

## **NATCA Safety & Tech Update Week of September 25, 2017**

**Advanced Technologies & Oceanic Procedures (ATOP):** John Lenhart (ZOA) is the Article 114 Representative for Advanced Technologies & Oceanic Procedures (ATOP). Mr. Lenhart's report is below.

Items worked:

- CAR 2016-025 (WX Deviations, not complete)
- ASEPS HITL
- ATOP Contingency
- Oceanic Offshore and Transition Meeting with ZNY, ZMA, and ZSU
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Same as last month, Car 2016-025 is still not satisfied. On 9/22 I had a meeting with the head of AJV-84 and they still cannot give a straight answer in regard to the decision to shut down WX Deviations while utilizing ADS-C distance based separation. Next step is to submit formal info requests.

ASEPS HITL's were conducted the week of 9/11/17. John Fox from ZNY selected 8 outstanding ZNY Oceanic controllers to participate. By design NATCA ensure all manner of experience and skill set were present to participate so we can collect useful, realistic data. John Fox and myself briefed all participants and stressed the importance of the data that will get collected and ensured each controller gave complete surveys. The data collected is only good as "data". NATCA will make sure it's in the right context. I believe the HITL showed that as far as controller reaction time goes, Spaced based ADS-B operations in an Oceanic environment should definitely be explored.

The business Case for ATOP long-term contingency meeting was solicited for October. That being an extremely busy month, it is rescheduled for a possible February or March 2018 time frame. We are still standing by for short-term contingency models.

*From Last Month, "9/6 and 9/7 the Airspace Managers and Natca Reps from ZNY, ZMA, and ZSU and myself will be meeting at AJV84. The purpose of this meeting is to discuss the requirements for transitioning Oceanic traffic into the Radar environment along with the separation standards. There is some confusion within the facilities on what is allowed and what is not. Also we plan on an ATOP familiarization. We feel familiarization is necessary for two facilities to construct an effective LOA. I will mitigate the meeting for the NATCA side. "*

Due to the Tropical Storms Harvey and Irma, the Oceanic Offshore meeting was cancelled. A proposed reschedule of October 23<sup>rd</sup> timeframe is in the works. More storms are rolling in so nothing is set in stone.

**AIR TRAFFIC REQUIREMENTS (AJV-7):** James Keith (D10) is NATCA's Article 114 Representative to the AJV-7 Office. His update for this report is below.

Continued work on determining the need for long range primary RADAR. I am working with AJV-7 on developing a survey to gather data from the field on spill in and spill out primary only from special use airspace IE: MOA's and restricted airspace.

EIDS- finalized the facility list for EIDS. AJV-7 delivered the list to the PMO.

Non-TFDM towers- the agency is working on developing a list of possible concepts to assist those towers that will not be in the TFDM program. AJV-7 was given this by Next Gen and is currently working on a shortfall and will begin development of the con-ops.

IFR mobile App- I attended with other national reps a briefing on an IFR mobile app. MITRE has developed an app to allow pilots to receive IFR departure clearance from a smart phone. MITRE would like to do a field test. NATCA will be working with the FAA to provide a framework for a test in the future.

Concept, validation, and requirements (CVR)- The agency has developed a method of tracking work responsibility on programs and concept work. The agency is scheduled to brief NATCA in October on this new process.

Enroute Consoles- AJV-7 took over responsibility for the work on Enroute consoles. The agency needs to replace the consoles in all centers. The new voice switches coming soon and the possibility of larger monitors increases the need for new consoles. AJV-7 will be the lead on this project to determine what solutions are feasible.

Terminal Work Package 1- the demo was completed and high-level requirement documents will be developed from that work. Terminal work package 1 is now part of the TAMR program.

Terminal CHI- The team is still working with TFDM on several CHI efforts in that program.

**HUMAN PERFORMANCE:** Jay Barrett (MIA) is the Article 114 Representative for Human Performance. His report is below.

### **Human Factors Activities**

F11 (TRACON Certification Standards)— We have some minor issues from standards usage at F11. Most of the issues revolve around the database creation and the ease of filling out the standards checklist. Also as was expected there is some misunderstanding on performing benchmark skills checks. We have had a member on site to monitor answer questions and help the facility stay on track. We will continue this level of support for the foreseeable future.

N90 - We have been asked by the NDIS workgroup to provide human performance material to be included in the core curriculum at N90. We also intend to do manager training and workshops for the SAIC instructors in late October. These will be followed by workforce briefings concerning the overall NDIS process as well as the training and rollout of the standards. Controller training on the standards will begin in early January.

Safety Culture Assessment - The report is still being compiled and edited. Expect release of this by end of October.

We have been working on an OJTI instructor manual. This document started in OKC with CAMI, but Tom Adcock and I felt it was too cumbersome to ever be used in the field. We have a group of 5 people working on scrubbing it and making it more manageable/useful. We hope to have this completed by year-end. It could be another tool for the N90 effort.

### **Health & Wellness**

There has been movement on getting the human performance material into the AT Basics curriculum in OKC. The NDIS workgroup feels, as we do, that the new hires could benefit from having these lessons as early as possible.

We have been provided 2 contractors from the Ft. Hill group to help us complete the AT Basics material as well as our ATC survival guide. The goal is to have a full time contractor at the academy to deliver the HP content to the students.

### **Fatigue**

ZOA - Actigraphs should arrive any day from ZOA. We can then complete the assessment of how much sleep is being obtained.

There has been discussion of amending the FSSC charter. No path forward has been agreed to. Tech Ops would like to increase their level of participation in the process.

**NEXTGEN:** Kevin McLaughlin (SCT) is the National NextGen Representative for NATCA. His report to the membership is below.

### NextGen Oceanic Meteorological Initiatives

At 02:14 UTC on June 1, 2009, Air France flight 447, an Airbus A330-203 wide body jet carrying 228 passengers, disappeared over the equatorial Atlantic Ocean. The plane departed Rio de Janeiro (SBGL) around 22:00 UTC enroute to an expected arrival at 09:15 UTC in Paris (LFPG). An investigation was conducted by France's NTSB-counterpart agency, the Bureau of Enquiry and Analysis for Civil Aviation Safety (BEA). The BEA final report, released at a news conference on July 5, 2012, concluded that the aircraft crashed after inconsistencies between the airspeed measurements – likely due to the aircraft's pitot tubes being obstructed by ice crystals following a convective cloud top encounter -caused the autopilot to disconnect, after which the crew acted incorrectly and ultimately caused the aircraft to enter an aerodynamic stall from which it did not recover.

In the years following the accident a great deal of resources have been directed to examining how the "Swiss cheese" accident theory acted in this case and one significant field of this research has been the weather aspects of the crash. AFR447 departed controlled flight while flying through a series of large Inter Tropical Convergence Zone (ITCZ) thunderstorms. While other flights that night were able to safely navigate the same convective system, the research has demonstrated the limitations of cockpit weather radar and highlighted the need for better strategic weather avoidance resources for oceanic flights. Aviation users operating within oceanic and remote regions have limited access to high-resolution (temporal and spatial) weather products that depict the current and future locations of deep convection and turbulence. NextGen Weather, working with the scientists at National Center for Atmospheric Research (NCAR), has developed weather products related to the oceanic/remote occurrence of deep convection. Global ensemble forecasts are being utilized to provide probabilistic guidance of convective storm hazards for long term flight planning purposes as needed for transoceanic flights (24-36 hr.). The Oceanic Convection Diagnosis and Nowcasting system is being developed to detect and forecast deep convection using satellite-based methodologies, global lightning data and mathematical model results. The FAA Weather Technology in the Cockpit (WTIC) Program is assessing two products, the Cloud Top Height (CTH) and the Convective Diagnosis Oceanic (CDO), for cockpit display. The FAA WTIC Remote Oceanic Meteorology Information Operational (ROMIO) Program is working to analyze oceanic aviation inefficiencies in current or future NextGen operations caused by gaps in either the available meteorological information or in the technology utilized in the cockpit. This effort has the purpose of implementing an operational demonstration to uplink convective weather products into the cockpit of US airlines for the purpose of analyzing

operational gaps. In late FY2016, the WTIC ROMIO effort began the execution of a 3 Phase Operational Plan. Phase 1 will implement the Plan from product creation to uplink onto a tablet based EFB. This includes all efforts from pilot training to communication links to the appearance of the EFB display to the collection of pilot feedback. Beginning in 2018, Phase 2 will commence the operational demonstration involving a handful of aircraft from United, Delta and American that will last for one year. Although not a certified weather product meant for operational use or on-glass display, web-based viewing of ROMIO products will be provided to oceanic controllers for off position evaluation and feedback through the CBA Article 50 Process. Phase 3 will include a validation effort to examine controller and pilot feedback to determine how the products filled existing gaps in meteorological information or in the technology utilized in the cockpit. NATCA has been actively involved since the ROMIO kickoff, participated on the ROMIO Safety Risk Management Panel (SRMP), participated in bi-weekly meetings, and facilitated briefings for impacted bargaining unit members at ZOA, ZHU and ZMA thus far.

Nowcasting of oceanic convection products can be viewed:  
[http://www.rap.ucar.edu/projects/ocn/realtime\\_sys](http://www.rap.ucar.edu/projects/ocn/realtime_sys)

**Professional Standards:** Andy Marosvari (BOI) is the Chairman for NATCA National Professional Standards. Garth Koleszar (ZLA) and Josh Cooper (SCT) are members of the National Professional Standards committee. Their report is below.

The Professional Standards program is in its 7<sup>th</sup> year and continues to have a positive impact on the professionalism of controllers nationwide. The program has 530 active members, with a total of over 850 trained to serve as committee members representing every facility in the National Airspace System. Committee members receive training on communication skills and conflict resolution during a 3-day course taught by NATCA. The last class of FY17 was held in Minneapolis, finishing up on August 24. The first class for FY18 is scheduled in Dallas Oct30-Nov3.

To date, the Professional Standards program has received 2,447 submissions with 90% of those being resolved. That's 2203 issues that NATCA was able to resolve the issue at the lowest level, peer to peer, without management involvement in the outcome. Approximately 70% of those cases are submitted by management, demonstrating the FAA's belief that the peer-to-peer method used by the program is working. The recidivism rate is very low, indicating that the one on one discussion between committee members and controllers has a long-lasting, positive effect on the safety of the system and the professionalism of our controllers.

We now have an active PS tab on the NATCA website. It covers information for FacReps, Members, and PS members, with contact information for all

active Professional Standards Committee member and District chairpersons. We also have a link to email us directly. Please take a moment and check it out!

If you have any questions about the Professional Standards Program, please don't hesitate to contact any of the NATCA National Professional Standards committee members at [ps@natca.net](mailto:ps@natca.net).

**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.

**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): ORD achieved 4/10/17.

Phase 2 (10C Enhancement) – 10C IOC (Initial Operating Capability) date Nov 29, 2017.

Phase 3 (9R Enhancement) – 9R construction estimated to be completed Spring 2018 and IOC Fall 2018.

DTW: ORD declared 4/20/16.

Phase 2 (21L): Materials being delivered second week of September, installation of conductors and fixtures scheduled to begin 9/18/17.

BWI: IOC took place on 3/8/17. JAI inspection was held on 6/21/17.

SFO: IOC (Initial Operating Capability) was declared on 11/30/16. ORD planned for August 2017.

BOS: Shelter slab to be cast 9/7/17. Shelter arrives 9/15 on 9/18 installations. Phase 1 IOC estimated June 2018. Phase 2 IOC estimated April 2019.

DFW: Duct bank installation in process. Need agreement for power equipment and to energize shelter circuit. IOC estimated April 2018.

San Diego: Site Survey held 8/30/17. IOC estimated Jan 2019.

**Runway Safety:**

NTSB Runway Incursion Forum: The NTSB conducted a forum on Sept 19<sup>th</sup> and 20<sup>th</sup> for all industry stakeholders, FAA, and Eurocontrol to discuss runway incursion mitigation, prevention, and trends. I represented NATCA on a panel, gave a 10-minute presentation, and participated in the roundtable discussions.

Closed Runway Occupancy Prevention Device (CROPD): Live Testing at JFK was completed last year. The FY17 focus site is RNO. The **Live Testing was completed** Aug 14, 2017. So far the testing appears to be going well. There have been minimal false alerts, and I have only had good reports from the facility. There will be an analysis process on the data after the testing is completed to verify the speech recognition performed as designed. More information to follow.

Airport Construction Advisory Council (ACAC): The ACAC continues to support construction activities throughout the NAS and Internationally. We brief weekly on current projects in the NAS.

Runway Incursion Prevention Shortfall Analysis (RIPSA)- Research was conducted at 15 airports without any surface surveillance system. A final site selection is yet to be completed.

Here is the updated RIPSA timeline, which includes detailed activities:

- FY15: Technology evaluations from market survey responses - completed
- FY16: Site assessments at 13 candidate airports – completed
- FY17: Program Plan development / Candidate Site(s) & Technology(s) Selection
  - Re-visiting viable technologies identified in FY15 assessments. This will lead to a down select of technology(s) that can be procured in the next 12 months.
- Engaging with local Regional Runway Safety Area Managers/RIM POC's to ensure potential technology solution(s) complement operations and planned construction activities
- Conduct detailed Site survey at short listed candidate airports to gauge infrastructure needs for selected technology solution(s)
- FY18: IGCE and Technology Solicitation & Procurement
- Match technology solution and sites based on operational needs and available infrastructure
- Procure technology solution from vendor
- Obtain MOU with Airport at test airport, Conduct SRM Panel for proposed technology solution
- FY19: Technology installation at candidate airport(s)
- FY20: Operational test and evaluation
- FY21: AMS Documentation / Technology Transfer

ICAO – ADOP (Aerodrome Design and Operations Panel) – My final report was submitted to IFATCA and NATCA on 12/12. Work is ongoing with the ADOP. The next meeting is scheduled for July 3- 7, 2017. A full report will be completed once the official meeting minutes is distributed.

ICAO - AOWG (Aerodrome Operations Working Group) - The AOWG is responsible for the development of SARP's and the PANS procedures pertaining to emergency response at and in the vicinity of aerodromes. Mr. Jean-Louis Pirat, Chairman of ADOP, specifically asked for my assistance on this working group due to the need of air traffic experience. Work is ongoing.

ICAO - Runway Safety Action Plan Working Group – This group is reviewing Runway Safety Programme achievements, objectives and priorities, and develops a Runway Safety Action Plan for the future. The working group is split into three sub-groups all of which IFATCA/NATCA is presented by Bridget Gee on:

- Data Review Sub-Group
- Hazard Identification and Risk Assessment Sub-Group
- Runway Safety Action Plan Sub-Group

The Runway Safety Action Plan Working Group is in the process of reviewing runway related accident reporting data, reviewing applicability of runway related accident sub-categories – scope of Runway Safety, reviewing Runway Safety indicators and metrics, and identifying Runway Safety data breakdown required for analysis and to be available on iSTARS.

The Working Group is also doing a safety risk assessment of Runway Safety category and sub-categories, will confirm Runway Safety risk priority, and identify mitigation measures

The Action Plan will be presented at the 2017 Global Runway Safety Symposium in Lima in November for endorsement. The purpose of the Action Plan is to strengthen runway safety initiatives at a global level.

The Runway Safety Action Plan Working Group will make recommendations to the GASP Study Group to assist the development of the 2020-2022 editions as well as develop new Runway Safety Action Plan.

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

NEXTGEN Weather Processor (NWP) and Common Support Services – Weather (CSS-WX)

Both systems are moving forward toward system integration at the Tech Center this fall. The schedule for NWP has slipped some for the testing, as



there has been a decision to use new Dell servers and try to avoid having to come back later and update the Tech Center system. When the Tech Center has both systems installed they will also have a large number of Aviation Weather displays (AWD), which will finally have live weather feeds from both systems. This will enable more testing on the human factors design of the AWD, currently when the AWD is interacted with there is not live data so placeholders are presented and this does not provide enough information for true feedback on the system.

Both of these systems require a great deal of bandwidth due to the large size and amount of weather files that will be distributed by the system. The program office is looking at ways to save bandwidth. Some of the ideas are limiting the amount of airspace a TRACON will be able to display the ¼ KM resolution high update rate weather mosaic. This product updates every 25 seconds and we are looking at limiting the product to each TRACON to a 30-mile boundary around the TRACON airspace. In addition to the TRACON concerns is the large full CONUS mosaics that have a 0-8 hour forecast as part of the product. The current update rate is 5 minutes for the product but in reality, the 2-8 hour portion only updates every 15 minutes. Also, the product has a 1KM resolution so it is being looked at to change the 2-8 forecast to a 2KM resolution. So far looking at this solution the impact should be minimal but until we have full integration of the system it is hard to tell. A testing TIM is scheduled for the last week of September to lock down how testing will be done for CSS-WX as this system will go to key site testing first next summer. The key sites at ZTL, ZLC, ZOA, A80 and associated towers and S56 with SLC tower.

#### Ribbon Displays for wind shear and Microburst. (RBDT)

The agency has just started talking about replacing the RBDT's that have been in towers since the introduction of Terminal Doppler Radars (TDWR) in the mid 90's. The current displays are plasma based and have character limitations due to the original design. The displays are failing at a high rate and were not included in the NWP program for replacement. The new displays will have to be able to show the same number of runways that the current ones do and may have to ability to expand based on newer display technology. One of the considerations is the use of other displays systems such as ACE-IDS, I-DSR, and E-IDS in the future. Currently facilities with alternate displays still have to have an RBDT in the tower in case of a failure of the alternate display system. This policy may have to be readdressed as part of a replacement for the RBDT's.