FAA Great Lakes Regional Engineer Update

Presented to: South Dakota 2021 Airports Conference
By: Michael Ferry, P.E., Senior Civil Engineer
Date: April 1, 2021
Topics for Discussion

• GA RSA Initiative
• What can I update on my 5010? (and how?)
• Modifications to FAA Standards
RSAs Background

• June 1999: Commercial flight attempted landing on Runway 4R at Little Rock during thunderstorm

• Aircraft continued off the departure end, striking a support for the RW 22L Approach Lights

• Post-crash breakup and fire followed

• 11 fatalities, 110 injured
**RSA Background**

- **NTSB Investigation**
  - Finding #33: “The development of recent technologies to convert nonfrangible structures to frangible ones would provide a safety benefit to airport facilities.”
• As a result of the Little Rock accident, the 1999 FAA Order 5200.8 (still current) required RSA determinations by June 2000 for all 14 CFR Part 139 (Air Carrier) airports, and with master plans, or before major FAA re-investment in a runway, for non-139 runways.
The FAA did monumental RSAs Program from 2000 – 2018 at air carrier airports certificated under 14 CFR 139. However, the next step is GA RSAs, which are now being focused strategically.
FAA GA RSA Goals

• 2021: Evaluate and develop plan for 10% of largest non-standard or unknown GA RSAs
  • Preliminary # in South Dakota: 4

• 2022: Draft plan is to assess all remaining GA RSAs at classified NPIAS airports
RSA Inventory

- “Evaluate”
- New FAA ADIP RSA tool
- Required for RSA Determination
- Entered by FAA staff, however info from Sponsor

![Map of RSA Inventory with objects listed](image-url)
RSA Inventory

• RSA assessments by ADO extremely limited
  • FAA travel currently extremely limited
  • Some airports may have ADO outreach seeking needed info from you, as our ‘eyes’, to help complete your RSA inventory
RSA – Fixed by Function NavAids

- Items allowed in RSA, due to function
- Must be frangible
- ADO will coordinate FAA owned violations will be documented for FAA’s Facilities considerations

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Notes:
1. Flasher light power units (Individual Control Cabinets) are fixed-by-function.
2. End Fire glideslopes are fixed-by-function in the RSA/ROFA.
3. Allowing a GS within ROFA due to a physical constraint should be evaluated on a case-by-case basis.
Typical RSA Violations – Frangibility Standards

See FAA Engineering Brief 79A
Typical RSA Violations – Not Fixed-By-Function

See FAA Engineering Brief 79A
Benefits of frangibly mounted equipment

- MDW Sep 2003
- No fatalities
- Aircraft overran runway end, struck localizer, but remained intact
What are we all looking for?

- Inspect your equipment to ensure it is maintained (e.g., grading of equipment bases)
Typical RSA Violations – Others
Big Picture: How does RSAD work?
RSAD Mitigations

Examples of Mitigations

• Land Acquisition
• RSA Improvement Construction (such as airfield grading, retaining walls, airfield drainage projects, etc.)
• Road Realignment or Relocation
• Use of Declared Distances (modifications to the ASDA & LDA)
• Threshold Displacement
• EMAS (per FAA Order 5100.9)
Correcting RSAs - Requirements

• Must be continuously evaluated for all practicable alternatives until the RSA meets all standards
  • Incremental improvements are common

• Runway and RSA improvement projects must comply with the RSA Determination approved by AGL-600
How Do I update 5010 Info in ADIP?

- Step 1: Review Info before starting an update
- NEW: Airport Master Record Updates – ‘Projects’
How Do I update 5010 Info in ADIP?

• Airport limited to Addition Info submissions (normally State or 139 inspector will update 5010 for NPIAS airports)
How Do I update 5010 Info in ADIP?

- What can I update?

[Image: Airport Data and Information Portal - Online Help]

- Expand All
- Collapse All

- Airports
- Info for Surveyors
- Update My Account
- Update My Password
- Airport Survey Projects
- Survey Viewer User Guide
- Modification of Standards (MOS)
- Facility Documents
- Support Desk User Guide
- Airport Master Record (AMR)
  - Airport Master Record Data Dictionary
  - Airport data submission workflow (for Airport Owners/Managers) (PDF) (PowerPoint)
  - Airport Master Record (AMR) User Guide
  - Airport Master Record Data Dictionary
  - Airport Master Record Field Permissions

[Logos: We are Airports, FAA Office of Airports]
ADIP 5010 Field Permissions

- Fairly limited without ADO coordination

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How Do I update 5010 Info in ADIP?

- Program highlights pending changes and allows you to undo

 Viewing Comparison Between Your Changes and FAA Data

When a value is changed and saved in the ADIP AMR application, the data field for the particular item will be highlighted (yellow). Placing your mouse cursor over this highlighted field will display a comparison tool tip window displaying the differences between the official FAA data and the changed data entered. (See FIGURE 29: DATA COMPARISON TOOL TIP).
How Do I update 5010 Info in ADIP?

• Check Project Summary before submitting changes
MOS Overview

• MOS definition, requirements and process are found in FAA Order 5300.1G

• MOS Definition:
  “Any deviation from, or addition to standards, applicable to airport design, material, and construction standards, or equipment projects resulting in an acceptable level of safety, useful life, lower costs, greater efficiency, or the need to accommodate an unusual local condition on a specific project through approval on a case-by-case basis.”
What does MOS pertain to?

- Deviations to projects involving **Federal funds** OR as required to support public approach procedure
- Only Airports Division standards
  - Applicable to design AC 5300-13 and lighting (5300 series ACs)
  - Construction methods and materials (AC 5370-10)
  - Equipment Projects (AC 5200 series)
Construction

• Most common type of MOS
WHO IS INVOLVED?

• Sponsor / Consultant
• FAA
  – Others Lines of Business as needed
  – ADO
  – Regional Office
  – Headquarters
MOS – When?

• Before FAA review of ALP with proposed non-standard design

• New Scheduled Service Design Aircraft
  – Operational restrictions?

• Construction MOS completed with Engineer’s design Report for P&S Review
  (Before Final Design!)
Grant Process Overview

Start

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ENGINEER’S REPORT

90% PLANS AND SPECS.

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MOS - When?

• **Most effective** prior to project Scope / CIP (3+ years)

• **Good Planning can often eliminate MOS**
  – Even for existing MOS, at 5 year expiration, Sponsor must demonstrate efforts and why MOS is still needed

• **MOS must be reviewed whenever there is an opportunity to meet standards** (i.e. grant, operational change)
Taxiway Design
Standard Crown

- Drainage goes off the side of the taxiway.
- No area of ponding occurs on the taxiway.
- Is AIP eligible.


Taxiway Design

Inverted Crown

- Designed to drain to the center of the taxiway.
- Does not meet design standards.
- **Not AIP eligible** without an approved MOS.
- An MOS will most likely not be approved.
Keys to State Specs in lieu of P-403

P-403
State highway department specs may be used in lieu of this specification for:

1. Access roads, perimeter roads and other pavements not subject to aircraft loading
2. Stabilized base courses under Item P-501
3. Pavements designed for aircraft gross weight of 12,500 30,000 pounds or less

• If density requirement is not specified, it shall be modified to include 403 requirements
• Must have a demonstrated satisfactory performance record under equivalent loadings and exposure.
• Include all applicable/approved state specifications

The use of state highway specifications for pavements subject to aircraft loading greater than 30,000 pounds and less than 60,000 pounds requires a MOS
40:1 Departure Surface

• FAA is evaluating the possibility of modifying the 40:1 departure surface
• Impacts ARP, ATO, and Airport Operators
• The FAA is completing its risk assessment
Approach/Departure Holding Positions (Still ongoing)

- Delayed implementation due to:
  - various publication revisions
  - controller training

- Need to coordinate locations with ATCT during design phase

- Displaced thresholds that only affect the approach surface may retain the APCH legend but must update the hold line marking
Questions

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