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SAFETY AND TECHNOLOGY DEPARTMENT UPDATE

Week ending May 13, 2016

NAS MONITORING EQUIPMENT (NME): Corrie Conrad (PDX) is the NME Article 48 Representative. Her report for this week is below.

- **UIC (Universal Interlock Controller) for SFO**
  - We are working to coordinate dates to train controllers on the UIC and to bring it online in the old tower.
  - We are trying for July but due to their other projects we may not be able to go online until August.
- **NME**
  - In the process of reviewing the NME OSA one last time for any changes or comments.

NEXTGEN: Kevin McLaughlin (SCT) is the NATCA National NextGen Representative. Mr. McLaughlin forwarded the information below for the membership.

- Participated in kickoff NATCA Safety and Technology Leadership Committee meeting.
- Participated in numerous Leesburg Remote Tower telcons, as one of the alternate NATCA Reps on the program to primary Rep. Kieron Heflin. The program is currently evolving through the Requirements phase.
- Participated in multiple telcons on the Colorado Remote Tower Program, the Program has moved to the Site Survey Stage with monthly travel scheduled to Fort Collins scheduled beginning in June.
- Participated in multiple meetings of the NextGen Facilities Outreach Workgroup. This workgroup is focusing on laying a collaborative foundation between ARTCC and underlying Terminal facilities 16-24 months prior to arrival of NextGen technologies to the workplace.
- Participated in ATD-3 Strategic Flow Management Application (SFMA) Demo at MITRE Corporation. SFMA is part of the real time severe weather avoidance dynamic re-route technologies being developed.
- Participated in Spring Collaborative Decision Making meeting and Stakeholders Workgroup at American Airlines Operations Center in Dallas, continuing the effort advocating for a Charter rewrite that includes NATCA as a member of the Stakeholder Group.
- Participated in QWERTY keyboard evaluation meeting at the William Hughes Technical Center in Atlantic City, NJ.
- Met with Jim Eck, incoming Assistant Administrator for NextGen, to discuss state of NextGen and Agency strategy for mitigating funding shortfalls.

- Participated in ATD-2 Demo and AEFS Electronic Flight Strips Kickoff at CLT, with NATCA ATD-2 Representative Pete Slattery (CLT).

OPERATIONAL CONTINGENCY & CONTINUITY OFFICE (OCCO): Tammy Norman (ZTL) is the OCCO Article 48 Representative. This is a one year detail at the Eastern Service Center to work on this project. Ms. Norman's report for this month is below.

- **The OCCO's original charter, TOCO,** expired March 24th. Close out documents have been drafted, and the remaining scope, budget, and risks have been transferred to Phase 2 for completion under the Operational Contingency and Continuity Office (OCCO). Work continues on the remaining 13 deliverables of the 46. Integrated Project Team structure has been suspended awaiting a revised scope/mission orientation being determined at the executive level. The OCCO manager has submitted a proposal
- **The Proof of Concept Process** began on March 28, when members of the TOCO visited ZTL with the first Test Site Survey. These onsite visits will detail requirements needed for the support of ATC-0 outages. ZTL and surrounding enroute facilities have been completed. The OCCO will continue the validation of technical requirements.
- ***TechNet* technical support** met with OCCO and gathered requirements to develop a contingency tool to house the final technical requirement divestment plans. This tool would allow tech ops and FTI playbooks to be easily shared to expedite divestment procedures. The OCCO's enroute and terminal tech ops SMEs were present. Terminal facilities are the next step.
- **Order J.O. 7210.3**- Facility Operation and Administration, Chapter 17-Section 23: Contingency Plan Support System (CPSS) is currently being revised by the OCCO with support of the OSG SMEs and our Command Center SME.
- **NEXT STEPS: June Planning Meeting**: Because OCCO's work crosses all AT Services, all Services are being notified of our next endeavor. This next work is associated with assessing the current capability of an enroute facility in supporting the outage of an underlying Tier 1 TRACON ATC-0 events. Once ERAM capabilities are determined and technical requirements verified, we should be able to define a gap to refine requirements and associated costs to support executive decision making. The initial focus is to bring the subject matter experts together from System Operations, Air Traffic, Technical Operations, Program Management Organization (2nd Level Engineering), Mission Support (OCP Field Team) and Safety and Technical Training to a planning meeting in Atlanta to accomplish the following:
    - Create methodology to assess the throughput of En Route facilities in support of a Tier 1 TRACON ATC-Zero Event
    - Develop execution strategy (i.e. logistics, funding, reporting and schedule)
    - Identify next steps, i.e.,
        - Data Collection/validation

- Baseline comparison
- Executive Decision Points
- GAP Analysis

PROJECT MANAGEMENT OFFICE (PMO): Jeff Woods (I90) represents the bargaining unit as the Article 48 Representative to the PMO. Below is Mr. Woods' report to the membership.

- **Ops Integration**
  - Working with the FAA on an ops integration plan to help better align deployments across multiple programs
  - An example of this would be PBN, ERMA, STARS and TBFM
  - Working on a plan that would identify all the programs that a single program would affect with its deployment
- **LAX Surface**
  - Working with the AJR (Surface Office) and MIT Lincoln Labs on a study for LAX surface movements
- **ATPA Training**
  - Working with AJT and AJI to develop a standardized training for ATPA
  - Aircraft Type Recognition within Automation
  - Working with STARS and ERAM to develop a plan for standardizing aircraft types within automation
- **MITRE**
  - Working on HITLS and demos for the following projects
  - Lateral path stretch
  - Interval management and Terminal Sequencing and Spacing (TSAS)
- **Automated Electronic Flight Strips (AEFS)**
  - Supporting Matt Baugh (NATCA AEFS) with the deployment of this prototype
  - PHX, CLE and EWR have deployed the system
  - LAS, SFO and CLT are the next three to receive this system before the end of 2016
  - We are still running into stability issues with the tool. Matt has been working with the sites to try and resolve the issues

RUNWAY SAFETY: Bridget Gee (DFW) is NATCA's Runway Safety Action Team (RSAT) Representative. She also serves as the Article 48 Representative to the Runway Status Lights (RWSL) Program. Below is her report to the membership.

- **Runway Status Lights (RWSL):**
  - ORD: Being conducted in three phases: Phase 1, Runway 10L/28R, was turned online April 27, 2016. Phase 2 and 3 are scheduled to come online 2017.

        - Phase 1 (10L/28R): Initial Operating Capability (IOC) took place 4/27/16.
        - Phase 2 (10C Enhancement) - Airport scheduled to start work Spring 2016. Phase 3 (9R Enhancement) - scheduled to begin early fall 2016.
    - DTW: Hardware issues fixed and Commissioning was 4/20/16. Phase 2 (21L): Circuits to be installed Fall 2016 or later
    - EWR: Joint Acceptance Inspection (JAI) and ORD completed 4/12/16. Commissioning planned for 5/17/16.
    - BWI: Construction is ongoing. System set to come online in 2017.
    - SFO: Installation is complete with the exception of fixtures, due to be delivered July 2016. IOC planned for Nov 2016.
    - JFK: Joint Acceptance Inspection (JAI) scheduled for 5/12/16. System operating well.
    - BOS/DFW: Work is ongoing to secure funding from the Agency and agreements with the airport operators at BOS and DFW.
- **Runway Safety**
    - Runway Incursion Device (RID)/Runway Incursion Prevention Device (RIPD) SRMP: The SRMP panel was completed for the removal of the RID/RIPD systems from facilities. The panel followed the Agency's SMS 4.0 process to evaluate the risk associated with the removal of the RID/RIPD.
    - A thorough description of the process will be contained in the SRMD. The Agency provided no statistical difference in the rate of runway incursions caused by an Operational Incident (OI) at known RID/RIPD airports. The provided data consisted of one year. The panel agrees that the RID/RIPD is a good tool as it is just as effective as other tools used in the NAS. In light of new data/information that the panel did not have, a follow-up to the original panel via telcon was conducted on 5/12/16 to discuss the new information.
        - During the call, Ric Loewen (DFW) and Ms Gee brought up several key elements but are not limited to: the RID to surface memory aid change is different than adding a requirement because non-RID facilities are accustomed to confirming runway status with a scan of memory aids in the tower while RID facilities are accustomed to an audible reminder when they key the mic making the learning curve and associated change risk higher.
        - The fact that the data doesn't reflect the success rate of the RIDs as reported by facility personnel.
        - The fact that the change proponent can't show the supposed risk to the NAS caused by a system that has been plugged in since 1988.
    - Presently, we are working on putting together responses from the Facility Representatives of the facilities that would be affected by this change. These responses are due within two weeks.

- **Closed Runway Occupancy Prevention Device (CROPD):**
  - Testing is scheduled at JFK, RNO, and MDW this summer and into next year. CROPD if proven reliable will be the first use of voice recognition to provide safety alerts.
  - Each facility's test will run for a few weeks after which all test equipment will be removed by the contractor, data examined by MITRE, and next steps planned.
  - Currently, work thru telcons are being conducted to discuss such items as procedures, FLM/CIC alert logging interface, plans for getting feedback to include specific questions to ask controllers, etc for the CROPD testing at JFK.
  - This past week we have begun having JFK more involved with telcons. A few changes are currently being worked out. JFK has made a request to not have the interfaces at local control positions.
  - Also, a "shadow period" was being introduced but at this point in time may not be conducted if additional log data can provide MITRE the additional information needed to determine how many false alerts based off of voice recognition are plausible. This work is ongoing, and Ms. Gee will keep updates throughout the process.
- **Airport Construction Advisory Council (ACAC):**
  - The ACAC continues to support construction activities throughout the NAS. NATCA representatives are reminded that Bridget Gee represents NATCA on the council and can assist with challenges associate with airport construction.
  - Due to recent events at uncontrolled airports, both non-towered and towered, a communication gap in NOTAM distribution has been uncovered.
  - A construction notice automation process is being worked. We are currently waiting on the PMO office to back with a cost estimate.
- **Root Cause Analysis Team (RCAT):**
  - The RCAT will meet again on 6/2/16.
- **BNA CAR:**
  - Ms. Gee is currently working on a CAR for BNA due to the airport being expanded twice since the control tower was opened in 1981. The expansions have resulted in multiple runway and exit areas having limited or completely obstructed views from the tower.
  - The inability to observe aircraft exiting the runways, or holding in position makes it difficult for BNA controllers to effectively control traffic.
  - Original due date 5/15/16. Extension granted new due date of 6/15/16.

TERMINAL FLIGHT DATA MANAGER (TFDM): Matt Baugh (IAH) is the TFDM Article 48 Representative. His TFDM update for the membership is below.

- TFDM's FID has slipped to June 15th to allow IP&A more time to finalize their findings from the facility meetings with DEN, DTW, MIA, MSP, & PHX regarding the Runway Balancing benefit from TFDM. The program presented the Draft FID briefing at the PMO PMR on 4/28, requesting a total program baseline without segmentation. The briefing was well received with only minor changes suggested.
- It has been proposed by the JRC to give TFDM some of the money that has been cut over the last year. Approximately $40M in FY18 and $60M in FY19. If these increases in funding are approved, it would move the timeline of IOC back to the left from a 2024-25 start date to a 2020-21 time frame.
- **Advanced Electronic Flight Strips (AEFS)**
    - The latest build, 5.3.0.3, is expected to be ready by July once testing at the tech center and in the field have been completed. When it, and the facilities, are ready, all facilities will be brought up to that build.
    - A request has been made for additional national cadres to assist in the upcoming training of SFO, LAS, and CLT. A few volunteers have come forward and we are in the process of finalizing the list and working the training schedule.
- **PHX**
    - PHX will upgrade their build to 5.3.0.2 in mid June to early July.
    - PHX went completely paperless on April 18th, however, they have since turned the printers back on as a back-up due to a lack of full route capability in AEFS. If a FR is requested prior to a flight's P-time, FDIO will print the FR with no beacon. In short, AEFS gets the request, sends it to ERAM and when ERAM sends it back, AEFS throws it away because the flight hasn't populated yet. This issue is being resolved in the next build, 5.3.0.3.
- **CLE**
    - CLE has continued to see freezes on the supervisor and TM screens even with the latest engineering build. It is believed to be caused by the changing of configurations from the mid settings to the day settings.
    - CLE had a system failure on Tuesday morning, 4/26, and had to revert to paper strips for a brief period while they did a hard reset of all of the positions. This issue is still being researched but we have yet to find a trigger event.
    - Joel Forrest, a contractor for the program, spent a weekend in CLE on 5/7 and 5/8 in an attempt to witness the issues and pull the logs from the thin clients at the positions and the servers.
- **EWR**
    - EWR began shadow ops around mid April in preparation for IOC in late April or early May. Although supplemental training and familiarization fell short due to a number of issues, the facility achieved IOC on April 30. Congratulations and thank you to the local team, Loui Caggiano, Chris Quincannon, Matt Yau, and Phil Wagner, for their nearly 10 months

of work leading up to this monumental undertaking and for their continued support.
    - EWR had a failure since IOC in which they had to go back to paper for approximately 30-40 minutes. This event was a combination of several smaller issues, from which the system was unable to recover. The system was rebooted and ran fine for nearly 10 days.
    - Another issue occurred Sunday, May 15, around 17:30Z. They had to revert to paper for approximately 4.5 hours but have since rebooted the system and are running normally. The cause of this error has yet to be determined but the tech center has the log information and has already began working the issue.
    - EWR will be getting ARMT to assist in the forwarding of arrival strips to the local controller in July.
- **SFO**
    - Hardware installation is scheduled for the week of 5/23. An additional training system will be installed in the TSS lab in Oakland the same week.
    - Build 5.3.0.3 is expected to be delivered to SFO by June 10th so they can use it in their simulator to test it's functionality prior to training the controllers beginning July 1.
    - Their local cadres will be trained the week of June 27, with facility training from July 1-16. TSS training has been schedule for a full day for each controller from July 18-August 12.
    - SFO has scheduled to start shadow ops in the old tower on the mid, August 13, and will continue until IOC.
    - They will go live with this build, if it is acceptable and stable, in the old tower in late July and will IOC in October sometime after the cut-over to the new tower.
    - Tech ops training is scheduled for August 2-4.
- **LAS**
    - Adaptation work is on-going and will continue until we begin training in early November. A visit is schedule this week, May 16, in order to finalize their adaptation requests.
    - New tower cut-over is planned for October and they will not be going IOC for approximately 60 days after, to allow for controller adjustment to the new facility.
    - Tech ops training scheduled for September.
- **CLT**
    - The CLT kick-off was held on May 5th and had representatives from both management and NATCA from the facility and national level, as well as representatives from NASA to support the ATD-2 project.
    - IOC has been tentatively planned for February 2017 with training to begin in mid January.
- **SWIM Visualization Tool (SVT)**

- Deployment of the new software build has been implemented at all 11 sites. One facility has been identified as as not using the equipment and we have begun the process to find an additional site to deploy in order to gain as much feedback as possible to support the TFDM replacement piece, SSA.
- Another CCB is being scheduled to discuss which facility to place SVT, as well as any further enhancements to the system. Feedback from the facilities suggests pref-sets similar to TFMS, as well as filtering based on the destination airport, be added to the next build, for which there is no timeline.

TERMINAL AUTOMATION MODERNIZATION REPLACEMENT (TAMR): Mitch Herrick (MIA) is the current Article 48 Representative for TAMR. Mr. Herrick will be retiring in July and Aaron Rose (NCT) will be the next Article 48 Representative on TAMR. Below is the TAMR report.

- This week's update will be fairly concise with emphasis on reporting successes with one risk highlighted by our NATCA Surveillance Engineer Joe Yannone. Most of the team has been actively involved in testing and deployment over the past several weeks.
- **Recent Transitions to STARS**. N90, GRB, MYR, GEG and AMA have all made the transition to STARS since the last update.
  - N90 is extremely significant because it represents the final site in the TAMR Phase 3 Segment 1 Waterfall (P3S1) has been completed without missing a single Acquisition Program Baseline (APB) Date and within budget. A monumental event that all of NATCA should take great pride in accomplishing.
  - N90 Declared Continuous ops at 11am on May 17th.
  - GRB, MYR both transitioned on May 16th, AMA on April 29 and GEG (Including Missoula, MT) transitioned on May 5th. This brings the number of ARTS IIE sites that have transitioned over the past two years to 22 of 94. 19 more will transition this year and 32 in 2017 followed by 15 in 2018 and 10 in 2019.
- **Tech Refresh of Legacy STARS sites.** A number of Legacy (older) STARS sites have already been upgraded. PHL, MIA, S46, MSY, TPA, S56, F11, and A90 are all completed. The next facilities this year will be RDU and D21 and 2017 will include P50, DAB, SAT, CVG, Y90, CMH, R90, SBA PIT, TUL, ICT, IND, ABQ, A11, BHM and MCI. A number of these facilities will receive G4 and those below 300,000 operations (Non Core 30) will receive G4 Elite. The differences between G4 and G4 Elite are predominantly hardware and some slightly different architecture that allows for a smaller backroom footprint. For the Controllers the functionality and capability is identical. The processors in the two systems are identical and possess 4 times the processing capability and capacity as the older STARS

systems. Those that receive G4 Elite will have a new form of redundancy known as Direct Sensor Access (DSA) that will replace ESL.

- **Merge Software.** Many of our TAMR Team members have been spending a great deal of time at the Tech Center testing "The Merge Software." The merge software is another monumental achievement because it represents software that will be used across all platforms and configurations of STARS including DOD, G4, G4 Elite as well as Legacy STARS. Once the ARTS IIE replacement known as Phase 3 Segment 2 (P3S2) is completed the entire NAS will be utilizing the same software so development and testing of new technology will be far easier and quicker as well as costs savings will be enormous.
- **Surveillance report submitted by Joe Yannone-Region X.**
  - ****Major Risk**Common Terminal Digitizer (CTD):** The CTD is an integral part of the back end of the TAMR Segment 2 waterfall to digitize the remaining ASR-8 radars, as a STARS system only accepts a digital radar feed. CTD First Article shipment to WJHTC was completed on February 19. This system will be used for onsite DTE and OTE testing. Initial DTE testing was halted due to poor performance of the system. The contractor has re-evaluated and is currently re-assessing parameter changes to provide a better performing system. Evaluations will occur the week of May 18 and if the system is still performing poorly, then the primary contractor will deploy their engineers from Belgium to re-optimize the system. The two keysites for the CTD are Rockford (RFD) and Roanoke (ROA). As the first keysite, RFD will also be utilized for additional "delta OTE" testing and AT User Evaluations including side-by-side comparison of the analog ASR-8 feeding the ARTS2e with the CTD-digitized ASR-8 feeding the TAMR system, this currently targeted for October of this year. These activities are now at risk due to the current state of the test system.
- **Radar Performance Issues:**
  - *Centennial, CO Tower (APA)* - The false tag ups at APA are due to false beacon targets that are coming from the Parker (QPK) long range radar site. CARTS previously masked out these false targets in the past, whereas STARS has a higher standard for radar performance. Attempt made by OSF and TSLE personnel to mask these false targets via STARS adaptation have helped but is not completely successful. There are limits and without a STARS software fix these false targets coming from QPK will continue to clutter the displays unless some optimization is done at the QPK radar site. The QPK radar work effort has started but has taken awhile to get going mainly due to the Center's Tech Ops management's resistance to any changes to the QPK radar. A change to the radar's STC has been proposed and a evaluation test will occur May 19.
  - *Miami, FL (MIA)* - The radar will occasionally reconfigure into IBI mode due to an overload caused by mis-wired aircraft taxiing close to the radar. While the best solution would be to ensure that all aircraft were fixed with regard to the mis-wiring condition (an unrealistic short term

approach), analysis uncovered that the second best way to attack this issue was at the source - i.e. eliminate the overload condition by ceasing these aircraft from replying while taxiing near the antenna. Discussions between various stakeholders, led to the conclusion that the removal of the Terra Fix at the this radar would be the quickest and most effective solution. An SRM panel was held May 5th to accommodate this request. Implementation will occur after the SRDM has been approved.

- *Elmira, NY (ELM)* - A tower raise is a necessity at this facility. Tree growth has been an ongoing issues at the radar site where coverage has suffered due to the foliage blocking radar line of sight. There have been several engineering studies that address the requirement for a tower raise. The issue, as it has been for years now, is the funding for such and the previous lack of prioritization of an ELM tower raise. Setting aside the entire safety aspect of these existing coverage problems due to the tree growth, another impact would be to TAMR deployment. The ELM radar would not pass the STARS performance requirements to certify the system to be used into STARS without coverage improvements. Funding for the tower raise has now been approved and the time frame for the new, higher radar tower, optimization and flight check is currently scheduled to be completed by June 2017 which should not impact TAMR deployment at this facility. The TAMR ELITE Initial Site Survey occurred the week of May 9.
- *Pensacola, FL (P31)* - An ongoing issue with primary only false targets when opening in fusion. Several attempts have been made on the ASR-11 systems feeding P31 to fix this issue as well as changes to STARS adaptation. While there have been improvements, there have been numerous days where the clutter has been unmanageable. Several telecoms have occurred with various groups to push progress towards a better presentation. After two parts are installed in the PNS radar to fix a weather problem, AJW-147 and TSOG will re-optimize the PNS radar, already having several parameters mapped out for changes to improve the performance.
- *Potomac TRACON (PCT)* - Several issues with false targets had been identified by TSLE and passed along for evaluation. The MRB radar was providing some lengthly beacon false tracks intermittently. After further investigation it was discovered that MRB was configured incorrectly. The correct PRF was installed and the intermittent false tracks have vanished. Additionally, the DCA radar was also providing a number of reflections in close to the airport. These were causing "zoomers" on the displays. Between an adaptation change at the radar as well as the installation of the new STARS R3C Drop 7s software, initial analysis by OSF and TSLE appears that the zoomers have been rectified.