

Airports GIS and Order 5010.4A Update

A Change in Direction

Airports GIS Team

Dr. Mike McNerney – Team Lead

Dr. Shyam Parhi – System Development

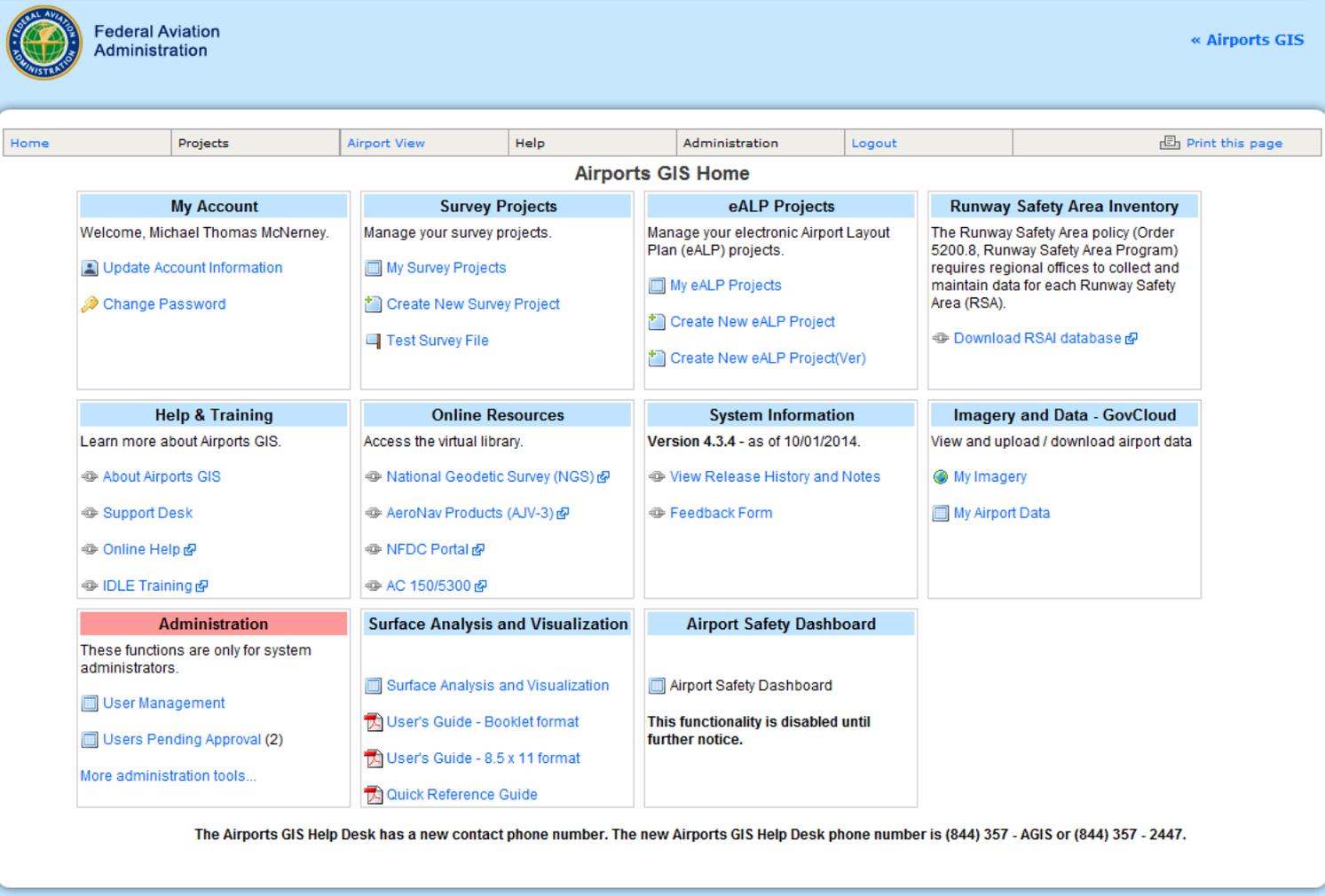
**Andrew E. Goldsmith – Data & AIM Coordination
Lead**

**New Position Vacant – General Engineer
Infrastructure Data Management**

Presented to | Aeronautical Charting Forum

Date | April 29, 2015

Airports GIS Homepage



The screenshot shows the Airports GIS Homepage with the following layout:

- Header:** Federal Aviation Administration logo on the left, "Airports GIS" link on the right.
- Navigation Bar:** Home, Projects, Airport View, Help, Administration, Logout, and a "Print this page" icon.
- Main Content Area:** A grid of 12 panels:
 - My Account:** Welcome, Michael Thomas McNerney. Links: Update Account Information, Change Password.
 - Survey Projects:** Manage your survey projects. Links: My Survey Projects, Create New Survey Project, Test Survey File.
 - eALP Projects:** Manage your electronic Airport Layout Plan (eALP) projects. Links: My eALP Projects, Create New eALP Project, Create New eALP Project(Ver).
 - Runway Safety Area Inventory:** The Runway Safety Area policy (Order 5200.8, Runway Safety Area Program) requires regional offices to collect and maintain data for each Runway Safety Area (RSA). Link: Download RSA database.
 - Help & Training:** Learn more about Airports GIS. Links: About Airports GIS, Support Desk, Online Help, IDLE Training.
 - Online Resources:** Access the virtual library. Links: National Geodetic Survey (NGS), AeroNav Products (AJV-3), NFDC Portal, AC 150/5300.
 - System Information:** Version 4.3.4 - as of 10/01/2014. Links: View Release History and Notes, Feedback Form.
 - Imagery and Data - GovCloud:** View and upload / download airport data. Links: My Imagery, My Airport Data.
 - Administration:** These functions are only for system administrators. Links: User Management, Users Pending Approval (2), More administration tools...
 - Surface Analysis and Visualization:** Links: Surface Analysis and Visualization, User's Guide - Booklet format, User's Guide - 8.5 x 11 format, Quick Reference Guide.
 - Airport Safety Dashboard:** Link: Airport Safety Dashboard. Note: This functionality is disabled until further notice.

Footer: The Airports GIS Help Desk has a new contact phone number. The new Airports GIS Help Desk phone number is (844) 357 - AGIS or (844) 357 - 2447.



Airports GIS at the THRESHOLD



Federal Aviation
Administration

Office of Airport Safety and Standards : Airports GIS Quarterly Newsletter

HOME

CAPABILITIES

USER HELP

TRAINING

WHO'S WHO

FEEDBACK

DISCLAIMER

This newsletter is for information only and does not supersede any guidance in advisory circulars, standards, or official procedures.

QUICK LINKS

- [Airports GIS](#)
- [Login Page](#)
- [Newsletters & Publications](#)



Cloud Based Airports Imagery

In previous editions of our newsletter, we have described what the GovCloud is, its benefits and how...

FEATURED Airports GIS team collaborated with various users to develop...
Welcome to Airports GIS at the THRESHOLD

AIRPORTS GIS

The Airports Surveying Geographic Information System (Airports GIS) is a tool to standardize survey data on airports needed for the Federal Aviation Administration (FAA) to issue grants under the Airport Improvement Program (AIP). The standardized airport and aeronautical data helps the FAA manage data to meet the demands of the Next Generation National Airspace System.

Guided by advisory circulars, the airport sponsor or proponents are key links in the information chain. We are developing electronic airport obstruction evaluation tools and electronic Airport Layout Plans.

Our ultimate goal is to integrate airport data: preliminary, current, planned, and temporary. Additional plans are to share data with other FAA systems such as iOEAAA and eNASR. Stay tuned for future implementations.

SPOTLIGHT



New Airports GIS Development in FY15

- **Cloud server FAA Implementation**
 - ▶ Aerial Photography – 1,000 airports by September
 - ▶ 1610 Airports have legacy ALPs in PDF
 - ▶ 535 Part 139 Airports have Signage and Marking Plans
- **Airport 20:1 Penetrations Visualization Tool**
 - ▶ Live all Service Centers April 24, 2015
 - ▶ Webinars in May for airport sponsors
 - ▶ FPT generate letters and receive verification and mitigation electronically.
 - ▶ Obstacle removal in from database in 10 working days
 - ▶ Airport can evaluate without triggering FAA review



New Airports GIS Development in FY15

■ Modification of Standards

- ▶ Allows airports to digitally submit and FAA approve modifications of standards (Advisory Circulars)
- ▶ Dimensional standards coordinated with other LOB
- ▶ Construction standards within ARP
- ▶ Deployed – waiting for Order to be signed.



New Airports GIS Development in FY15

■ Electronic Airport Layout Plan

- ▶ Electronic Data deployed. Printing unsatisfactory
- ▶ User provides additional ALP data not in 5300-18
- ▶ Jun 30 – six standard sheets PDF of ALP set
 - Title Sheet, Airport Layout Sheet, Data Tables
 - Terminal Area, Airspace Sheet, Runway elevation profile,
 - **Property Map and Land Use off Airport (FY16)**
- ▶ Consultant can add additional sheets
- ▶ Testing with select number of airport July- Aug
- ▶ Final version 1.0 to public Sept 30
- ▶ Coordination with LOB in Airports GIS
- ▶ New Advisory Circular on Airport Layout Plans in Development

NAV Lean & Aeronautical Data Management (ADM)

- 2011-12 ADM Core Team Meetings
- Feb 2012 Executive Action Group approval
- Mar 2013 initial funding increment
- NAV Lean Program Manager 2014
- February 2015 Airports GIS becomes Authoritative Source for all Survey data including FAA Tech Ops Surveys
- September 30, 2015 Airports GIS becomes the Airport Data Authoritative source and Airports the Custodian
- **September 30 is only Initial Operating Capability**
- **Testing until April 2016 for Production**



Master Data Management Principals

- **Data is managed at the Source**
- **Single Authoritative Source with replicated sources**
- **Only the source can change the data**
 - Each Airport is the external to FAA source of Airport Data
 - Airports GIS integrated web portal for input for all airport data input by the airport except non civil airports or non-US or non-US Territories airports.
- **Airports GIS data migration**
 - IOE/AAA Future Runways, NASR, Air Nav data



Airport Data Requirements

- **iOE-AAA web service being created, will be able to import proposed runways from iOE-AAA into AGIS**
- **Tiered fidelity in data requirements**
- **129 Airports with Low Visibility Ops – SMGCS Charts Required**
 - May require even more specialized data for < 500 feet vis (LIDAR project)
- **540 Part 139 Airports**
 - Full 18B ALP, 1 foot contours, data capable for preliminary engineering
 - Source Data for Cockpits
- **Approx. 1,000 Airports with Airfield Diagrams**
 - Data required for Charting – Full 18B ALP
- **3,330 NPIAS Airports (ALP plan and Airport Facility Directory)**
 - Pilot test of 18B surveys/ feature extraction from Satellite Imagery.
- **19,000 Landing Areas (Runways, thresholds, ARP, TLOF, FATO)**
 - Data migration from NASR (2015) – 5010 program
 - Data Verification from Google Earth

New Documents

- **Order 5010.4A Airport Data and Information Management.**
 - FAA Comments being resolved. Will hold back until AC 5300-19 is ready
- **AC 150/5300-19 Airport Data and Information Program**
 - Expect to be released for Public Comment May 2015
- **AC 150/5300-18C Airports GIS Data Requirements**
 - Updated Data Schema to match OV-7 Logical Model
 - Closer compatibility with RTCA DO-272C/ ICAO
 - Public and FAA Comments about June 2015



Order 5010.4A



U.S. DEPARTMENT OF TRANSPORTATION
FEDERAL AVIATION ADMINISTRATION
National Policy

**ORDER
5010.4A**

Effective Date:
DRAFT

SUBJ: Airport Data and Information Management

- 1. Purpose.** This directive defines the roles and responsibilities of FAA personnel in the collection, management, processing, and handling of data describing the physical infrastructure, characteristics, services and operational environment of the airport. The intent of this Order is to align the Office of Airports (ARP) with the Master Data Management concept and Enterprise Architecture of the FAA.
- 2. Audience and Distribution.** This directive is distributed from headquarters to the subordinate staff offices and field locations of ARP, Air Traffic Organization (ATO), and Office of Aviation Safety (AVS).
- 3. Cancellation.** This cancels the following directives: FAA Order 5010.4, Airport Safety Data Program, dated January 27, 1981.



AC 150/5300-19



U.S. Department
of Transportation
**Federal Aviation
Administration**

Advisory Circular

Subject: Airport Data and Information
Program

Date: DRAFT
Initiated by: AAS-100

AC No: 150/5300-19
Change: Original

- 1. Purpose.** This advisory circular (AC) provides general guidance and information for airport owners and operators in the collection and management of data describing the physical infrastructure, characteristics, and services of their airport. It also describes the schedule, frequency and standards for airport inspections. These inspections ensure conformance with standards and the applicability and currency of the published information. The data we collect and maintain within the Airport Data and Information program is source material for the Federal Aviation Administration (FAA)'s aeronautical information databases, for use in the dissemination of aviation information to the public, preparation of government and private industry aeronautical charts, and related flight information publications as required by title 49 United States Code 44721, 49 U.S.C. 47130, and the planning and programming of various programs within the FAA.
- 2. Distribution.** This AC is distributed to FAA Washington DC headquarters, director level, and the regional offices and field offices of Airports, Air Traffic Organization (ATO), and the Office of Aviation Safety (AVS)
- 3. Cancellation.** This AC cancels AC 150/5200-35A, Submitting the Airport Master Record in Order to Activate a New Airport dated May 2, 2004.



Order 5010.4A

- **Order and AC produced as companion documents**
- **Purpose for airport to submit data electronically.**
 - ▶ Test the validity of the data at the source. Use aerial background maps for coordinates, track submittals, email address and password for digital signature by airport.
 - ▶ NFDC will validate all data prior to publication
 - ▶ Airports District Offices will review data for NPIAS Airports
- **Improvements to 5010 NASR data**
 - ▶ Add FATO and TLOF as geospatial elements
 - ▶ Some fields will be expanded for business reasons
 - ▶ Some fields will be added for AC 150/5300-13A C1

Order 5010.4A

- **State Inspections of Private Airports will continue but inspectors will require the Airport digital signature in Airports GIS.**
- **Future runways will be in same database but have planning horizons or start and end dates if within two years.**
- **Airports GIS collected geospatial data for lighting down to light fixture location and many attributes.**
 - Runway Lighting attributes will allow collection of specification for LED lighting
 - Requested in AFS LED Lighting symposium
 - Example MIRL or MIRL-L in pull down menu



AC 150/5300-18C Schema Changes

- **Add temporality to every feature**
 - Start and End Date
- **Some feature names will change to conform to OV-7 Logical Model**
 - Runway End is Runway Direction
 - Will have translation capability from 18B to 18C but some data fields not populated.
- **RTCA SC-217 Aeronautical Databases**
 - Trying to match data requirements in DO-272D to 18C
 - Draft DO-272D has Airfield Light and Airfield Sign from Airports GIS
 - Looking at DO-200A/B certification for 18B/C data without NGS data validation for non Part 139 Airports.

Questions ???

- **Aeronautical Information Services is the public data release point.**

