

NATCA Safety & Tech Update
Week of November 12, 2018.

AIR TRAFFIC PROCEDURES (AJV-8): Andy Marosvari (BOI) is the Article 114 Representative in the AJV-8 Office. Mr. Marosvari forwarded the summary below for this update.

Safety Risk Management Panels

OJTI Requirements for Section 804 Facility Realignment

I participated on a follow up panel for OJTI Requirements for Section 804 Facility Realignment. When facilities are combined during the 804 process, all current CPCs become CPC-ITs and as written, current guidance in the 7210.3 requires certified OJTIs to work a minimum of 60 hours on the new facility's sectors prior to administering OJIT. When lower level facilities combine with higher level facilities and a minimum number of controllers from the lower level facility transfer, the hours of work experience required causes a delay in training. A group of Subject Matter Experts met and determined that there was no hazard in lowering the required hours of experience to no less than 20 for experienced, previously certified OJTIs. This would apply only to those certified OJTIs from the higher level facility on the lower level facility sectors. The change evaluated in this panel will help the training process as more facilities are combined through the 804 process.

4-7-1 CLEARANCE INFORMATION

Runway Transition Assignment and Changes Update: Andrew Duda (AJV-8) gave an update based on the FAA 7110.65, Section 4-7-1 Document Change Proposal from the Safety Risk Management Panel (SRMP) where a change in requirements and phraseology was allowing controllers to issue runway changes if required without having to provide radar vectors provided the lateral and vertical path of the runway transition was identical. Although Industry provided the requirements during the SRMP on what they could accept and this change incorporated those changes, it was met with opposition by Gary McMullin of SWA even though he had participated in the simulator exercises for this change. He requested that a study be accomplished using line pilots to gain a better understanding of the impacts. He believes if continued as written, it will have a major impact on pilots as well as the potential to create problems within the NAS. AJV-8 wanted to continue with sending the DCP out to the field for comments, then look at whether or not a study would be required.

7-4-4, Approaches to Multiple Runways

I have worked with several facilities on clarifications to the 30 degree intercept rule used for visual and instrument approaches to parallel runways 2,500 ft to less than 4,300 ft apart. The rule also applies to those airports with runways 4,300 ft or more apart but in a slightly modified manner. There is a Document Change Proposal (DCP) in process to help make this procedure easier to use and understand but is in the early stages of the long change process. I will update this in next month's update.

Speed Assignments when taken off a STAR

It's understood that when vectoring an aircraft off a STAR after a Descend Via clearance has been issued requires ATC to issue an altitude. Industry has brought forth an issue needing clarification when the STAR also contains speed restrictions. Since the aircraft is no longer on a procedure that contains a speed restriction, pilots are questioning what speed applies. A change will be made to both the AIM and the 7110.65 to address this.

GNSS Computer Navigation Fixes

Computer Navigation Fixes (CNFs) are those 5 letter fix names found on low altitude IFR charts. They are associated with certain airways where the course changes but there is no published intersection or GPS fix. CNFs are shown in (parenthesis) used for GPS databases only and are not to be used for ATC purpose. The 7110.65 was silent regarding CNFs and a suggestion was made to include guidance. A definition and guidance regarding CNFs should be included in the February 2019 edition of the 7110.65.

Pilot Controller Procedures & Systems Integration (PCPSI)

Bennie Hutto, NATCA PBN rep and I were in Henderson, NV on October 30th-November 1st where the following information was discussed. All of these issues are currently topics of discussion in the Procedures office at FAA HQ.

Wrong Surface Operations: Received a briefing from Julie Purdy, Manager of Flight ASAP from American Airlines where her team had done research focusing on landing clearances. They selected four events where ATC had changed the landing runway and although the pilots read back the correct information they still remained lined up on the wrong runway. Due to these events a recent FAA Notice 7110.761, Landing Clearances became effective on October 26, 2018 indicating that "CHANGE TO RUNWAY (number), RUNWAY (number) CLEARED TO LAND" is the phraseology that must be used when changing a landing runway clearance.

Climb Via Except Maintain: A presentation was given by Gary McMullin, SWA, where he recommended that CLIMB VIA Except not be allowed to be used because its causing issues with pilots.

FAA's Class B Excursions SRM Panel progress: Charlotte Boyd, AJI-314, Safety Engineering, gave an overview of the work that has been recommended by the Class Bravo Excursion SRMP. It is still in draft form and she would not release it

but say she would talk with the FAA about getting this group a summary of the recommendations.

Clearance Altitude – Expectations on Visual Approach Go Around: Marc Henegar, ALPA, gave a presentation regarding an aircraft going around on a visual approach. He advised that based on the information contained within the AIM, Part 121 aircraft do not have easy access to the traffic pattern direction and altitude and it could create an issue between the pilot and ATC. He requests that ATC provide the traffic pattern direction and altitude if ATC is placing the aircraft into the local traffic pattern. Rune Dike (AOPA) advised they are required to know this information prior to departing or obtain it once airborne if they are executing a visual approach and Part 121 should not be treated any different. This information should be provided by the airlines to their pilots and when they brief the approach, then they should also brief the traffic pattern direction and altitude. This may be discussed further at future meetings.

EoR Operational Concerns: A briefing was given by Brad Sims, Southwest Airlines Pilots Association (SWAPA) concerning an issue that occurred at KDEN where one aircraft was cleared for an RNAV (RNP) approach with a RF turn to RWY 16R while another aircraft was cleared for a visual approach to RWY 16L. The pilot flying the RNAV (RNP) was concerned about the aircraft on the visual approach and turn off the RNP towards the airport and received a Pilot Deviation. Although this was a legal operation under FAA 7110.65, Section 7-4-4 c, Industry believes it creates a human factors issue, especially on closely spaced parallel runways. In this case, the runways were separated by 2605 feet and they feel it would be better to have the aircraft conducting the visual approach to be established on final prior to the point where the RNP is turning onto final.

Visual Separation Applied to Takeoff Clearances: The LAS ATCT/TRACON was supposed to give a presentation but they could not make it due to staffing. A discussion still took place where Industry pilots had questions about when visual separation ended when they accepted pilot applied visual separation. It was explained that ATC must have approved separation before and after the application of visual separation and the Airmens Information Manual (AIM) provided guidance on this topic as well. Industry did believe the AIM contained the right information but felt it would be best if ATC advised the pilots when visual separation was no longer required due ATC issuing diverging courses or when vertical separation was achieved. The Nav Canada representative advised the group that their requirements instruct the controllers to advise the pilots when visual separation is no longer being applied or required by the pilots. I am sure this topic will be discussed further at future meetings.

Please feel free to contact me at procedures@natca.net with any questions or suggestions.

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.

Mr. Grider has and the CO group have been busy the past month working on the role out of getting out to facilities to give support to them to help build more complete contingency plans.

The group met at Oakland Center to begin the review and rebuild of the OCP's for the ocean sectors in the Pacific. They spent two days with NATCA leaders and representatives from Tech Ops, Automation, and Airspace specialist to brainstorm new ideas to return air traffic services to the ocean after an ATC-0 event. It was determined that Anchorage Center would be the main support facility to resume services to the ocean. There are still many obstacles that must be overcome to make the plan viable.

The group has also met with the national ATOP workgroup a few times to work through some of the technical issues that have been identified by the CO group. One of the problems with getting ATOP up and running in a different facility is that the sync servers for each oceanic facility are stored in house. If a building has to be evacuated, then the supporting facility may not be able to recover the data. Members of 2nd level engineering are looking at the challenges to being able to store all of the data at the Tech Center as well as each facility. This would allow automation specialist the ability to load the affected facilities active traffic into the supporting facility in a reasonable amount of time.

Mr. Grider and Trey Madrid, NATCA member on the CO group from the Command Center, took time to brief the attendees at CFS. Although it was a very high level briefing, several attendees contacted Mr. Grider afterwards with many different questions and recommendations to help make the NAS safer and better prepared for facility outages.

The CO group is now preparing to travel to all 20 CONUS Centers during the next several years to continue building better OCP's. The group will be visiting ZNY, ZDC, ZTL, and N90 in December.

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

Controller Pilot Data Link Communication (CPDLC) sites are now sending over 52,000 clearances a week. Version 12.5 is deployed to all facilities. There is one issue with the 12.5 build that will leave a flight ID stuck in the pick list. This is a case of a flight not being removed from the Pick List after it was tagged as a MUL and the

aircraft departs. The program office worked with IFCET on a schedule to build a new release that would fix the issue. The date provided was not much different than the 12.6 release and would delay the 12.6 release by several months. The issue with a 12.6 delay is that there are enhancements that are needed prior to an ERAM EAE200 release.

En Route CPDLC is being turned on at targeted times at ZME, ZKC and ZID. ZID did fall back from 24X7 operations due to message delivery failures. ERAM software is working great and controller training is completed. The issue is that about 2-3% of the messages are failing to be delivered or are being delivered later than expected. This causes increased workload on the controller. As these runs are continued, data collection continues to find network and avionics issues that are being fixed real time. The support of the key sites to document these issues is very beneficial to the program. As fixes are implemented and new baselines for data collection are drawn, the program office can improve the performance of the network.

The network is owned by ARINC and SITA and managed by Harris. The FAA pays for the network delivery service. The network has been running this way for many years, but until the FAA started running CPDLC, these issues have not been tracked to the magnitude that they are now. ATC operational messages need to be delivered at a higher success rate than we are currently seeing. Some issues are software issues in core processing, some are in radio tower processing, and some are related to avionics software. As the system is tested and debugged, performance will improve. There have been at least 5 fixes to the network and also several avionics issues have been discovered. The program office continues to work with the key sites to find a level of operational acceptability to run the system in a 24X7 operation.

ENROUTE AUTOMATION WORKGROUP (ERAW): Julio Henriques (ZNY) leads the ERAW efforts for NATCA. Rex Jackson (ZDC) provides this update.

- Due to issues within the CPDLC infrastructure all three key sites, ZID, ZKC, and ZME, have fallen back to, or remained in, Limited DFV testing. FTR's, and National and Local SME's at the sites continue to support the test activities. Forward plans are being developed to continue and progress CPDLC deployment.
- EAE130 rebuild completed successful Ops Eval testing and has been released to the three key sites, ZLC, ZSE and ZME. The key sites completed TTL testing the week of October 22nd and will move to the ops portion November 11th. Based on successful testing, EAE130 has a projected national release date of December 11, 2018.
- ERAW received a briefing from Second Level Engineering and the Program Office on the Alternate Display Path in support of R-side Tech Refresh. The goal is to allow the AIX processor to provide data to the glass in the event of an MDM failure due to the new LINUX processors during key site and waterfall deployment as needed. This will provide display redundancy only and is not considered a back-up system to

ERAM. ERAM will need to deploy a separate software release to support the new engineering and testing.

The following issues are examples of what the National User Team worked:

- SE2 Use Case Updates
 - 4th Line – The team discussed and reached agreement on the 4th Line use case reference the ON/OFF switch of functionality. Once all team members concur the use case will be sent to SLE.
 - Airspace Transfer – The team discussed the changes to the use case; a section was added for the “Push” function. The team also decided that language should be added to capture review of national procedures.
- Data Comm CHI

The uplink type for Speed and Route Generic Uplinks were discussed; a recommendation to modify the classification of the Confirm Speed (uM134) and Confirm Assigned Route uplinks from Temporary Generic Uplinks to Permanent Generic Uplinks was discussed. The team agreed with this change and an update to the appropriate use cases will be made.
- ER 195554 AHI and Point Outs

The team reviewed and reached agreement on the problem statement, the desired behavior is to add system functionality that will insert an AHI (Auto Handoff Inhibit) for an aircraft from the initiating sector to the receiving sector after the receiving sector has approved an automated pointout.
- ER 194653 Pending Font and Brightness

The team discussed and reached consensus on the problem statement, its desired behavior is to change the button functions on the SAA Filter Menu so that both hot and pending airspaces can be changed independently.
- Altimeter CAR

A CAR regarding updating of Altimeters at a more frequent rate was discussed. A task team has been created to work the issue with SLE and respond to the CAR.
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- ER 186070 Weather Updates

The ER was discussed; it describes a situation where the weather report for a specific station did not update yet the old weather remained displayed. A draft problem statement will be created with a desired behavior of reporting weather observations as missing if they are beyond an adapted problem statement will be discussed during the next team telcon. Without this fix OLD weather shows as current every 24 hours based on the time of the old WX report.

➤ **PDRR/ABRR**

Critical AIMS 196440 was written against PDRR and a software fix is needed to correct the issue. The ERAM fix will be delivered in April of 2019 and the TFMS fix in 2020 or later. The initial discussions are to disable PDRR at the facility level until the fixes are deployed.

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

All of the FDIO printers installed in key sites are running with no major issues. BOCA has begun the production of the printers and once getting up to full speed will produce a minimum of 500 printers a month. The FDIO Printer team is still on track to begin shipping out the new printers to facilities in first quarter of 2019.

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.

After a dismal failed attempt at upgrading the SCT network to software version 3.6.4 a new key site has been chosen (PHL) and coordination's are underway to pick a date for the installation. PHL was chosen because of its location relative to the Technical Center in Atlantic City so that additional hands on support can be brought in quickly. The reason for the failure at SCT is that there were extra, undocumented, workstations present in the network that caused a fracturing of the network post installation. When and why these extra workstations were introduced into the network is still under investigation. Another issue that arose in SCT is that the facility has removed a lot if not all of the legacy equipment (DASI, RVR, LLWAS, clocks, etc) citing NIDS as the primary source of this information. Because of the failure and subsequent fallback controllers had no real time information to issue to pilots for hours. This is an unacceptable situation for controllers and pilots to be in.

NATCA is focusing on two additional networks that have been awaiting resolutions of issues for unacceptable amounts of time. MSY/NEW has had touch screen monitor issues since the installation of NIDS, and

TUS/U90 has been waiting for a fix for weather alert/alarm acknowledgements for well over a year.

If anyone has questions or concerns about their NIDS system please contact Richie Smith at idsr@natca.net.

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 resolution.

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.

The NEXCOM program office has kicked off the Emergency Transceiver Replacement. This program is looking to replace aging tunable transceivers at DEN, HNL, PCT, PHX, SCT, and SLC. They also looking to replace approximately 2000 of the grab-and-go style emergency transceivers (e.g. PET-2000).

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.

We continue to work through vendor evaluations.

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. Tech Ops continues to correct grounding issues to resolve this problem. GRR is also expecting to receive a replacement voice switch, the Interim Voice Switch Replacement (IVSR), in 2019.

The **Tone Mitigation National Workgroup** met in September 2017 to discuss potential mitigations to the number and severity of tone/noise events across the NAS. This workgroup kicked off largely because of the number of tone/noise events occurring at PCT. One of the outcomes from these meetings was exploring the use of new headset bases which incorporate an active limiter. PCT has

completed their evaluation of the active limiting headset bases. Testing will now move on to several more facilities.

The FAA will be conducting Time Division Multiplexing (TDM) to Internet Protocol (IP) conversion in the Bangor, ME area in the coming months. This technology will assist the FAA as local telco providers move away from legacy TDM services to IP services.

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 November 1, 2018, the number of Rule Compliant ADS-B Out aircraft in the US reached 60,288. ADS-B In equipped aircraft reached 49,116. The growth in aircraft equipage has been significant, and some areas of the NAS are seeing high percentages of air traffic equipped. There is still significant risk around meeting the January 1, 2020 deadline to equip. The actual NAS fleet numbers needed are somewhat vague.
- By 2020, the Agency estimates that 6000-7000 US registered air carriers will need to be ADS-B Out equipped. Airlines operators have all published their plans to meet the deadline and recent trend data indicates significant increase in equipage. Several airlines have significant portions (over 30%) of their fleet equipped including: UPS (97%), JetBlue, Delta, United, American, Alaska, and FedEx. American has also announced a plan to equip 320 Airbus aircraft with ADS-B In.
- For GA, the very rough estimate of avionics installation capacity nationwide is 50,000 aircraft per year and delays are becoming common at multiple avionics installation facilities. Users that wait too close to 2020 may find that the capacity for installation falls short of demand. Agency estimates of the overall GA fleet range widely from 100,000-160,000 aircraft. However, only aircraft that operate in ADS-B Rule airspace (where a transponder is required) will have to equip. This drops the number that need to equip to an uncertain extent. Further, MITRE studies have indicated that another 25,000-40,000 registered aircraft aren't even seen operating in the NAS. Based on all this data, the actual number of GA aircraft needed to equip may actually be closer to the 80,000 range. At the current rate of equipage, 85,000 aircraft will be equipped by the deadline.
- 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, and the effort to do so has begun. To deal with the exception aircraft,

the Agency is working on agreements with DOD to ensure specific 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. 3 of 4 MEARTS facilities are operating on Fusion with ZSU next to transition.
- 134 of 155 Terminal sites have reached their ADS-B IOC, and 129 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:
 - Cleveland (CLE) ADS-B/Fusion Cadre Class 10/10
 - Jackson (JAN) ADS-B/Fusion Kickoff Meeting 10/11
 - Terre Haute (HUF) Transition to Fusion 10/11
 - Cleveland (CLE) Fusion OSD Complete 10/15
 - Erie (ERI) ADS-B/Fusion Cadre Class 10/16 (804 Site)
 - Erie (ERI) ADS-B Flight Inspection 10/17 (804 Site)
 - Monroe (MLU) ADS-B/Fusion Kickoff 10/30
 - Roanoke (ROA) ADS-B Flight Inspection 10/31
 - Binghamton (BGM) ADS-B/Fusion Kickoff 11/1
 - Roanoke (ROA) ADS-B/Fusion Cadre Class 11/1
 - Erie (ERI) ADS-B IOC 11/2 (804 Site)
 - Erie (ERI) Fusion Transition 11/3 (804 Site)
 - Rockford (RFD) ADS-B Fusion Cadre Class 11/6
 - Rockford (RFD) ADS-B Flight Inspection 11/8
 - Grand Rapids (GRR) ADS-B/Fusion Kickoff 11/14 (804 Site)
 - Muskegon (MKG) ADS-B/Fusion Kickoff 11/14 (804 Site)
 - Lansing (LAN) ADS-B/Fusion Kickoff 11/14 (804 Site)
 - Flint (FNT) ADS-B/Fusion Kickoff 11/15 (804 Site)
 - Saginaw (MBS) ADS-B/Fusion Kickoff 11/15 (804 Site)
 - New York (N90) Cadre Training 11/26
 - Rockford (RFD) ADS-B IOC 11/27
 - New York (N90) Fusion OSD 12/3
 - Roanoke (ROA) ADS-B IOC 12/3
 - Tri-City (TRI) ADS-B/Fusion Kickoff 12/4
 - New York (N90) Fusion OSD 12/5
 - Roanoke (ROA) Fusion OSD 12/5
 - Rockford (RFD) Fusion OSD 12/11
 - Rockford (RFD) Fusion Operational 12/12
 - Roanoke (ROA) Fusion Operational 12/12
 - Waterloo (ALO) ADS-B/Fusion Kickoff 12/13

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 show this as a significant problem. ***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 position accuracy 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 (aka "blacklist") is effective in dealing with chronic non-compliant aircraft, but it lacks the ability to respond quickly. As such it will likely always be needed as a backstop to compliance or enforcement issues. An issue identified and reported immediately takes a minimum of one day to place the aircraft on the NSAL.
 - Enhanced Validation (EV) shows the most promise operationally as it is a real time response to invalid ADS-B targets. The latest update to EV already deployed within 15nm around a Terminal Radar has shown positive results. Additional EV techniques are being analyzed, including expanding the range beyond 15nm and further increasing the responsiveness. SBS Engineering is working diligently with Harris to incorporate these changes with additional EV parameters in 2018. With 2020 approaching rapidly, these changes are needed sooner than later to limit the sporadic effects of non-compliant avionics.

Advanced Interval Management (IM):

- Completed meeting to discuss third party Flight ID with American Airlines, ALPA, and APA on Oct 25th as part of the AIRS (ADSB-In Retrofit Spacing) Program. Discussed controller's benefit to use callsigns in communication as done today rather than Flight ID. Safety concerns from pilots were heard and understood; however, pilots seemed to understand a controller's need to keep phraseology consistent.

- The AIRS Time-Based Spacing Demo for ZAB controllers to be held at Mitre in December (moved from November) to fully illustrate the advantages of time-based spacing in comparison to today's distance-based operation.
- A-IM Special Committee Meeting in part discussed the future of CAVS (CDTI Assisted Visual Separation). The need for an indication on the scope for terminal controllers was expressed should any further discussions move forward. This indication would provide controllers a means of knowing who was equipped to better serve the user by increasing efficiency.

ASDE-X Tech Refresh:

- Deployment of the latest tech refresh is build is nearly complete. SAN will be next to receive the software updates.

ASEPS:

- The Agency is solidifying a pivot to other potential areas where Space Based ADS-B could be beneficial. ZMA Caribbean airspace is currently the primary focus to prove this capability.
- The ZMA Caribbean effort will require a formal kickoff meeting, planned for December 18, and a follow on SRMP. These are being coordinated with ZMA and other parties.
- ADS-C reduced separation efforts are proceeding under a separate effort from SBS.

ASSC:

- After some extensive testing, the spectrum office came out with a report stating that the wireless connectivity with ASSC RU's (remote units) created excessive "noise" that needs to be mitigated. Although this does not affect controllers, it could have an effect on the ASSC deployment schedule.
- Extended field familiarization in MCI continues as technical issues continue to be worked out.
- PIT Field Familiarization Started on October 25th. Fine tuning continues as the system is optimized.
- MSY CADRE training is scheduled the week of Nov 12th.

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. ZUA transitioned to Fusion on March 26, 2018.
- A Fusion kickoff meeting, Air Traffic Cadre, and some limited Fusion observations took place the first week of April at San Juan CERAP (ZSU). Analysis of the observations resulted in a need for automation changes.
- A Fusion Operational Suitability Demonstration took place the week of September 24th. Multiple issues were found and the end result was a failed OSD. AJM-25 indicated this week that they have resolved the identified issues

and next steps are to set up a preview at the Tech Center and reschedule the OSD. The next OSD should not occur without AJM-25 support on site.

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.
- The SPA WG has developed a draft list of 18 candidate sites for full removal. However, there are several that require more discussion and analysis. NATCA is working closely with the Agency on potential candidate sites. Another concern is the reliance on military radar sites to provide replacement coverage; these sites have historically had issue with availability and clutter.
- NATCA and Ops Support SMEs from SBS have reviewed these 18 sites identified by the SPA WG. With assumptions made about military radar availability, ADS-B availability, overlapping radar coverage and more the team found 7 to be potential candidates. The SBS Article 114 work group continues to dig into the potential removal sites for consensus. This is only a high level review and any actual decisions would occur post 2020 with local facility engagement.
- An SRM Panel concluded that partial removal (only secondary or primary radar) 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. A subsequent Panel meeting concluded that ATC services would need to remain identical from a high level perspective. Only at the local level can determinations be made to compromise on today's coverage.

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.
- SCT has what has been described as the worst radar environment in the NAS. A multi-faceted approach to remedy has been undertaken, 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. WAM remains disabled at this point due to continued false track 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 has confirmed the benefit of adding Quantico (NYG) radar to PCT as well as reducing obstructions near Dulles. Funding for the additional NYG feed has only recently been identified.
- Raleigh-Durham (RDU) has suffered for far too long with tracking issues. A thorough analysis of the situation was provided in late 2017 showing that the RDU ASR itself is screened by tree growth. Efforts to reduce this screening are underway and the airport authority is awaiting a contractor. SBS has agreed to fund additional radar sensors to help with the Fusion presentation, but if the tree screening is not resolved their tracking issues will continue.
- Systemwide changes to CLT are being worked to boost WAM availability. These include multiple redundant communication links from Radios, network architecture improvements, and a closer examination of which Radios are Critical. This last step has changed CLT WAM from having eight Critical Radios to only three. A Critical Radio failure means the entire WAM system is out of service so a reduction in Critical Radios would likely mean greater availability. This change was made after surveillance coverage was found to be operationally acceptable during a flight inspection July 23-27.
- A Fusion planning meeting with N90 took place on September 11. The outcome was a time line and strategy to get the Approach Control to Fusion by late February. Another discussion is needed with the underlying Tower facilities. The transition to Fusion is needed soon to ensure all are well ahead of the January 1, 2020 deadline to equip with ADS-B. Without Fusion, STARS facilities cannot take advantage of ADS-B.
- NATCA and Ops Support SMEs from SBS have completed a review of numerous requests for additional radar feeds across the NAS. Our team focused on those that benefit Fusion tracking. Issues such as service expansion were outside of SBS scope and should be worked through other channels.

Vehicle ADS-B:

- 1419 vehicles equipped at 21 airports