider. He traveled to the command center following the ATC zero event at ZDC to participate in a scrub of the event. Mr. Grider was part of a team made up of members of industry and the FAA. The team walked through the event from beginning to end, and documented all of the lessons learned. The team determined that one of the areas that most needs improvement is in communication. It was recommended that a workgroup be put together to find collaborative solutions to the issues found during the scrub.
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> Mr. Grider spent the next two weeks at the WJHTC in New Jersey working with second level engineering to develop TTL scenarios and ERAM configuration for the continuity of service demo in September. The ATOC group is developing a how to guide on developing operational contingency plans in all major facilities. They are specifically looking at the viability of having controllers in a neighboring center being able to work minimal traffic through airspace that has been sterilized after an ATC-0 event. There are many challenges that will have to be overcome for this type of plan to ever be implemented.
> ATOC has secured 10 SME's from D10, ZFW, and ZME to participate in a large-scale demo in ZME's TTL lab scheduled for September 12th and 13th 2017. The group is planning on verifying the ability to provide surveillance and communication to aircraft that are within the lateral boundaries of ZFW on a ZME scope. Some of the things that the group is trying to validate are…1.) What type of ERAM adaptation is necessary to provide track control of aircraft not within the host facilities AOR 2.) Which radios, RADAR's, and land lines will be needed at ZME to affectively work traffic to and from the ZME boundaries to the major airports within ZFW 3.) How much traffic an individual controller who has not been trained or certified on a sector can safely handle 4.) What rules and regulations will have to be amended or added to allow controllers to work airspace they are not certified on 5.) What should the training requirements for this type of operation look like?
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> Work on the BCP is moving forward with a 23-sector demo coming up on September 19th. This demo will show what is involved to combine multiple labs at the Tech Center to eventually have 40 scopes available to controllers in a long-term contingency event.

NATCA has requested an article 7 briefing from the agency on their plans for moving personnel from their home facility to the WJHTC to be available to control traffic from that location. NATCA will be working collaboratively with the agency to insure that all NATCA BUE's rights are protected in the event the BCP is activated, or anytime a controller is needed to work at a facility that is away from their home facility.

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 projected to be complete and ready for distribution mid December.
At this point if any facility has a desire to adapt ATPA, we need to wait until the ELMS training is complete. Please contact me so we can go over the process.
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National ATPA Lead
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DATACOMM: Chad Geyer (ZLA) is the Article 114 Representative for DataComm. Below is his update.

The Tower Data Link Services (TDLS) software update version 12.4 is being key sited at DFW, EWR and SDF this week. Once the key site facilities give the approval to deploy the update to other sites, software will be mailed to the remaining facilities. This is the first software update that includes enhancements for facilities to improve operation and offer more flexibility in adapting the software to suit the needs of their facility.
The enhancements include Multi Departure Clearance (DCL), Message Assurance Failure indications, Tower Cab Control of Auto Mode, and Auto Inhibit Altitude.
Multi DCL
Multi DCL allows for up to 6 DCL applications to be opened simultaneously. This will mostly be use for facilities that have more than one tower, however, some facilities may elect to use this enhancement to allow another controller, a cab coordinator or TMU to view or send DCL clearance information. When more than one application is open, the system will only allow one DCL application to open and display a specific flight ID. The other DCL applications will display an orange box with gray text to inform the controller that another user is working that flight ID. Once the editor window is closed, other controllers can view and interact with that flight ID.

Message Assurance Failure
A message assurance failure is a notification from the Communication Service Provider (CSP) that the clearance could not be delivered to the aircraft. This is usually caused by inference with the Aircraft Antenna. This indication is relayed to the controller and once the obstruction (Food Truck, Fuel Truck) moves, the controller can resend the clearance to the aircraft.
Tower Cab Control of Auto Mode
Currently when a tower is in Auto Mode, the TDLS Application Specialist (TAS) can adapt which SID/Transition can be automatically sent by the system. This is accomplished by setting default information that will always be sent when that SID/Transition is in the applied routing. This works for some facilities, however, if a departure frequency or altitude assignment changes due to a different configuration, the controller cannot fall back to manually processing the flights to send the new information. The TAS can now give the tower controller the ability to turn Auto Mode on or off whenever they want to allow for manually processing of clearances.
Auto Inhibit Altitude (AIA)
The TAS can apply an Auto Inhibit Altitude to force manual processing of Auto Eligible SIDS whose Requested Altitudes are below a certain altitude. When a TAS has adapted a SID/Transition to be auto eligible and they have adapted an AIA of 9,000 FT, all flight ID's that have a requested altitude of 9,000 FT or lower will not be auto sent and require the controller to manually process that flight.
Additional enhancements will be coming out over the next year to improve controller workflow and situational awareness, support different airport configurations, and improve session establishment/retention for error cases.

ENROUTE AUTOMATION MODERNIZATION (ERAM): Julio Henriques (ZNY) leads the ERAM efforts for NATCA. Dan Mullen (ZID) provides this update.

The National User Team (NUT) Meeting scheduled for the week of September 11th had to be postponed due to Hurricane Irma. We are trying to reschedule it as soon as possible since the outcome from that meeting will affect the next few ERAM releases, and that work is time-critical.

I've been meeting with reps and contractors from the Surveillance and Broadcast Systems (SBS) team regarding Fusion Mode Display (FDM). When ADS-B becomes standard after 2020, ERAM will be able to use the broadcast of equipped aircraft in addition to ground-based surveillance to create more accurate position displays. Fusion Mode will also allow track updates every few seconds, instead of the current 10 or 12-second updates. The NUT will continue working with SBS to help integrate Fusion Mode into ERAM and determine how to display this information to the controllers.

Airborne and Pre-Departure Reroute (ABRR/PDRR) will be redeployed in late October after the release of Traffic Flow Management (TFMS) Patch 9. This update and recent ERAM changes fix problems discovered earlier this year, and will allow Traffic Management to better handle Traffic Management Initiatives. The reroutes can be sent directly to the controlling sector so the routes can be updated automatically.

Facility Tech Reps (FTRs) met with MITRE and AJV-7 for early demos of Terminal Work Package 1. TWP1 is a program designed to update STARS automation, and some of the proposed enhancements include the ability for Terminal and Enroute controllers to share information and coordination via automation.

ERAM release EAD700 is now available nationally. One of the enhancements in this release is the new ability to coordinate point-outs via automation instead of verbally. The procedures for this are spelled out in the eLMS course for EAD700, as well as changes to the 7110.65. Most of this release contains infrastructure and operating system enhancements that won't be noticed by controllers, but are important to support the Tech Refresh process.

We've held a series of working meetings with FAA and Leidos engineers and our Canadian counterparts to develop Handoff ability to/from non-US systems. This function, planned for 2019 or later, will allow automated handoffs between ERAM facilities and their CAATS neighbors. Currently, all handoffs between the US and Canada, Mexico, the Caribbean and South America require manual coordination.

Enterprise-Information Display System (E-IDS): Amanda Hodge (ZOA) is the Article 114 Representative for Enterprise-Information Display System (E-IDS) work. Ms. Hodge'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 still in the early stages of development.

The E-IDS En-Route Questionnaire (developed by MITRE, in conjunction with the FAA and NATCA) is now available for CPCs and TMCs at En-Route facilities. Participation in this questionnaire is important, as it is the initial En-Route information gathering effort involving the end-users. Our members have an excellent opportunity to provide input on their current system (processes, pros, and cons) and have a say in what is necessary in the future E-IDS. NATCA National has approved of the questionnaire and recommends our membership participation. Please contact your FacRep for the appropriate link and password. Thank you for your participation!

I met with my FAA counterpart, Doug Balint, along with NATCA National and FAA PMO personnel in DC this week. We discussed the status of the budget process, a general E-IDS timeline of events, and further defined our use of NATCA SMEs moving forward.

Upcoming activities:
Initial En-Route Questionnaire (in process)
Initial Oceanic Questionnaire (out for review)

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 is dealing with numerous quality assurance issues. To date all issues are being corrected by BOCA and then the FDIO Team re-tests the corrected printer. The printer is also in its final stages of its FCC Class B certification and should be certified by end of September. The key site install was slipped back to January 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 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.

> A new NIDS software build (3.6.3, aka V3.6.17255.0822) completed testing on September 14 at the Tech Center in Atlantic City. The original plan was to keysite this software at two networks (I90 and CMH) during the week of September 18. Due to the hurricane that impacted the Houston area the I90 installation has been postponed. Keysite testing will take place at CMH and national distribution is tentatively scheduled for 30 days later. This is a longer gap than previously used because of the particular issues that this new software was built to fix. Some logging issues can only be proven over a period of time. I90 will be attended to as soon as they, and the city of Houston, can comfortably accommodate the personnel needed to upgrade the software.
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> The next proposed version of software (V3.6.4) and next operating system are being bundled for cost proposal and have a tentative date of March 2018.

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

> **NAS Voice System (NVS)** Factory Acceptance Testing (FAT) Dry Run ended June 23rd. The system still has stability problems so Harris will continue working on defect resolution prior to starting formal FAT. Formal FAT was scheduled to start July 18th, but has been officially delayed. The FAA is working with Harris to address the impacts to the schedule because of this delay.
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> Mr. Shedden has been working with AJV-7, as well as the UAS NATCA representatives Steve Weidner and Jeff Richards, to define new require for ground-to-ground communications between controllers and UAS PIC's. We are currently in the review process for those requirements.
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> **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.

Mr. Shedden was in Washington, D.C. September 13th for the NVRP Source Evaluation Team kickoff meeting.

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.

A **Tone Mitigation National Workgroup** has been formed. This was a result of a large number of tone incidences being reported at Potomac TRACON (PCT), as well as other places. National selected the following members to represent NATCA on the workgroup:

- Brandon Miller
- Don Smith
- CJ Jacques
- Jon Shedden

The first meeting is scheduled for September 19th and 20th in Washington, D.C.

Plantronics, the provider of our **headsets**, was debarred due to "adequate evidence of conduct indicating a lack of business honesty or integrity". However, after appeal the GSA has removed the proposed debarment, so the FAA may continue to do business with them.

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 September 1, 2017, the number of Rule Compliant ADS-B Out in the US reached 35,599. ADS-B In equipped aircraft reached 31,297.
- Current equipage levels are falling short of the projected numbers needed to reach the Jan 1, 2020 deadline to equip with ADS-B. Avionics Installation capacity NAS wide could also be exceeded the longer users wait to equip. So far, the Agency has been clear that the deadline is firm. The stage is set for a potential showdown, as the date looms closer.
- 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. One example that stands out is Honeywell avionics, which have yet to offer an ADS-B solution. Southwest Airlines and others are heavily dependent on Honeywell avionics. United Airlines has made significant progress in upgrading their B737 fleet with 100 of 101 planned ADS-B installations complete. Several other airlines are also showing increased fleet equipage.
- The military, as previously released in the press, expects to be unable to meet this deadline for several versions of their fighter and older aircraft. They are working with the Agency on a compromise that requires DOD radar availability at key sites to be identified. Many DOD Air Traffic facilities do not even plan to track aircraft via ADS-B.
- GA equipage is a harder question and being carried as a High risk by the SBS Program Office. Increased avionics availability and competition among manufacturers continues to bring the overall cost for GA users down. In addition, the Agency has initiated another rebate program and it is showing some interest, but not as high as expected. The rebate program expires September 19, but users have approximately five months to complete their installations afterward. Facilities may see these GA ADS-B operators flying more check flights as they attempt to validate their installations and claim the rebate.
- The SBS PO 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. Users that wait too close to 2020 may find that the capacity for installation falls short of demand. 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. The SBS Article 114 work group has recommended disabling CSMM alerts across all automation platforms. The issue was highlighted in recent Equip 2020 meetings since ADS-B dependent applications (CAVS, Advanced Interval Management, etc.) are dependent on this functionality. Monthly tracking continues to trend upward with June showing over 20,000 users generating CSMM conditions.
- 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.

- 104 of 155 Terminal sites have reached their ADS-B IOC and 99 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:

- Baton Rouge (BTR) ADS-B Flight Inspection 8/22
- Fayetteville (FAY) ADS-B Fusion Kickoff 8/24
- Charleston (CHS) Flight Inspection 8/29
- Montgomery (MGM) ADS-B IOC 9/01
- Lexington (LEX) ADS-B IOC 9/01
- Pasco (PSC) ADS-B Fusion Kickoff 9/06
- Lexington (LEX) Fusion OSD 9/12
- Montgomery (MGM) Fusion OSD 9/14 (rescheduled)
- Lexington (LEX) Fusion Operational 9/20
- Montgomery (MGM) Fusion Operational 9/20
- Baton Rouge (BTR) ADS-B IOC 9/21
- Charleston (CHS) Fusion OSD 9/27
- Charleston (CHS) ADS-B IOC 10/3
- Augusta (AGS) ADS-B Fusion Kickoff 10/3
- Moline (MLI) ADS-B Flight Inspection 10/3 (rescheduled)
- Champaign (CMI) ADS-B Fusion Kickoff 10/5
- Baton Rouge (BTR) Fusion OSD 10/5 (rescheduled)
- Bangor (BGR) Flight Inspection 10/11
- Moline (MLI) ADS-B IOC 11/8 (rescheduled)
  Note: Several events were rescheduled due to the impact of Hurricane Harvey on personnel availability.

ADS-B Avionics Issues:

- NATCA SBS continues to work with the Agency toward a more proactive approach to ADS-B avionics issues. Though these are infrequent occurrences, the Agency's approach to date 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 is working on mitigations including enhanced validation and a No Services Aircraft List (NSAL). Enhanced validation has a limited effect (15nm around a Terminal Radar) on these issues but it has been deployed NAS wide. The NSAL is close to complete rollout NAS wide.

- Governance of the NSAL has been the biggest concern. As originally conceived by SBS management, the lag time between identifying a safety-compromising event and reacting could be days or weeks. NATCA is working on streamlining this process, potentially via an automated mechanism. The end result needs to be an effective means of identifying bad actors and reacting as close to real time as possible.
- Article 114 discussions resulted in agreement that B787 aircraft would be placed on the NSAL as soon as possible. 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. United has indicated that all of their B787 aircraft have been updated per the latest Service Bulletin. AFS is working on confirmation before these aircraft are removed from the NSAL.
- Two events in August highlighted the inability to react effectively or efficiently to identify avionics problems. On August 9, an ADS-B equipped Embraer 170 demonstrated extremely erratic tracking within Houston Approach. The track was showing a zigzag or starburst behavior and actually split into four separate tracks at one point; three of which had identical full data blocks. The SBS Performance Monitor did flag the aircraft as non-compliant, but this data is currently only used post event. Flight Standards indicated they would quickly reach out to the operator. On August 16, the same aircraft repeated it's bad tracking behavior at Potomac Approach on while on Final to Dulles. The tracking left the facility so uncertain of the aircraft's true position that they stopped all departures. This event was also found to be highlighted by the Performance Monitor post event. The aircraft's avionics issue appears to be resolved, but the procedures to react to these events remain a problem.

Advanced IM

- American Airlines leadership still hasn't made the decision to support the funding required for AIRS to move forward though all parties all still optimistic.
- Paired Approach work is still moving forward. Development of Controller Display Features needed to support the application as well as the overarching A-IM ConOps work still in progress.
- Discussed A-IM safety cases as part of the A-IM Safety Workshop to include assumptions made on controllers' ability to detect discrepancies/errors with the FIM equipment in an A-IM environment. Also, discussed tools needed to better catch any possible errors.
- Reviewed data for IM aircraft pairing and the ADSB range options researched to accomplish pairings. Discussed the possible required ranges needed to conduct a successful IM operation with consideration to TRACON airspace size.

ASDE-X Tech Refresh:

- Due to recent events in the NAS, there is a renewed interest in taxiway alerts for the system, which was started by the Runway Safety office last year. There is now some backtracking that is being done due to the lack of involvement from AJV-7 from the beginning. Dan Hamilton is actively involved in the entire process to ensure the integrity of the system remains in place. Concerns regarding false alerts, late alerts, incorrect alerts and no alerts are being discussed in addition to other possible mitigations for this overlying issue.

ASSC:

- CVG installation in progress. Initial training will begin the end of the year. Field Familiarization will begin in March of 2018.

FMA in Fusion:

- Operational evaluation and SRMP have concluded. Sep Standards and Collision Risk analysis of IBI mode has delayed the completion of the SRMD. Operational start of FMA use of Fusion is now planned for November 2017. NATCA continues to work to shorten the time frame as much as feasible.

GIM-S:

- ZDV plans on going live with ZKC on Sept 12th. ZDV is also working on an agreement with ZAB to use GIM-S on the SE stream into ZDV.

MEARTS Fusion:

- 3nm Fusion in MEARTS is a complex undertaking, and involves bringing multiple Tower, Approach, and EnRoute sectors online with Fusion at the same time. The lessons learned in this undertaking will help the effort with future MEARTS and ERAM sites.
- Significant progress toward a return to Fusion at HCF was made the week of July 17. An OSD was conducted after software and adaptation changes were introduced. NATCA, HCF Air Traffic, and many others agreed that the system is operationally suitable.
- HCF re-started Fusion operations on August 1, 2017. With over three weeks of use, the feedback from facility personnel continues to be positive. SBS remains in a monitoring posture for the month of August.
- Plans are being made for the continued deploying 3NM Fusion in MEARTS at ZSU and ZUA. A Technical Interchange Meeting was planned with ZSU on September 6, but will need to be rescheduled when the facility has recovered from Hurricane Irma.

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 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. Their efforts are aimed at mitigating tracking issues in the LA Basin, including the effect of the new Stadium near LAX.
    - NATCA and the Agency have agreed to move forward with raising the LGB radar site. This was thought to be one of the easier solutions to put in place, but the Agency cannot seem to get out of their own way to do so. Current target date for completion according to Western Service Area is October to November 2017.
    - SCT is also awaiting agreements 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.
    - WAM in the LA Basin area will be in 3 phases: update 9 existing ADS-B Radios to support WAM via Virtual Radar (CLT configuration), add 8 new Radios to supplement the WAM coverage (still using VR), then update STARS to allow for WAM in Native format (1 second update rate).

    - The first phase of WAM achieved an IOC on August 10. Feedback from SCT personnel has been very positive. WAM has been promoted to the highest priority in sort cells. Analysis of formerly identified tracking issues with radar showed much improvement with WAM implemented. Feedback from NATCA SCT has been very positive. Former issues seen frequently in the LA Basin area have been greatly reduced by WAM.
    - This first Phase of WAM at SCT is a limited configuration of Radio Stations; this makes it vulnerable to outages due to limited overlapping Radio coverage. The system has shown also some vulnerability to reflection on the surface of LAX. The second Phase of WAM will add more Radios with greater overlapping coverage and less vulnerability to outages or reflection issues.
- 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 radar to PCT as well as reducing obstructions in the area. Follow up discussions with PCT are planned in early October.
- A long-awaited estimate for adding identified radars to CLE has finally been delivered. 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.
- N90 discussions are planned for September 26 to pinpoint their exact time line to Fusion. Facility issues with the transition to STARS have delayed the Fusion effort.

Vehicle ADS-B:

- 1170 Vehicles equipped at 18 Airports.
- DAL and IAH will deploy additional vehicle transponders this month. CVG has equipped and is waiting for deployment of ASSC to go live.