Dallas/Fort Worth International Airport Safety Management Systems (SMS) Implementation Overview

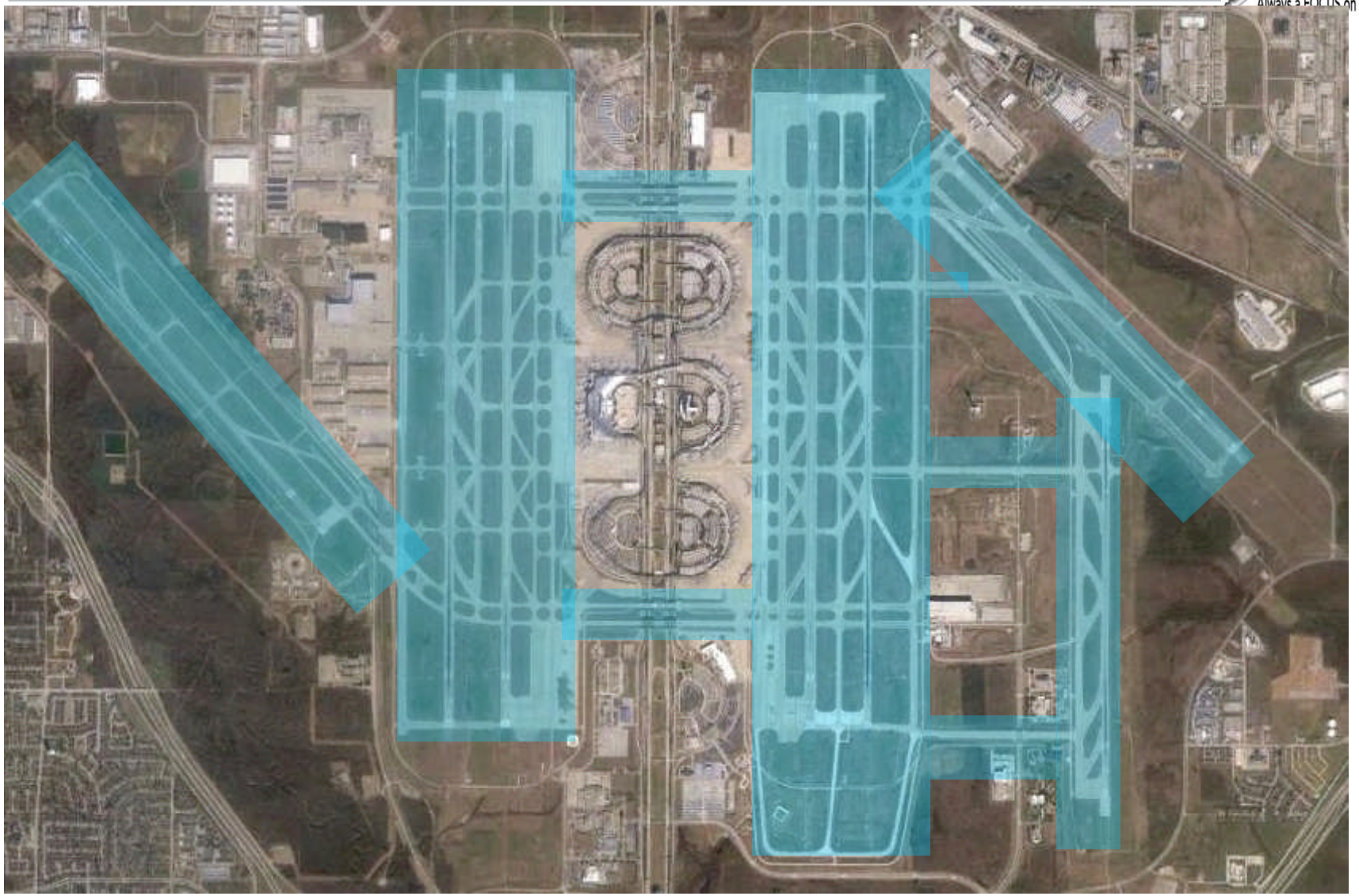
FAA Airport SMS Implementation Workshop

November 2, 2011

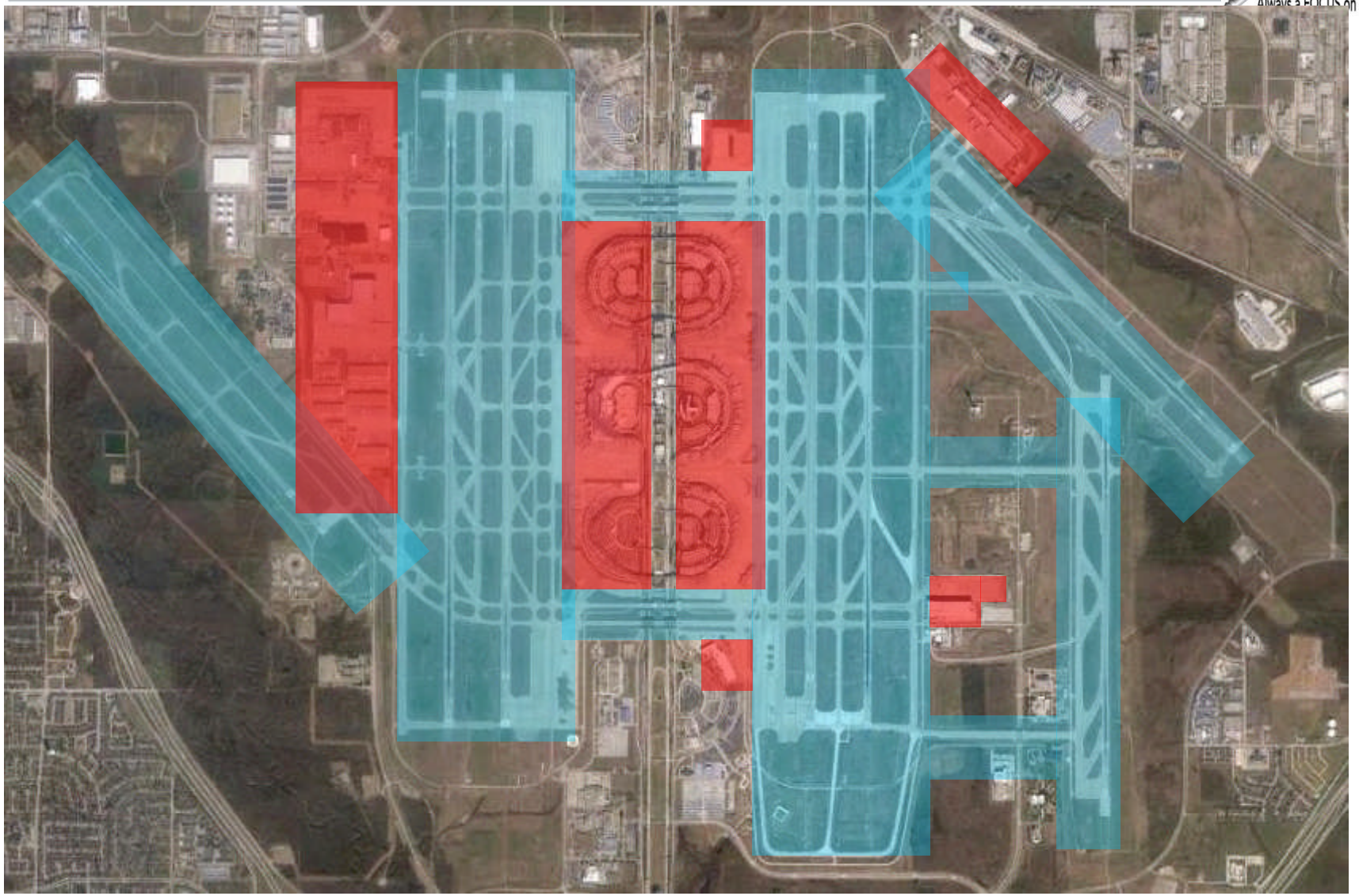
Julie Schreacke – DFW Operations Safety Administrator

Outline

- DFW Participation in FAA Pilot Studies
- Project Tasks
- Challenges and Lessons Learned
- Roadmap for the future



CFR Part 139 Regulated Aircraft Movement Areas (AMA)



Proposed CFR Part 139 Regulated Aircraft Movement (AMA) and Non-Movement Areas

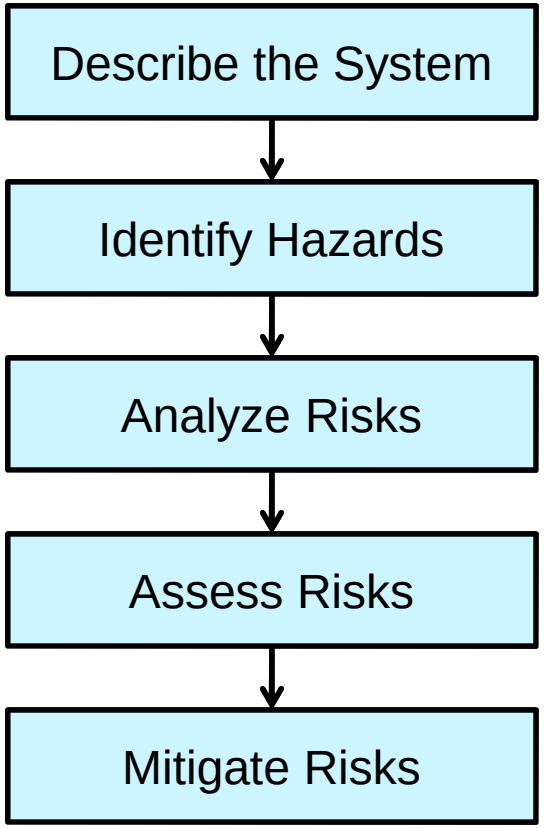
FAA SMS Pilot Programs - DFW Participation and Deliverables

- FAA Pilot Study I April 2007- June 2008
  - Gap Analysis, SMS Manual and Implementation Plan

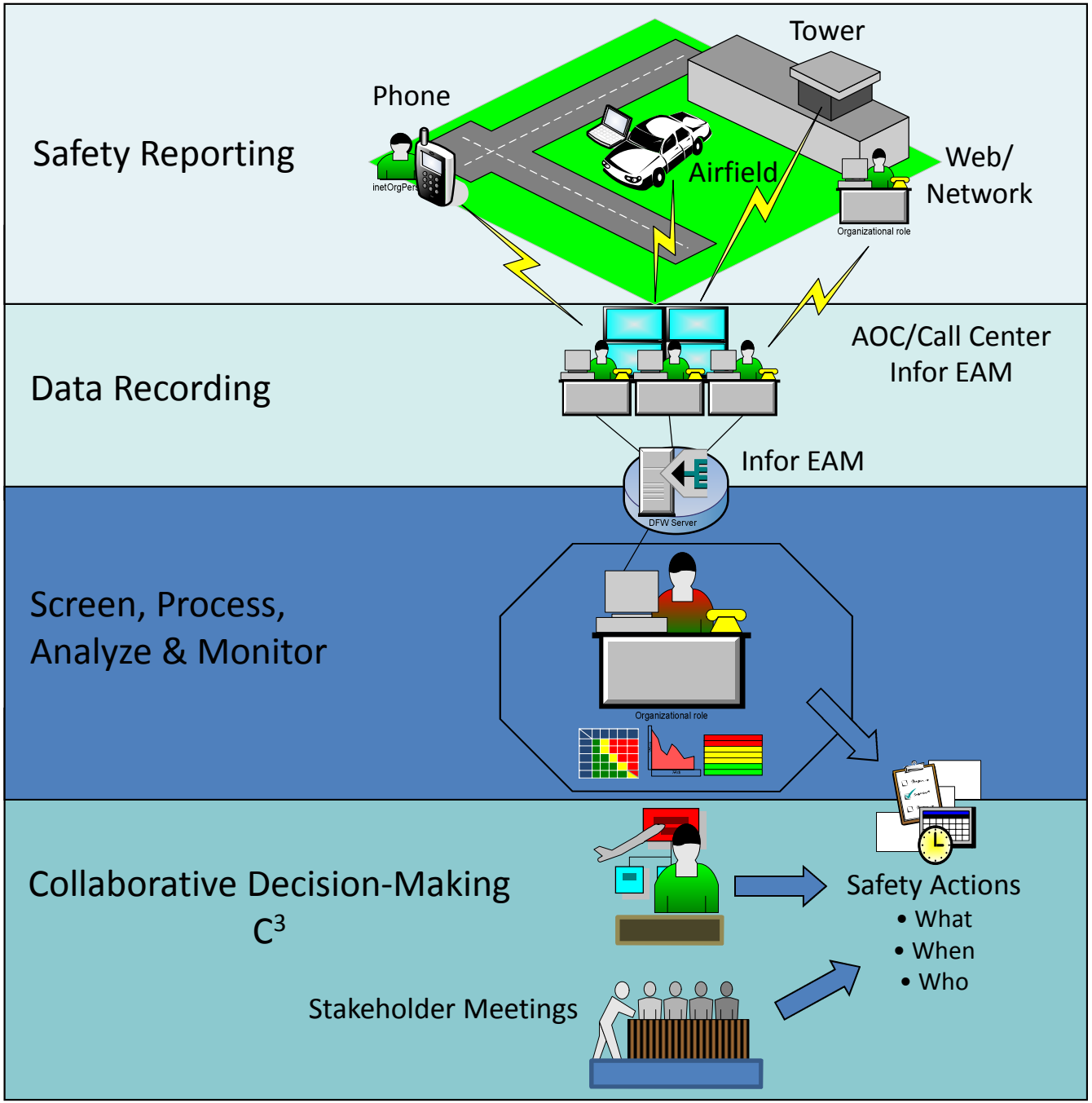
- FAA Pilot Study III October 2010 - November 2011
  - Safety Risk Management Implementation
  - Safety Reporting and Data Collection System
  - Three Safety Risk Assessments
  - Collection of Safety Data
  - Trend Analysis
  - Internal Program Evaluation
  - Other
    - Review of SMS Manual
    - Data Analysis Reports
    - Final report

Task 1 - Safety Risk Management Implementation

- Defined and reviewed SRM processes documented in DFW SMS Manual
- “Introduction to SRM” training to SRA participants
- Training on SRM to key DFW staff scheduled for November
- Discussions with SMS Administrator on SRM of daily hazards identified
- Integration of SRM approach to wildlife management
- Software development by DFW IT with integration of safety reporting and SRM



DFW Safety Reporting




Always a FOCUS on Safety
Public Affairs
Terminal Management
Other Airport Departments
Parking
Department of Public Safety
Airfield Operations
Airlines
AOC
Asset Management
FAA
Environmental Affairs
Work with stakeholders and RESOLVE
Protection

Task 2 - Safety Reporting and Data Collection for DFW

BEFORE:
Methodology for incident or hazard reporting

- Events recorded in all free text or paper and in Access-type database
- Documentation and distribution of narrative-type incident reports in a Word document stored in possibly multiple places
- Cumbersome, labor intensive, and potentially inconsistent reporting
- No streamlined ability to collect, compare, analyze, trend incidents and hazards
- Many points of failure with no real action taken – a reactive process

"NextGen" of Safety Reporting and Data Collection for DFW

AFTER:
New enhancements supporting SMS

- Formalize and automate incident reporting and hazard identification
- Paperless – "Green"
- Consistent, ability to archive, permanent record keeping
- Workload effectiveness/operational effectiveness
- Creation of incident and hazard "warehouse" to effectively collect, analyze, and manage incidents and hazards
- Points of failure now effectively eliminated or managed
- Hazards and incidents more actionable = proactive and sustainable

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Home Insert Page Layout References Mailings Review View

Print Layout | Full Screen Reading | Web Layout | Outline | Draft — Document Views

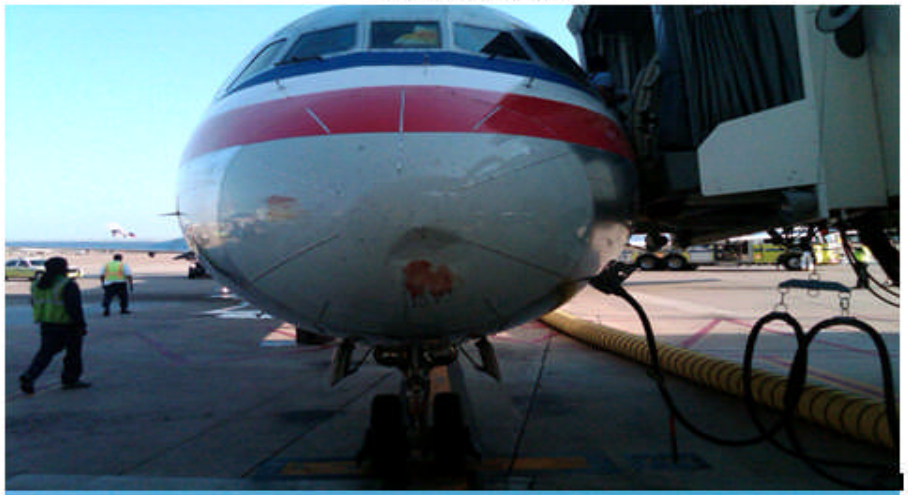
Ruler | Gridlines | Message Bar | Document Map | Thumbnails — Show/Hide

Zoom | 100% | One Page | Two Pages | Page Width — Zoom

New Window | Arrange All | Split | View Side by Side | Synchronous Scrolling | Reset Window Position | Switch Windows — Window

Macros — Macros

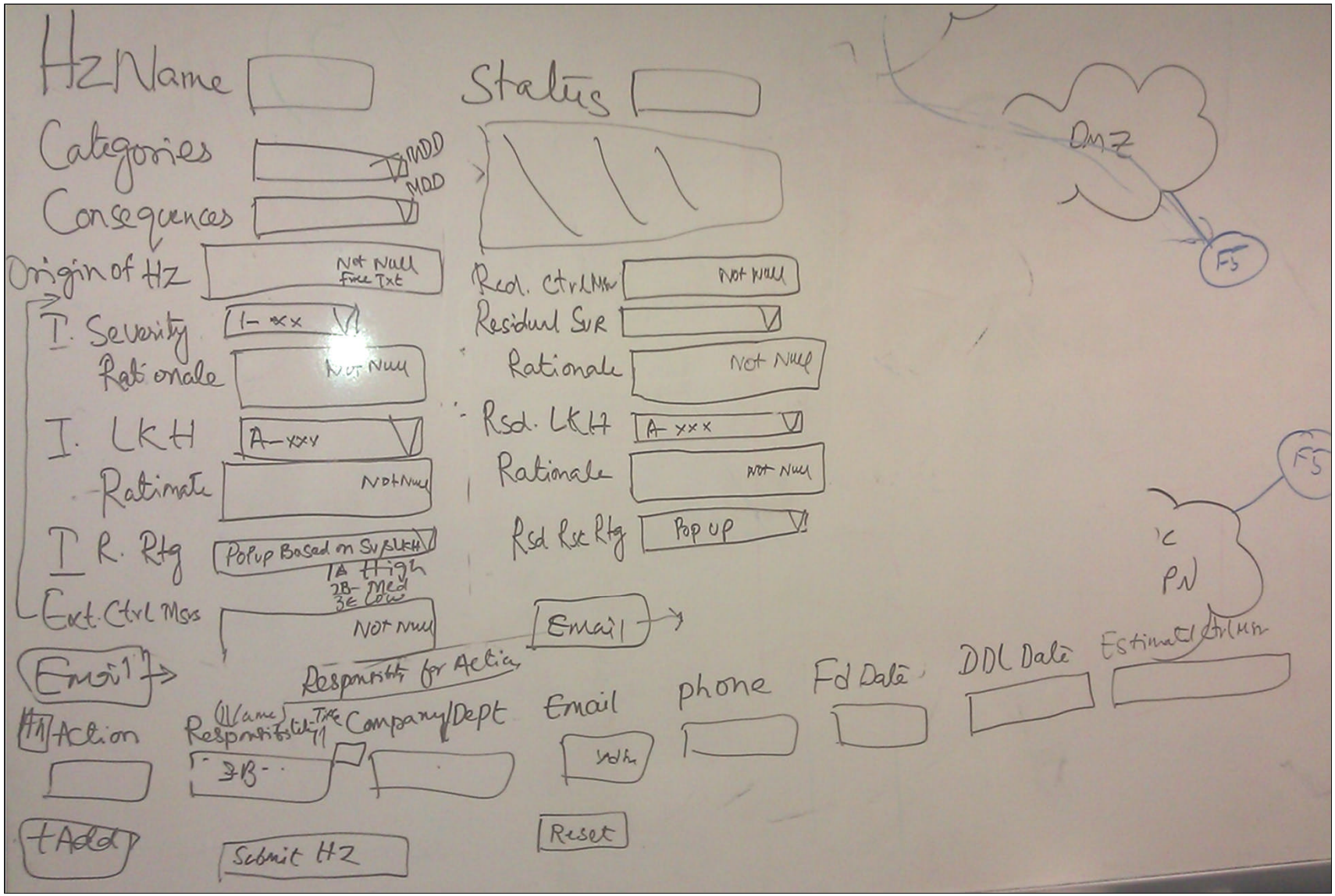
Airport Operations
Airfield Incident Report: IR#A110613-1
Linked: CR 291403



Enhanced Event Reporting in InforEAM Call Center

DFW safety reporting and SRM is working!

Hazard Recording and Management



Other Enhancements

- Infor EAM Call Center Enhancements– Estimated live November 16
  - Currently undergoing final testing with user groups
  - SMS Hazard recording and management
  - Enhanced event reporting supporting fields
  - Alert event information captured in fields
  - Enhanced FOD reporting fields

- Airfield vehicle laptops and associated hardware

Dallas/Fort Worth International Airport
Safety Management System
Data Management & Geographic Intelligence

New and Future Processes

Points of Success

Potential Single Resource for Data Collection/Storage

Customizable to fit Business

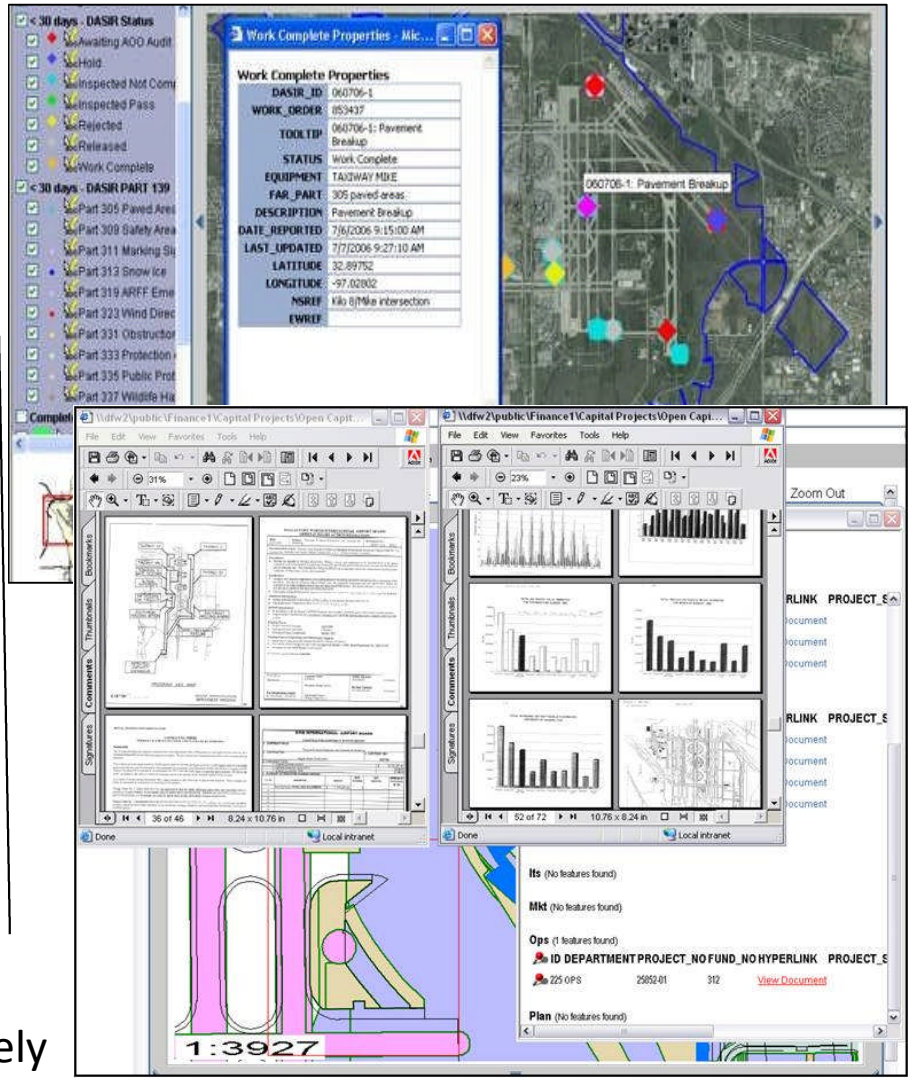
Expandable Fields and Templates

Sustained Natural Resources - Paperless

Operational and Workload Efficiencies

Proactive Approach

More in balance = ACTIONABLE

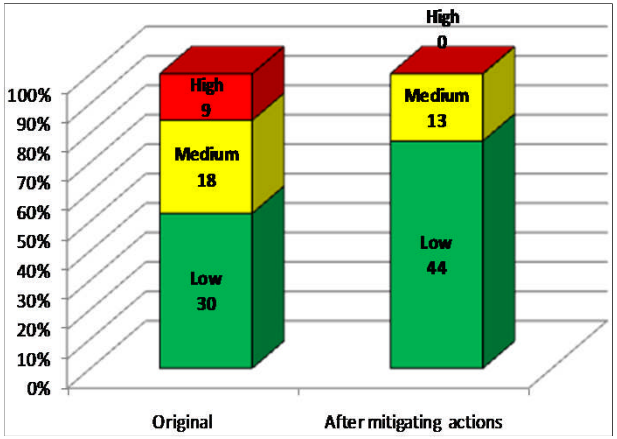


- Improves real time situational awareness
- Results in more rapid, holistic, accurate, timely and cost effective decision making

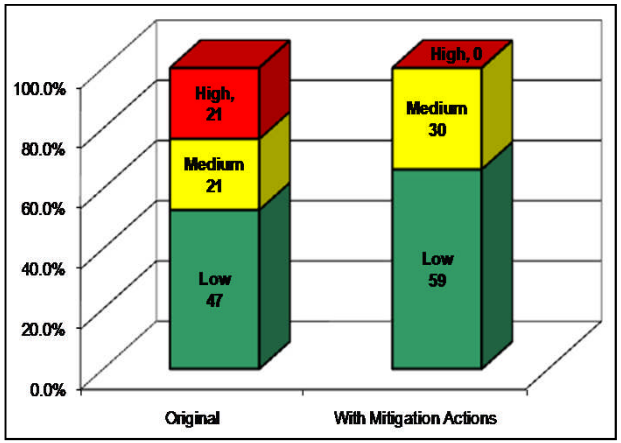
IMPROVED DATA MANAGEMENT = IMPROVED GEOGRAPHIC INTELLIGENCE SYSTEMS

Task 3 - DFW Safety Risk Assessments

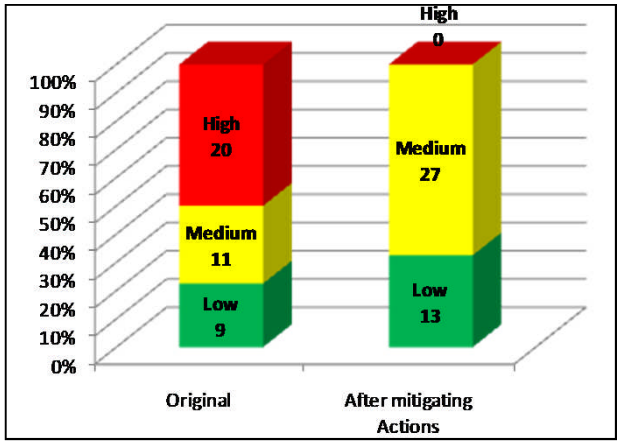
- Topics
  - Surface Incidents on the AMA
  - Winter Weather Operations
  - Ramp Construction Safety (TRIP Terminal A, Phase I)
- Results
  - Identification of key hazards, associated risk ratings, mitigation strategies, and post-mitigation risk ratings
  - Recommendations to further mitigate risks



TRIP Terminal A, Phase I



Winter Weather Operations



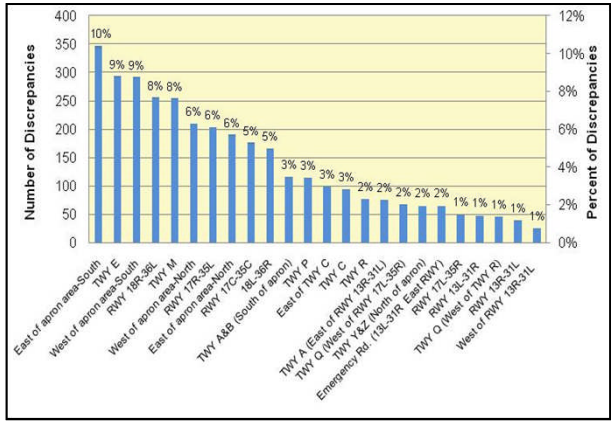
Surface Incidents on the AMA

Lessons Learned

- The combination of key stakeholders with subject matter experts is essential to a successful safety risk assessment
- General topics (e.g. winter weather operations) are more difficult to achieve meaningful results
  - Need to get into the woods to identify some very specific hazards
  - Very time consuming for a general topic
  - In genarl it takes more time than stakeholders expected
- Facilitation is key to mantain focus
- Participants need to be briefed on SRM before the start of the session
- Multiple meetings helped (large airport and number of stakeholders)
  - Bring key stakeholders
  - Maintain focus on areas specific to the group of stakeholders
  - Maintain control of brainstorming sessions
  - Time to run the meetings is long and increases with the number of participants
- It is important to have a preliminary list of hazards for the brainstorming sessions
- Sometimes risk is overestimated because the most credible consequence is not used to assess risk

Tasks 4 and 5 - Data Collection and Analysis

- Data Sources
  - National Transportation Safety Board (NTSB) – 2000 to 2010
  - Aviation Safety Reporting System (ASRS) – 2000 to 2010
  - FAA Accident/Incident Data System (AIDS) – 2000 to 2010
  - Runway Safety Office Runway Incursion (RWS) – 2000 to 2010
  - DFW AOA Movement Area Incidents (M-DFW) – 2000 to 2010
  - DFW AOA Non-Movement Area Incidents (NM-DFW) – 2000 to 2010
  - Daily Airfield Safety Inspection Record (DASIR reports – airfield inspections, 2006 to 2011
  - FAA Wildlife Strike Database – 2000 to 2010
- Reports
  - DFW Data Analysis Part 1
  - Analysis of Daily Airfield Safety Inspection Records (DASIR)

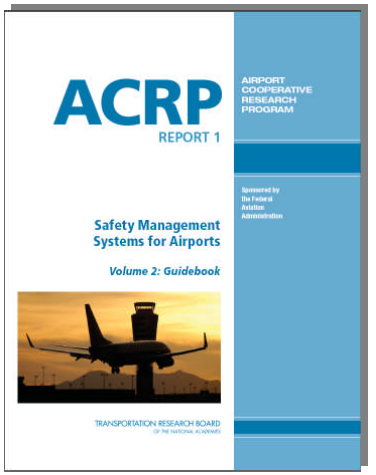


Additional Data Analysis Reports Developed in Pilot Study

- Integrating Wildlife Management into SMS
  - Suggestion of a risk-based approach to wildlife hazard management for high risk prioritization of management activities
  - Risk classification of accidents by bird size as “medium” (yellow) for small, medium, and large birds

- Draft FOD Data Collection and Management Plan
  - Based on FAA AC150/5210-24 Airport Foreign Object Debris Management
  - Reviewing possibility of adopting FOD “Elimination” Plan for DFW

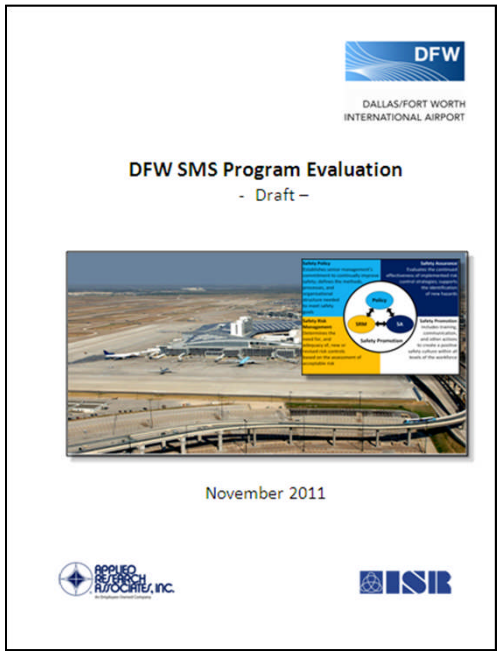
Task 6 - Internal Program Evaluation



- Procedure
  - Conducted from Oct 11 to Oct 14
  - 40 stakeholders interviewed
  - Addressed SRM and SA
  - Used methodology described in ACRP Report 1, Vol 2
- Main Conclusions
  - Staff awareness of SMS and SRM was evident with positive attitude
  - Depts interested in working with Ops and be integrated with SMS
  - Dept of Development and Engineering (ADE) already managing their SRM studies
  - Program highly visible within Dept of Ops
  - Infor EAM is an excellent software solution for SMS
  - Safety data is being reported, analyzed, trended and investigated
  - Signs of safety culture transformation

Internal Program Evaluation

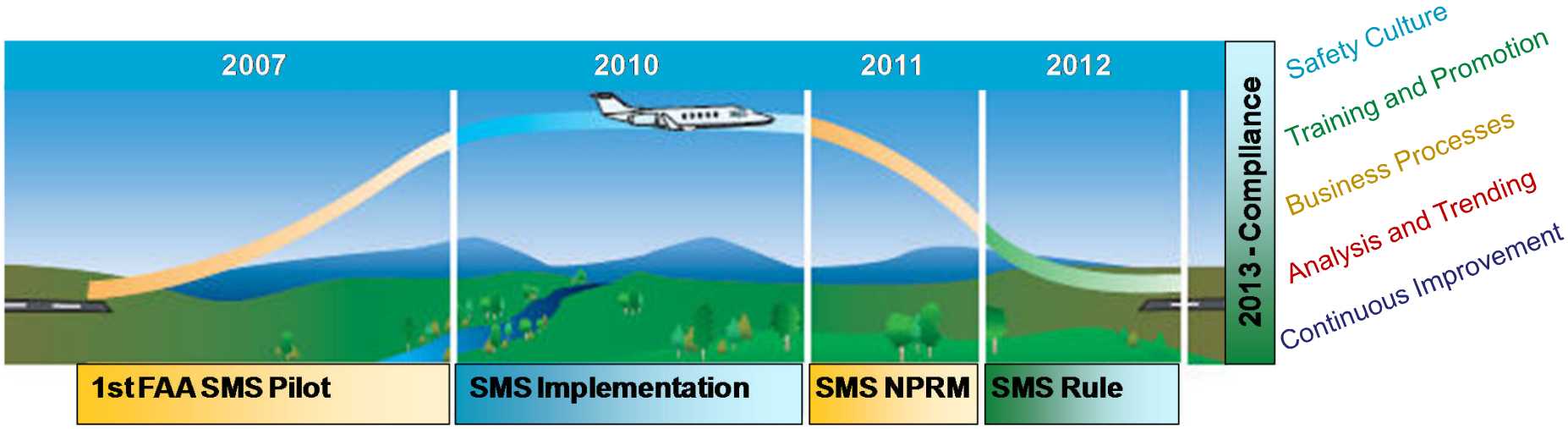
- Opportunities for Improvements
  - Implementation of all SMS processeds documented in DFW SMS manual
  - Implement integration with other Depts
  - Need to integrate existing safety programs to SMS
  - Establish SMS link/POC in each Dept
- Next Steps
  - Approve SMS Manual
  - Implement SafetyPromotion
  - Integrate other Depts and Stakeholders to SMS
  - Integrate ramp activities to SMS
  - Generate online SMS indoctrination training
  - Continue enhancing Infor EAM SMS module and train depts on safety reporting



Safety Risk Management and Safety Assurance Training

- Presentation for SMS Indoctrination and Safety Reporting (actual training will be provided by DFW)
- SMS SRM and SA Executive Overview (1hr, Oct 2011)
- SMS SRM and SA Advanced Training (8 hrs, Nov 2011)

DFW "Roadmap" for the Future



- Past and present accomplishments/lessons learned and future vision for how SMS will look at DFW
- SMS now in early formative stages - small, progressive steps for best success
  - DFW SMS promotion via Internal Communications and successive front-line briefings
  - Communications and involvement with tenant SMS/safety efforts
  - Establishing data baselines
  - Fine tuning our situational awareness "radars"
  - Early stages of our program, but ahead of the industry pack

Challenges and Lessons Learned

- Selection of an SMS software solution must begin in day one of SMS implementation
- Collection of safety data can always be improved and sometimes will require development of new protocols
- Data collection should focus on key information so that airport staff is not overwhelmed
- SRM and SA training must have a practical focus associated with airport activities
- Keeping SRA focus very limited for best results
- Keep groups small (less than 10 people) during braisntorming sessions
- Each brainstorming session should not last more than 4 hrs (if possible use multiple days)
- Scheduling meetings with key stakeholders can be a challenge for large and medium airports
- It is necessary to integrate Part 139 requirements with SMS (e.g. Wildlife management, FOD Control, etc.)

Julie Schreacke
Dallas/Fort Worth International Airport
Operations Safety Administrator
972-574-1021
jschreacke@dfwairport.com

Manuel Ayres, Ph.D.
Applied Research Associates
Principal Engineer,
SMS Implementation Project Lead
305-675-1419
mayres@ara.com

Thank You!