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SAFETY AND TECHNOLOGY DEPARTMENT UPDATE

Week ending January 8, 2016

AIRSPACE TECHNOLOGY DEMONSTRATION – 2 (ATD-2): Pete Slattery (CLT) is the Article 48 Representative for NATCA on this NASA driven project. Below is Mr. Slattery's report to the membership for this week.

- ATD-2 activity has been a bit slow over the holiday period, but it looks like things are beginning to pick up.
- During the first week of December I visited ZDC with the NASA ATD-2 engineering team. The purpose of the visit was to introduce the ATD-2 concept to them and exchange information about traffic flows and what they could expect once CLT begins using ATD-2 equipment and procedures.
- On Friday, Jan 8th, the NextGen office made a presentation at Charlotte Douglas International detailing current and future NextGen initiatives at the CLT airport. ATD-2 was among the programs highlighted. There was a heavy local media presence and stories ran on most local evening news outlets. Jeff Woods represented NATCA National and spoke during the roundtable and Q&A parts of the event.
- This week Mr. Slattery will be traveling to the NASA Ames Research facility at Moffet Field California. NASA is holding and Industry Day forum to inform the aviation stakeholder community about many of its aerospace research projects including ATD-2. Both ATD-2 Integrated Arrival/Departure/Surface Metroplex Scheduling and ATD-3 Applied Traffic Flow Management will be primary topics of discussion.
- Mr. Slattery will reinforce NATCA's position that EFD is an essential element of ATD-2 at the forefront of any discussions he is involved in.

DATACOMM: Chad Geyer (ZLA) is the DataComm Article 48 Representative for NATCA. Mr. Geyer forwarded the information below for the membership.

- Over the last month the program office has been working the training development issue. The previous vendor had stated that they could replicate TDLS keyboard commands in ELMS. Come to find out that with the new version of Internet Explorer and the JAVA coding for training, this is not compatible. It was agreed that the training would be developed on a CBI platform that would require a CD type of platform so that the keyboard entries could be coded for training. Tom Gray (OAK) was in Troy, MI. to help design the story boards for the CBI training. Other members of the team were in Falls Church, VA in December to finish up the Controller Pilot Data Link Communications (CPDLC) CBI. The CPDLC training should be complete by mid-February and the PDC CBI should be completed by mid-April.

- Ray Adams (EWR) was in MSY last week to bring up version 12. This requires bringing up the new software on one processor and then building the new adaptation. The next day the second processor is brought up on version 12 and then the systems are connected to mirror one another. The next night the group will test the new interface with ERAM that provides additional information to TDLS to help build CPDLC messages. Once the test is completed, the other processor is connected and the new interface is used. The new interface provides full route information in the editor window and alerts controllers if an aircraft departs with a revision in the pick list.
- SME's were also in AUS running Instructor Led Training on the new system for the controllers. This is not only training via PPT, but also includes a hands on portion delivered on a laptop that simulates the TDLS system. This allows controllers to process clearances and view all of the indicators that are used in TDLS.
- New national SME's were in ACY last week to receive training on the TDLS system. These new SME's will travel to waterfall sites to help answer questions for the controllers that are turning up the system. Some of these new SME's will also receive additional training so they can also lead the Instructor Led Training on PDC and CPDLC. There will be times in the waterfall when SME's will be at as many as 8 sites at once. These SME's will be administering training, walking the floor to provide subject matter expertise, building adaptations, validating new interfaces or assisting the local 48 teams during DataComm Functional Validation.

INTEGRATED DISPLAY SYSTEM REPLACEMENT (IDS-R): Richie Smith (N90) represents the membership as the Article 48 Representative to IDS-R. Mr. Smith's report for this month is below.

- The IDSR program is slowing spooling up after the holiday break. This past week NATCA witnessed testing of a "Delta Release" software patch intended to fix the difficulties encountered with the NIDS to ACE IDS interface. PIT is patiently and eagerly awaiting this fix so as to move forward in the NIDS process. The test passed and regression testing will be run until January 12th before a formal decision is made. One issue was uncovered and the engineering team at the tech center is working on a way to adapt the software to reflect NATCA's needs. A few option should be ready to be presented to NATCA by January 12th. Each facility that has an ACE IDS to NIDS interface will have the opportunity to customize their database to their needs.
- As to the future of the NIDS waterfall, the Joint Resolution Council meeting is still set for January 21st. The program office will be presenting a proposal to cut the number of NIDS networks from 71 to 41. The list of networks that the FAA proposes to drop from the waterfall are:
    - N90 D21 CVG R90 BDL CRP ZSU ICT SDF SYR LEX ORF
    - RDU YNG HSV LIT TOL MOB M98 AVL A11 MEM C90 MGM
    - D01 TUL TYS GSO ACY MCI.

- It is the suggestion of the program office that the waterfall schedule exclude the facilities above and their intent is to have these same facilities be at the beginning of the waterfall of the next IDS Replacement product- EIDS. This new product, EIDS, is intended to replace all existing IDS systems and ERIDS, giving all controllers a similar IDS experience. The estimated roll out date for EIDS is 2021.
- The IDSR program office is making a push to get facilities to declare Initial Operating Capacity (IOC) and move towards Operational Readiness Decision (ORD) steps. NATCA's view of these steps has always been supportive providing the facility in question is comfortable in moving forward. If anyone has any questions about the IOC and ORD processes or anything IDSR related contact Mr. Smith at IDSR@natca.net.

NAS VOICE SYSTEM (NVS): Jon Shedden (ZFW) leads NATCA's efforts on the NVS Program as the Article 48 Representative. Mr. Shedden has provided the information below for this week's update.

- **NAS Voice Systems (NVS)** is in the process of deploying Build 11 to the FAA demonstration labs (ACY, OKC, MLB). This is the beginning of the final development stretch leading into Factory Acceptance Testing (FAT) scheduled to begin in November 2016. We are in the finishing stages of identifying and writing requirements from the Air Traffic Early User Involvement Event (EUIE) in October.
    - The items are:
        - Mapping of A/G Frequencies
        - Position Chime Control
        - Voice Monitor Suspension
        - Spare Position Dialing
        - Button Labeling
        - Activity Indications
        - A/G Cross Coupling
        - Release of Incoming OVR Calls
        - Improving the readability of the display
        - Sidetone Volume Control
        - Contact list searching
    - The NVS Key Site facility representatives have been released and are scheduled to visit the Harris Demo Lab in Melbourne, FL for an on-site familiarization February 8th-11th. During the visit the representatives will be hands on with the workstation and position equipment. They will also receive a full update on the current state of NVS.
- **Next Generation Air-Ground Communication (NEXCOM)** continues deployment of new CM300/350 V2 radios to terminal facilities across the country. Deployment is going well with only one minor issue identified so far. Eighteen new radios are going operational in January at various sites across the NAS.
- **NAS Voice Recorder Program (NVRP)** is the replacement for existing NAS voice recorders (DALR, DALR2, DVRS, DVR2). Vendor meetings occurred between November 19th and December 3rd. There is a meeting scheduled

January 21st to discuss the results of the market survey and clarify requirements for the NVRP.

- The **Headset** contract (Plantronics) is expiring in June of 2016. The FAA program office is currently in the vendor selection process and expected to announce the selected vendor in the spring 2016 time frame. There will likely be changes to the availability of existing headset models regardless of the vendor selected, although the most popular models will remain unchanged.
- **Potomac TRACON (PCT)** is engaged in the SMS process to investigate the removal of their existing Emergency Communications System (ECS). Their existing system provides both A/G multi-cast capability and G/G backup. An SRM panel convened in August on the removal of the ECS identified 2 high hazards. The FAA may convene an additional panel to readdress the identified hazards.
- **Grand Rapids Tower/TRACON (GRR)** is reporting multiple issues with their aging voice switch. The Voice Switching Team in Oklahoma City (AJW-1732) is working closely with GRR to resolve their issues.
- Mr. Shedden is in Anchorage all week (Jan 10-15) to discuss FSS requirements for NVS.

SURVEILLANCE and BROADCAST SERVICES (SBS): Eric Labardini (ZHU) is the Article 48 Representative to the SBS Office. Below is the SBS report for this week.

- The NATCA Surveillance and Broadcast Services (SBS) team includes: **Eric Labardini (ZHU),** National SBS Article 48 Rep, **Craig Bielek (A90), Dan Hamilton (SFO),** National Airport Surface Surveillance Capability (ASSC) Rep, **Andrew Stachowiak (I90),** and **Tom Zarick (ZDV),** National Interval Management Rep
- **ADS-B:**
    - As of this update, 18,697 aircraft are equipped to broadcast with ADS-B Rule compliant avionics in the NAS. Current projections continue to fall short of the estimated total NAS fleet required to equip by January 1, 2020. Users that wait too close to 2020 may find that the availability of installers falls short of demand.
    - ADS-B IOCs have been completed at all EnRoute (ERAM and MEARTS) facilities.
    - Limited deployment activity at the Terminal sites through the holidays.
    - 71 of 160 Terminal sites have reached their ADS-B IOC and the majority are operating on Fusion. The remaining Terminal sites are ARTS 2E sites awaiting an upgrade to the ELITE (STARS) build. The transition to Fusion follows and ADS-B IOC. The most recent and upcoming Terminal events:
        - South Bend Fusion start, January 6
        - Lafayette (LFT) ADS-B IOC, January 19
        - Detroit Fusion start, February 10
    - Newly IOC'd Terminal sites are starting operational use of ADS-B as the priority sensor (above radar) while prior Terminal sites are reconfiguring to do so. A plan to promote ADS-B in EnRoute site sort cells is being developed; this is a subtle change that takes advantage of ADS-B when

available. ZHU has been running in this configuration since August 13. ZKC and ZLC promoted ADS-B on January 7. Other ERAM sites can expect the SBS Program Office to start scheduling telcons to better explain the change.

- **ASDE-X Tech Refresh:**
  - Continues with minimal issues. Dan Hamilton has been working to bridge the gap between the ATSAP program and NASE engineering. Some ATSAP reports that controllers filed regarding ASDE-X were not making it to NASE engineering for resolution. This was not the fault of ATSAP or NASE. It was strictly how the info was being reported. In the past weeks the ATSAP ERC has reached out to Dan and NASE engineering in efforts to resolve some ongoing issues. Hopefully Controllers will see resolutions to their reports in a timelier manner.
- **ASSC:**
  - The program continues to move in a positive direction following the SRMP which took place in December of last year. The ASSC team is working with the agency to minimize cost and maximize system capability for the controllers. The team has set a goal to IOC ASSC at SFO, (the key site) in coordination with the new tower commissioning in October of this year. They are confident the system will be optimized and ready prior to that October Commissioning date.
  - Now that the RU'S (remote units) are wireless, there are other FAA entities that suddenly want to have a hand in the wireless connectively aspect of the system. Additionally, the SRMD needs to be circulated for approval by the panel and signed by the signatories prior to IOC.
  - The Air Traffic team is working with the program office to develop an outreach briefing for all sites scheduled to receive the system. Local NATCA at those sites should expect to hear from Dan Hamilton in the upcoming months to coordinate dates and times for the outreach briefings. The goal of the team is to conduct face to face meetings at the respective facilities to answer facility specific questions and provide an overview of ASSC.
- **CLT WAM:**
  - NATCA SBS, NATCA CLT, OSF, TechOps and many others participated in formal testing of Wide Area Multilateration (WAM) in STARS at the FAA Tech Center January 5-7. Overall, the testing went well. A few issues were identified, but they do not seem to be overwhelming. CLT controllers were happy with the performance of the new system.
  - Flight inspection is planned for February 2-3.
  - Though the technical issues continue to be overcome, the looming threat to the timeline for operational use is the lengthy SRMD and Order approval process.
- **GIM-S:**
  - ZDV – Still awaiting facility decision on whether adaptation will impact ZKC and ZMP. Decision to be made the week of January 11th.

  - ZSE – Assessing 4 different adaptations currently. Mitre will assist by supporting an On-Site adaptation demo the week of Feb 8th. Still hopeful for IOC prior to May 1st.
  - ZLC – Adaptation work now focused on the East arrival flows coming from ZDV. The Tech Center will support the demo the week of February 22nd.
  - ZMP – Officially suspended any GIM-S activity until ZAU TMU staffing can support involvement. ZME is a likely candidate to move up in the rollout because of this.
- **FMA and Fusion:**
  - A Flight Standards conducted study removed the requirement for high update sensors in multiple closely spaced parallel runway configurations. This study also called for FMA use in multiple configurations as specified in 7110.693. However, the study failed to account for the use of Fusion. This has left multiple sites in a position contrary to SBS guidance where controllers are required to move from one display update rate to another.
  - In order to remedy the situation, a new safety study must be conducted that proves that Fusion is safe for use in FMA. The Agency has agreed to move forward but there's been a lack of tangible progress to date.
  - NATCA National, NATCA A80, and NATCA C90 reps met to discuss the lack of progress on December 16. Jeff Woods (NATCA PMO) plans to schedule a meeting with Flight Standards on the issue in January.
- **Intent Data:**
  - NATCA has restarted discussions on intent data. Available via Mode S and ADS-B, pilot entered avionics entries for assigned altitude are broadcast but go unused today in the U.S. However, other countries do use the data and it has led to a significant reduction in altitude deviations. This continues to be a Top 5 safety issue in the NAS. ADS-B avionics used in the U.S. are built to an international standard, meaning the data is there but discarded. Unlike Mode S changes that would require infrastructure changes, using the data from ADS-B would likely only require software changes. SBS Article 48 is discussing the topic and options for future use.
- **SoCal TRACON Fusion:**
  - Multiple parties including NATCA SBS, NATCA TAMR, NATCA OSF, and NATCA Surveillance representatives attended a meeting at SCT January 5-7 to discuss ongoing issues. It is very apparent that the radar surveillance environment in SCT is one of the worst in the country. Many dedicated professionals have worked to resolve software issues and optimize radars over the last 18-24 months. However, the fact is that multiple radar sites are in less than ideal locations: behind buildings, behind trees, and in low terrain. As seen in other locations throughout the NAS, no amount of radar optimization can overcome these environmental variables. Tracker issues have continued despite multiple adaptation and software changes.
  - Fusion does not create data, but uses the surveillance data each source provides to extrapolate position reports. Bad data provided will result in a bad position report, garbage in = garbage out. A long term solution should have been pursued years ago, but CARTS software successfully hid the infrastructure problems by masking the problems. STARS does not mask

these issues but deals with the problems in a more holistic manner. The Agency needs to weigh the cost/benefit of long term solutions that could include radar relocation, raising radars, or introducing a lower cost solution such as WAM.
    - In the midst of Fusion issues at SCT, the facility also experienced an issue with an aircraft with non-compliant ADS-B avionics. The resulting tracker issues (due to garbage in) were very bad indeed. STARS software changes are needed to better filter this type of avionics failure. NATCA SBS has also initiated a discussion with the program office to better identify non-compliant aircraft that have operational implications. Today, a mountain of non-compliant data is sent to Flight Standards for resolution, but there does not seem to be any correlation with operations.
- **Vehicle ADS-B:**
    - There were some issues with the LAX map originally drawn due to the Spectrum office's decision to research the facilities LOA's. After some conversations with LAX Facrep Mike Foote and telcons with all pertinent parties, they were able to agree on the new map which is now on AJT-2's desk awaiting review. Once the team receives word from AJT-2, they hope to move forward with deployment at LAX.
    - The transmit map for CLT was approved by the Spectrum office on 1/5/2016. There is now a risk that the FCC license process may delay the installation and deployment of the transponders past 3/1 of this year.
    - CLE and MEM are also in the process of receiving Vehicle ADS-B. deployment at those sites are currently underway
    - Outreach briefings are tentatively scheduled for HOU and IAH in early February.

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