SAFETY AND TECHNOLOGY DEPARTMENT

AIRSPACE

Jim Davis (PCT) is the National Airspace Representative for NATCA. Below is the update for the Atlanta Metroplex from NATCA Co-Lead, Christian Karns:

On Wednesday, Feb. 1, we met with NATCA RVP Jim Marinitti, and Jefferey Vincent (FAA). They talked to the entire team, consisting of both ATM's both FacReps, the team leads, and all project POC's. It was a re-education on the Metroplex MOU and briefing of current status.

On Thursday, Feb. 2, we continued with the Post Implementation with A80. At the end of day, several concepts were looked at and a consensus came down to 2 of the 5. Vicki (FAA management Co-Lead for Atlanta Metroplex) and I met after the meeting and on the next day, we felt that the team was at an impasse on which concept to move forward with. We looked at the pros and cons of each concept and, weighing out those options, chose to proceed forward with Concept 5. On Friday morning, Feb. 3, we met with Donna Creasap and Mack Alexander. We briefed and updated them on the progress of the team.

Monday, Feb. 6, we continued with Post Implementation. The Metroplex Team Leads (Christian Karns and Vicki Turner) announced we were moving forward with Concept 5. Concept 5 is Bi-directional Stars on the North side but with a crossing restriction instead of OPD in ZTL airspace. A80 could issue the OPD when able on the downwind. Directional STARs on the South side with OPDs in both ZTL and A80 airspace. Concept 5 was designed with altitudes on the downwind, but after trying to meet A80 operational needs and SWA concerns with fly-ability, even though it passes TARGETS 5.2 criteria, we had to take the altitudes off the downwind.

We discussed several options on how to connect the STAR to the approaches (RNPs). With the timelines we are under and the additional slots that would be needed, the team leads decided to move forward with no altitudes on the downwind and leave the connection to the approaches (RNPs) for a future project.

We asked the group to design (tweak) what didn't work on the published procedures that were implemented in November. As of 11 a.m. Tuesday, Feb. 7, we have completed all the south STAR's long and short side. They meet criteria, they are all flyable, and they meet the needs of A80. To meet TARGETS 5.2 criteria, an altitude as been put at the last waypoint. Delta and A80 both do not support the last waypoint altitude (per TARGETS 5.2 criteria) at the end of the STAR and have asked us to seek waiver to not publish it. Things are moving better now but Delta is not happy with not having a path to EOR on the current STARs. Unless we get additional slots and more time to design, we must move forward with the tweaks that we are currently designing.

DATACOMM

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

Over 1,200 flights a day are receiving Controller Pilot Data Link Communication (CPDLC) clearances from 55 towers. New operators are coming on board weekly. Jet Blue Airlines will be participating shortly and they are equipping every new aircraft that come of the assembly line. They are also paying to retrofit older Airbus aircraft that they

are currently flying. Southwest Airlines added some additional B737 700 models last week and they continue to update that fleet. United Airlines is working on getting their B737 flights turned on and pilots trained. International carriers continue to join as their version of the FAA approves them for use in the United States. Below is a listing of operator participation at CPDLC sites and type aircraft that have also participated:

KSLC: Alaska Airlines, American, Delta, Executive Jet Management, FedEx, General Aviation, Group Holdings Aviation, Solarius, Southwest, United, UPS, USAF, Virgin America.

KIAH: 89th Airlift Wing at Andrews, Air Bridge Cargo, Air New Zealand, Alaska Airlines, American, Air New Zealand, British Airways, Cargolux, Emirates, Executive Jet Management, FedEx, General Aviation, Jet Aviation Services, KLM, Korean Airlines, Qatar, Singapore, United, UPS.

KHOU: American, Corporate Air "Millennium", Delta, Executive Jet Management, General Aviation, Kaiser Air, Solarius, Southwest.

KMSY: Alaska Airlines, American, Delta, Executive Jet Management, FedEx, General Aviation, Hawaiian Airlines, Qatar, Southwest, and United.

KAUS: Alaska Airlines, American, British Airways, Cargolux, Delta, Executive Jet Management, FedEx, General Aviation, General Aviation Flying Services, Southwest, Solarius, United, Virgin America.

KSDF: American, Corporate Air "Millennium", Delta, FedEx, General Aviation, Southwest, UPS.

KEWR: Air India, Aer Lingus, Alaska Airlines, American, Air Alsie A/S, Austrian Airlines, British Airways, Corporate Air "Millennium", Delta, FedEx, General Aviation, Group Holdings Aviation, NetJets, NetJets Europe, Scandinavian Airways, Solarius, Southwest, Swiss International, United, UPS, Virgin America.

KSAT: Alaska Airlines, American, Delta, FedEx, General Aviation, Southwest, Solarius, United, and UPS

KJFK: Air India, Aer Lingus, Air Berlin, Aerolineas Argentinas, Alaska Airlines, Alitalia, American, Asiana Airlines, Austrian Airlines, British Airways, Brussels Airlines, Cargolux, Cargolux Italia SPA, Delta, Emirates, Etihad, Executive Jet Management, FedEx, Finnair, General Aviation, Hawaiian Airlines, Japan Airlines, Jet Aviation Services, KLM, Korean Airlines, Norwegian Air Shuttle, Qatar, Royal Air Morac, Singapore, Swiss International, United, UPS, Virgin America

KLAX: Air Berlin, Air Bridge Cargo, Air New Zealand, Air Tahiti, Alaska Airlines, American, Asiana Airlines, British Airways, Cargolux, Delta, Emirates, Etihad, Executive Jet Management, Execujet Europe A/S, FedEx, General Aviation, Hawaiian Airlines, Japan Airlines, Jet Aviation Services, KLM, Korean Airlines, LATAM Airlines, NetJets Europe, Norwegian Air Shuttle, Qatar, Scandinavian Airways, Singapore, Singapore Airlines Cargo, Solarius, Southwest, Swiss International, United, UPS, Virgin America

KLGA: 89th Airlift Wing at Andrews, American, Corporate Air "Millennium", Delta, Executive Jet Management, General Aviation, General Aviation Flying Services, Group Holdings Aviation, LJ Aviation, NetJets, Southwest, United, USAF

KIND: American, Cargolux, Delta, FedEx, General Aviation, Southwest, United, and UPS

KTEB: Chicago Jet Group, Corporate Air "Millennium", Corporate Concepts, ExecutJet, Execujet Europe A/S, Executive Flightways, Executive Jet Management, G&A Air AS, Gamma Charters, General Aviation, General Aviation Flying Services, Group Holdings Aviation, Jet Aviation Services, Jet Linx Aviation, John Deer Company, LJ Aviation, NetJets Europe, Priester Aviation, Solarius

KLAS: Alaska Airlines, American, British Airways, Corporate Concepts, Corporate Air "Millennium", Delta, Executive Jet Management, FedEx, General Aviation, Hawaiian Airlines, Jet Aviation Services, Kaiser Air Inc, Korean Airlines, Norwegian Air Shuttle, Sands Aviation, Solarius, Southwest, United, UPS, Virgin America

KMEM: American, Corporate Concepts, Delta, FedEx, General Aviation, Executive Jet Management, Solarius, Southwest, UPS

KSAN: Alaska Airlines, American, British Airways, Corporate Air "Millennium", Delta, FedEx, General Aviation, Hawaiian Airlines, Japan Airlines, Jet Aviation Services, Solarius, Southwest, United, UPS, Virgin America

KHPN: Corporate Air "Millennium", Delta, Execujet Europe A/S, Executive Jet Management, General Aviation, General Aviation Flying Services, Irving Oil Transport, Jet Aviation Services, Solarius

KBNA: Alaska Airlines, American, Corporate Air "Millennium", Delta, Executive Jet Management, FedEx, General Aviation, General Aviation Flying Services, Harley Davidson, Jet Aviation Services,Reynolds Jet Management, Solarius, Southwest, United

KPHL: Alaska Airlines, American, British Airways, Corporate Air "Millennium", Delta, Execujet Europe, Executive Jet Management, FedEx, General Aviation, Qatar, Southwest, United, UPS

KSNA: Alaska Airlines, American, Corporate Concepts, Delta, Executive Jet Management, General Aviation, Harley Davidson, Solarius, Southwest

KDEN: Alaska Airlines, American, British Airways, Delta, Executive Jet Management, FedEx, General Aviation, Hawaiian Airlines, Southwest, United, UPS, Virgin America

KBUR: Alaska Airlines, Executive Jet Management, General Aviation, Kaiser Air Inc, Solarius, Southwest

KBOS: Aer Lingus, Alaska Airlines, Air Alsie A/S, Alitalia, American, British Airways, Delta, Emirates, Executive Jet Management, FedEx, General Aviation, Irving Oil, Japan Airlines, Jet Aviation Services, Kaiser Air, LJ Aviation, NetJets, Norwegian Air Shuttle, Qatar, Solarius, Southwest, Swiss International, United, UPS, Virgin America

KONT: Alaska Airlines, American, Corporate Air "Millennium", FedEx, General Aviation, Solarius, Southwest, United, UPS

KATL: Air Bridge Cargo, Alaska Airlines, American, Asiana Airlines, British Airways, CargoLux, Delta, Emirates, FedEx, General Aviation, KLM, Korean Air, Qatar, Reynolds Jet Management, Singapore Airlines Cargo, Southwest, United, UPS

KCLT: American, Corporate Air "Millennium", Delta, Executive Jet Management, General Aviation, Jet Aviation Services, Solarius, Southwest, UPS

KSFO: Aerolineas Argentinas, Air India, Air New Zealand, Alaska Airlines, American, Asiana Airlines, British Airways, Corporate Concepts, Delta, Emirates, Etihad, Executive Jet Management, FedEx, General Aviation, General Aviation Flying Services, Hawaiian Airlines, Japan Airlines, Jet Aviation Services, KLM, Korean Air, Scandinavian Airlines, Singapore Airlines, Solarius, Southwest, Swiss International, United, Virgin America

KBDL: Aer Lingus, American, Delta, Executive Jet Management, FedEx, General Aviation, Jet Aviation Services, Jet Linx Aviation, LJ Aviation, Solarius, Southwest, United, UPS, Virgin America

KOAK: Alaska Airlines, Delta, Corporate Air "Millennium”, Executive Jet Management, FedEx, General Aviation, Hawaiian Airlines, Jet Aviation Services, Jet Linx Aviation, Kaiser Air, Norwegian Air Shuttle, Solarius, Southwest, United, UPS

KDTW: Alaska Airlines, American, Delta, FedEx, General Aviation, Hawaiian Airlines, Jet Aviation Services, Southwest, United, and UPS

KMCO: Alaska Airlines, American, British Airways, Delta, Emirates, FedEx, General Aviation, LATAM Airlines, NetJets Europe, Norwegian Air Shuttle, Solarius, Southwest, United, UPS, Virgin America

KSJC: Alaska Airlines, American, British Airways, Delta, Executive Jet Management, FedEx, Group Holdings Aviation, General Aviation, Hawaiian Airlines, Solarius, Southwest, United, UPS

KCLE: American, Delta, FedEx, General Aviation, Southwest, United, UPS, And Virgin America

KSMF: Alaska Airlines, American, Delta, FedEx, General Aviation, Hawaiian Airlines, Jet Aviation Services, Southwest

KMIA: Aerolineas Argentinas, Air Berlin, Alitalia, American, Asiana Airlines, Austrian, British Airways, Cargolux, Corporate Air "Millennium”, Delta, FedEx, Finnair, General Aviation, KLM, Korean Airways, LATAM Airlines,LATAM Cargo, Qatar, Scandinavian Airlines, Solarius, Swiss International, United, UPS, Virgin America

KPIT: American, Corporate Air "Millennium", Corporate Concepts, Delta, Executive Jet Management, Emirates, FedEx, General Aviation, Jet Aviation Services, Solarius, Southwest, United, UPS

KPHX: Alaska Airlines, American, British Airways, Delta, FedEx, General Aviation, Group Holdings Aviation, Hawaiian Airlines, Southwest, United, UPS, VW Air Service

KFLL: Alaska Airlines, American, Delta, Emirates, FedEx, General Aviation, Jet Aviation Services, Norwegian Air Shuttle, Solarius, Southwest, United, Virgin America

KBWI: Alaska Airlines, American, British Airways, Delta, FedEx, General Aviation, Hawaiian Airlines, Solarius, Southwest, United, UPS

KTPA: Alaska Airlines, American, British Airways, Corporate Air "Millennium", Delta, FedEx, General Aviation, Southwest, United

KIAD: Aer Lingus, Alaska Airlines, American, Austrian, British Airways, Brussels Airlines, Corporate Air "Millennium", Delta, Emirates, Etihad, Execujet Europe A/S, Executive Jet Management, Executive Flightways, FedEx, General Aviation, Jet Aviation Services, KLM, Korean Air, LJ Aviation, Qatar, Scandinavian Airlines, Solarius, Southwest, United, UPS, Virgin America, VW Air Service

KDCA: Alaska Airlines, American, Delta, Executive Jet Management, General Aviation, Southwest, United, Virgin America

KPDX: Alaska Airlines, American, Corporate Air "Millennium", Delta, FedEx, General Aviation, Hawaiian Airlines, Solarius, Southwest, UPS, Virgin America

KSEA: Air Bridge Cargo, Alaska Airlines, American, Asiana Airlines, British Airways, Cargolux, Delta, Emirates, FedEx, General Aviation, Hawaiian Airlines, Korean Airways, Singapore Airlines Cargo, Southwest, United, Virgin America

KABQ: Alaska Airlines, American, Delta, Corporate Concepts, General Aviation, Southwest Airlines, United, and UPS

KSTL: Alaska Airlines, American, Delta, Executive Jet Management, FedEx, General Aviation, Southwest, and UPS

KDAL: Chicago Jet Group, Corporate Concepts, Delta, Executive Jet Management, General Aviation, Gulfstream Aerospace, Group Holdings Aviation, Jet Aviation Services, Jet Linx Aviation, Solarius, Southwest, Virgin America

KMCI: Alaska Airlines, American, Delta, FedEx, General Aviation, Southwest, United, and UPS

KDFW: Air Bridge Cargo, Alaska Airlines, American, Asiana Airlines, British Airways, Cargolux, Emirates, Etihad, Executive Jet Management, FedEx, General Aviation, Japan Airlines, Korean Airways, Qatar, Singapore Airlines Cargo, UPS

KMDW: Chicago Jet Group, Delta, Executive Jet Management, General Aviation, Jet Aviation Services, Solarius, and Southwest

KORD: Air Berlin, Air Bridge Cargo, Air India, Air New Zealand, Alaska Airlines, American, Asiana Airlines, Austrian, British Airways, Cargolux, Delta, Emirates, Etihad, FedEx, General Aviation, Japan Airlines, KLM, Korean Airlines, Qatar, Scandinavian

Airlines, Singapore Airlines Cargo, Swiss International Airlines, United, UPS, Virgin America

KRDU: Alaska Airlines, American, Delta, Executive Jet Management, FedEx, General Aviation, Southwest, and UPS

KMSP: Alaska Airlines, American, Delta, FedEx, General Aviation, Southwest, and UPS

KMKE: Delta, FedEx, General Aviation, Harley Davidson, Southwest, UPS

TJSJ: American, Delta, Etihad, General Aviation, Norwegian Air Shuttle, Southwest, United, and UPS

The type aircraft have participated are the A318, A319, A320, A333, A343, A350, A388, B737, B738, B744, B748, B752, B753, B763, B764, B772, B77L, B77W, B788, B789, BE9T, C650, C680, C68A, CL30, CL35, CL60, E35L, FA7X, FA8X, F2TH, F900, FA50, G280, GLEX, GL5T, GLF4, GLF5, GLF6, MD11, PA31.

Yes, that is a PA31 that has a modified system to be able to participate. As costs come down and new solutions are developed, we should see additional type aircraft that can play. Embraer is working on an integrated system for their aircraft as well.

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

The EFSTS team traveled to MSP to set up the EFSTS-in-a-box to train approximately 35-40 people mostly controllers. Ron Shusterman led the familiarization brief and Ron and myself administered the hands on training of the ERK touch screen.

On 1/18/17, the TSLE team gave MSP Tech Ops personnel hands on familiarization session on the ERK setup and basic configuration.

On 1/19/17, Cory Gill (TSLE) and Mark Pfauth (MSP Tech Ops) installed an ERK unit in the LC-W position in the ATCT. The unit was hooked up to the live EFSTS interface, and multiple test strips were successfully scanned through with AOI changes to ensure they printed out correctly in the TRACON. Dave King (TSLE) hand delivered the LOA to MSP Tech Ops that authorizes the operational install of the ERKs at MSP.

Upon completion of ATC familiarization --- At the discretion of MSP ATC/Tech Ops, the legacy EFSTS keypads in the ATCT will be swapped out for the new ERK kits. There will be a total of (6) operationally live ERKs, with (1) site spare ERK kit.

Once the ERKs go IOC in the ATCT, a suitability period commences (specific to the ERK macro functionality). The soft benchmark is 21 days, however if no issues persist per site observation, AJV-723 (Frank Lias) can make the suitability call earlier. During the suitability period, if any issues arise, MSP ATC/Tech Ops will contact the PMO Help Desk (info provided by TSLE), and the information will be forwarded to the EFSTS TSLE, NATCA, AJV, and TFDM PMO POCs.

FIDI Update
I was told the program has been addressing various actions related to the Tech Refresh portion of FIDI over the last few months. The FIDI program met with the Capital Investment Team (CIT) in December 2016 to discuss the state of the FIDI program. No decision was reached on the overall plan for the FIDI program at the meeting. The next steps were for the program to be notified on any decisions and next steps, via either a follow up meeting or in writing.

FIDO Update
A sample of the new FDIO printer has been sent to the tech center and is currently being tested. I have not had a chance to make the trip to the tech center to get hands on yet but as soon as I do I will send out an update. Currently the FDIO team is finalizing all the contracts for cables and other parts associated with the install of the new Printers.

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 is now scheduled to begin the second week in April. FAT is now scheduled to begin the week of July 18th. Harris continues to assemble the 255 position ATC Voice Node (AVN) for FAT. They also continue development of the formal test procedures, which will be run on the FAT system.

Mr. Shedden and Christopher Lloyd (ZDC) received informal delivery of the 90% complete operator and supervisor manuals. Formal delivery will occur just prior to the beginning of FAT Dry Runs.

Mr. Shedden was at the Harris test facility in Melbourne, FL the weeks of January 9th and 23rd. Mr. Shedden was also in D.C. on February 1st for the quarterly Program Management Review.

Next Generation Air-Ground Communication (NEXCOM) continues deployment of new CM300/350 V2 radios to terminal facilities across the country. Deployment is going well.

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.

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.

Potomac TRACON (PCT) is reporting a large number of tone events. The FAA sent a team of engineers from the MMAC to their facility to try to determine the cause, and any possible resolutions. This has also caused NATCA and the FAA to take a closer look at the headsets to determine if they provide adequate protection against these events.

Mr. Shedden is participating in the rewrite of FAA Order 6510.4 (A/G Order). The last version was written in 1980. There are both new and existing requirements in the order dictating how Air Traffic must use A/G frequencies. NATCA received a briefing from the Spectrum Office on September 27th. We have requested a SRM panel be convened to address the safety issues associated with this requirement. AJI is reviewing the request.

RUNWAY SAFETY
Bridget Gee (DFW) is NATCA's Runway Safety Action Team (RSAT) Representative. She also serves as the Article 114 Representative to the Runway Status Lights (RWSL) Program. Below is her report to the membership.

The majority of my efforts last month and for the foreseeable future will be to improve the runway safety group's process for data collection, categorization including event assessment, and the analysis function associated with runway incursions. This will undoubtedly take some time and effort. However, our goal is to incorporate improvements, including the following:

Historically, the RCAT (Root Cause Analysis Team) brings recommendations to the RSC (Runway Safety Council) based off of the A & B events in the NAS. These recommendations were solely from those 19 events and not necessarily systemic issues. Last year -7 A's, 12 B's, 698 C's, and 838 D's

By combining the SRAP (Surface Risk Analysis Process) and RIAT together, we can do a "deeper dive" into the C events. This process would allow an assessment of the contributing factors, the taxonomy which includes the ACT 3, and include a risk assessment. This new process ultimately would result in data driven recommendations to the RSC.

Data Collection:
MOR is filed, QA validates if a non-conflict, use the RSPMs (Runway Safety Program Managers) to confirm the event is a non-conflict. If the event meets the definition of a runway incursion and in fact is a non-conflict. It would then be categorized as a D.

If the event is a conflict event we send it to the next step.

Event Assessment: (SRAP+):
A key element in order for this to be affective is the use of a collaborate group modeling it off of the current SRAP process by bringing NATCA and a pilot on board. This group would be combining the efforts of the RIAT, which categorizes runway incursions with the efforts of the SRAP, which does a more in depth analysis into an event. By combining these efforts we get more pertinent data.

Last year, SRAP reviewed 356 events. Over the last 5 years, the SRAP has reviewed 1,445 events. None of this data has been actually used by the runway safety group. I am the co-lead for the RCAT. I have asked for the taxonomy and contributing factors data in order to bring it to the next RCAT on the 23rd, which would begin a more in depth look into those events. I haven't gotten the data yet, but I hope to get it by Friday.

Analysis function: (RCAT+)
The group turns the data from the SRAP+ into something we can use by doing an assessment of the big picture. If an issue is identified as systemic in the NAS we have a

national responsibility to do something. At the same time, if an issue is identified for a specific facility. This allows us to give the facility tools to handle local issues. Also, we would be able to determine within specific pilot communities such as ALPA, NBAA, AOPA, etc. those contributing factors that need to have a heightened awareness and education to their pilots. Also, the recommendations to the RSC would be data driven and based off of 700+ events not just the 19 A & B incidents.

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 48 Rep, Craig Bielek (A90), Dan Hamilton (SFO), National Airport Surface Surveillance Capability (ASSC) Rep, Andrew Stachowiak (I90), and Tom Zarick (ZDV), National Interval Management Rep

ADS-B:
As of January 1, 2017, the number of Rule Compliant ADS-B Out in the US reached 23,566. ADS-B In equipped aircraft reached 21,604.

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 adamant that the deadline is firm. Time will tell, as the deadline looms closer.

Most, if not all, Air Carriers have provided the Agency with a plan to meet the Jan 1, 2020 deadline.

The military, as released in the press, expects to be unable to meet this deadline and is working with the Agency on a compromise that requires DOD radar availability at key sites identified.

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 SBS PO very rough estimate of avionics installation capacity nationwide is 50,000 aircraft per year. Users that wait too close to 2020 may find that the capacity for installation falls short of demand. Facilities may see these GA ADS-B operators flying more check flights as they attempt to validate their installations and claim the rebate.

An issue not screened by automation systems but an important assumption for future ADS-B dependent applications is the broadcast call sign of the user. ADS-B sends this information to automation systems for comparison to the filed call sign. When a mismatch occurs a Call Sign Mismatch (CSMM) alert can be generated. Data from ZAN showed over 2100 CSMM alerts were generated in just one month (March 2016). This prompted SBS Article 48 to recommend all MEARTS sites disable CSMM alerts. MEARTS sites can do the same with Build 16.01 or later. In addition, SBS Article 48 initiated a survey of all ERAM sites to gauge the extent of the problem. In July 2017, over 44,000 CSMM conditions were present in all ERAM sites. In October and

December 2016, the number grew to over 55,000 CSMM conditions present in ERAM (caused by 15,000 aircraft). Obviously, the Agency has a long way to correct this issue.

ADS-B IOCs have been completed at all EnRoute (ERAM and MEARTS) facilities.

All but one ERAM site has promoted ADS-B to the top of their sort cells. ZMA intends to wait until the end of FY17 to do so.

91 of 155 Terminal sites have reached their ADS-B IOC and 83 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:

Burlington (BTV) ADS-B IOC 12/13/16
Myrtle Beach (MYR) Fusion Operations 12/14/16
Cedar Rapids (CID) Kickoff 12/20/16
Green Bay (GRB) OSD 12/21-22/16
Burlington (BTV) OSD 12/29/16
Sioux Falls (FSD) OSD 1/4-5/17
Tallahassee (TLH) Flight Inspection 1/5/17
Fayetteville-Springdale (FSM) ADS-B IOC 1/11/17
Bismarck (BIS) Kickoff 1/18/17
Colorado Springs (COS) ADS-B IOC 1/18/17
Eugene (EUG) Kickoff 1/19/17
Colorado Springs (COS) OSD 1/19/17
Tallahassee (TLH) ADS-B IOC 1/31/17
Fayetteville-Springdale (FSM) OSD & Fusion Operations 2/1-2/17
West Palm Beach (PBI) Kickoff 2/7/2017
Roswell (ROW) Flight Inspection 2/8/17
Columbia (CAE) Kickoff 2/9/17
Greensboro (GSO) Fusion Operations 2/9/17
Huntsville (HSV) Flight Inspection 2/15/17
Tallahassee (TLH) Fusion Operations 2/22/17

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 associated with investigating avionics issues flagged by the SBS Compliance Monitor. These issues occur when standards for installation or configuration within aircraft or ground systems are not met. ADS-B is a cooperative surveillance source relying on the position information determined onboard the aircraft. In order to reduce or prevent the number of safety compromising events in the NAS we need a proactive, timely response.

NATCA SBS has prompted the Agency to reopen analysis of the risk associated with erroneous position in the ADS-B SRMD, and a meeting on the topic is planned in February. The Agency has indicated potential mitigations may be implemented soon. However, an SRM Panel is the appropriate place to determine whether the mitigations are acceptable.

Advanced IM/FIM-S
NASA ATD-1 Flight Demo started the end of January at Moses Lake. Operations to continue till the end of February. Preliminary indications appear positive.

Merging and Spacing workgroup scheduled to meet in PHX to discuss Proposed M&S Operation in Phoenix as well as approaches for Controller to Know Which Aircraft Are M&S Equipped/ Have Trained Crews.

Advanced Surveillance - Enhanced Procedural Separation (ASEPS)
ASEPS continues to explore a reduced oceanic separation standard. This may be supported by Space Based ADS-B (SBA) or with changes to ADS-C, currently used in ATOP. In any environment, including oceanic, separation standards are closely tied to the combined performance of Communication, Navigation, and Surveillance (CNS). While SBA represents are dramatic change in surveillance, little is changing in the ability to communicate with aircraft.

To date, the Agency has stated that communication is "out of scope" for the ASEPS effort. Reducing separation standards without a change in communication affects response times and much more. NATCA ATOP SMEs have also weighed in during our SRMPs that ADS-C backup is desired even with the introduction of SBA.

A third SRMP was held November 29 to Dec 1 that included NATCA representatives from all ATOP facilities. The previously identified 12 hazards were given initial and final rankings based upon mitigations identified by the Panel. NATCA and other SMEs continue to identify enhanced oceanic communications as a necessary mitigation for the hazards identified. Without enhanced communication, the overall success of the ASEPS remains in question.

Currently, the ASEPS project is focusing on HITL development. NATCA SMEs have weighed in that unique scenarios need to be developed for each facility, contrary to the Agency's current approach.

ASDE-X Tech Refresh:
Efforts to update the final Baseline training course for this system are currently underway.
The team recently completed a trip to OKC to test and review the latest batch of system enhancements. Deployment should start mid to late summer at the latest.
ASSC:
Field Familiarization starts in CLE the week of February 6th.
IOC for CLE is scheduled for the weekend of March 24th.
ORD (Operational Readiness Decision) should be decided in the month of March as well. There are currently no issues that would affect a positive outcome.
90% design reviews will be taking place in MSY, PIT and ANC in the upcoming weeks.

ERAM Fusion
Coordination has begun on a Track Based Display Mode (TBDM) SRM Panel planned for March 14-16 at Seattle Center. NATCA participants have been identified and submitted to FAA LR.

The goal of TBDM is to allow expanded use of 3NM separation below FL230. This includes supporting 3NM separation with ADS-B.

TBDM will be an incremental step towards an ERAM Fused Display Mode (FDM) change in the future. This is currently being prototyped, and FDM will allow display rates to be independent of the speed of the surveillance sources. A faster update rate would potentially allow expanded use of 3NM separation above FL230.

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

GIM-S:
GIM-S continues to struggle with some operational challenges at the facilities where it's turned on. Issues ranging from controller confidence in the tool, procedural discussions between adjacent facilities, or adaptation problems. The SBS Program Office and the ERAW group will meet in two weeks to set up a Steering Committee to address these issues and discuss a path forward.

MEARTS Fusion:
Significant progress has been made towards a planned operational start of Fusion at HCF on February 22, 2017. This would not have been possible without the dedication of so many at the facilities involved. Special thanks to Jonah Chang, Bryce Aubrey, Gil Garcia, and Dwayne Bonker for the extra effort required to support these events.

An Operational Suitability Demonstration of Fusion at Honolulu (HCF) was conducted successfully December 13-15.

Fusion Cadre and Workforce training began on January 9. HCF has completed all controller training, and underlying facilities are expected to complete theirs shortly.

Looking forward to HCF becoming the second EnRoute site to use a Fused display mode (ZAN August 2015), and the first EnRoute site to use Fusion in 3NM airspace.

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.

An issue with TDW displays seems to be close to resolution. Both the Agency and NATCA agreed to an adaptation parameter to resolve the issue with target size. TSLE has begun rolling out the change nationally.

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.

Meanwhile the SAAT team has been working on a costly Wide Area Multilateration (WAM) design. Agency and Stadium proponents have completed negotiations over funding and announced that a shared cost agreement allowing WAM deployment to move forward.

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 is moving along rapidly. The 9 existing Radios are almost updated, and contractor testing will follow. A flight inspection could occur as early as July, and operational use by August 2017.

Las Vegas (L30) has successfully completed their OSD but has not determined when they will transition to Fusion. NATCA SBS is trying to work with the facility on any internally identified obstacles or issues.

SAAT has agreed to begin 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.

Vehicle ADS-B:
996 Vehicles equipped at 17 Airports. BDL is the latest Airport to deploy Vehicle transponders. Audits of the 17 airports will start soon in efforts to identify and mitigate various issues that have been identified through deployment thus far.

The team just finished a trip to ATL to demo a new system for vehicles that also includes runway incursion software. Dan Hamilton will be reaching out to Bridget Gee (Runway Safety Rep) to discuss this new system.

WEATHER
Matt Tucker (ZTL) is NATCA's Article 114 Representative for Weather. His update for the membership is below.

Collaborative decision Making Weather Evaluation Team (CDM-WET)
The Weather evaluation team with concurrence of the CDM steering group (CSG) has taken on a new direction. The last couple of years the group was trying to implement a new product called CAWS but due to a number of issues, ranging from not being on the TSD, lack of collaboration among the forecasters, and confusion on how the product should be used the group as terminated the test and changed direction a little. The

replacement for CAWS will be the Traffic Flow Management Convective Forecast. This product will come from the aviation Weather Center and will be on the TSD instead of the old CCFP.

This product will have a 4,6, and 8-hour panel just like the old CCFP but instead of a forecaster starting from scratch there will be an automated version that will then go through the collaboration process with the Aviation weather community. Once this has happened the product will be disseminated 45 minutes prior to the Strategic Planning call. This will allow the Command Center and TMUs to see it and decide what impacts the forecast will have on the upcoming plan. The goal is to eventually extend the forecast out to 24 hours to allow for next day planning.

NEXTGEN Weather Processor (NWP) and Common Support Services-Weather (CSS_WX)
Both programs are moving forward the Technical Center hardware for CSS-WX should be installed this summer and testing on data feeds and weather products. The Aviation Weather Display development is ongoing and one of the issues being worked on is the login requirements and passwords. Security wants the same type of login/password requirements that administrative systems use and I keep emphasizing that this is an operational system and we don't log in and out of ERAM or STARS. Raytheon has a planned demo for the human factors working group the end of March to show the results of build 1 of 4. There are a lot of products that have to be incorporated into the AWD and training discussions on these products is just getting under way with a meeting scheduled at Raytheon in March.

Human Weather Observers (HWO, LAWRS)
The agency has started to conduct quality assurance reviews of both CWO and LAWRS sites. A number of issues has come up, one of the biggest items is logging in to and out of the ASOS terminals in the towers when a tower closes. This impacts how a METAR is coded when it is transmitted from being an augmented to a completely automated report. Another issue is lack of refresher training for actually conducting the weather observation; as of now the only refresher that controllers are taking is how to use the ASOS terminal. A new effort will be getting under way on a recurrent type training for LAWRS observers to improve the quality of the weather observation's that are being conducted. The National Weather Service (NWS) used to conduct the evaluations and the FAA took over the responsibility for these in November 2015, the QCG group will be adding some of the evaluations to the quality control checklists for the inspectors to look at when they conduct external facility evaluations.

The move to shift more towers from CWO's to LAWRS is on hold as the agency has to report out to congress, how the SRM process was conducted and the results of the safety cases for each site. One of the issues that was a large concern was the inability for controllers to leave the tower to take an observation, this was especially concerning with the requirement to delineate the difference between Ice Pellets and other freezing precipitation due to the direct impact on deicing requirements that have been levied by flight standards. Testing has been completed on a sensor that has the ability to discriminate between the types of freezing precipitation but the report has not been finalized.

American Meteorological Society (AMS) Aviation, Range, and Aerospace Meteorology (ARAM)

The annual ARAM meeting was held in conjunction with the annual meeting of AMS. The meeting consisted of four days of presentations from meteorologists, scientists, and academia on a range of aviation weather related topics. A great number of discussions were on turbulence detecting through use of radar and the use of Eddy Dissipation Rate (EDR). EDR is a number that is calculated using sensors already on board most commercial aircraft and uses an algorithm that is loaded into the avionics and creates a turbulence value. The number is aircraft specific but can be applied to other aircraft in the same weight category.

The Aviation Weather Center's website has a turbulence product that uses EDR and shows graphical representation of areas of turbulence based on three weight classes of aircraft. One of the presentations discussed a research project that the FAA is funding on controller workload as it relates to turbulence and bad rides. They are currently trying to create an algorithm that will collect the amount of altitude changes that they think are attributed to bad rides. A number of issue were brought up about the direction they were going as in just altitude changes are a small part of the workload and they really need to coordinate site visits and site and listen to controllers during days with bad rides as there is no way to quantify the workload without actually seeing and hearing it.

Icing was another topic that had a lot of focus, there were some papers presented on using radar to actually show and discriminate on the type and intensity of the icing. One thing that came up in a number of presentations was the need for much greater numbers of PIREPS and the need for better accuracy and consistency. Academia is actually planning flight tests into know areas of icing to help validate the work that they are doing but that is only is a very small focused area of the country. Some of the presentations discussed super cooled liquid precipitation (SLD) as this is a high hazard for not just airframe icing but engine icing and has been implicated in a number of engine failure incidents around the globe. There is a move to be able to actually show on radar the difference between regular precipitation and SLD due to the high hazard. This is still some ways off for our workforce but the research community is working on the science and validation.

On Wednesday Jan 25th NATCA participated in presenting a new award at the Annual Awards banquet. The Aviation & Space Operations Weather Prize was presented to John McCarthy PhD. McCarthy received the first A&SO Weather Prize for his "lifetime achievements to identify, detect, warn, mitigate and promote industry education on the microburst hazard in commercial and private aviation." McCarthy was the founding Director of the Research Applications Program (RAP) at the National Center for Atmospheric Research (NCAR), Boulder, CO, from 1981-1994. As Director of RAP, he directed research associated with aviation weather hazards including NCAR activities associated with National Science Foundation Joint Aviation Weather Studies (JAWS), which determined that microbursts were commonplace in the Denver area.

A following FAA/RAP effort detected microbursts in real-time and transmitted warnings to pilots arriving and departing Denver with significant success. The success of this effort led the FAA to establish the Terminal Doppler Weather Radar (TDWR) Program, in close conjunction with MIT Lincoln Laboratory and RAP, which ultimately resulted in installing an automatic microburst detection and warning system for microbursts at 72 airports in the US. A major part of the RAP effort was focused on detection algorithm efforts, and determining the best way to fully transfer the hazard information to pilots. The RAP effort at NCAR focused on basic aviation weather research, and its critical transfer to

improve operational safety to the airline industry. McCarthy was also the principal meteorologist associated with the development of the FAA and Boeing-led and FAA-financed Wind Shear Training Aid now used in commercial pilot training throughout the world.

Weather and RADAR processor (WARP)
The all data mosaic has been fully deployed and some issues have a risen from the new mosaic in that some of the tops of weather are not being displayed due to them not exceeding the display threshold. When WARP was first deployed to DSR the moderate level of precipitation began at 30DBZ and our detection level was only 16 levels of precipitation so anytime precipitation was close to the 30dbz mark it was displayed. The new mosaic has a resolution of 256 detection levels and only shows precipitation that truly is 30DBZ or higher resulting in the light precip that was overlapping before no longer does.

We are currently working on lowering the moderate layer threshold to catch the tops that we are missing now that aircraft are deviating around. We are pushing to try get the fix implemented prior to convective season. The clutter mitigation mosaic that has been undergoing testing is almost ready for deployment this will correct the clutter from the NEXRADs and the spikes that facilities have been seeing.