

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 – Infrastructure Data
Management

Presented to | Aeronautical Charting Forum

Date | October 29, 2014

Airports GIS Homepage



Federal Aviation
Administration

« Airports GIS

Home Projects Airport View Help Administration Logout Print this page

Airports GIS Home

My Account

Welcome, Michael Thomas McNeerney.

[Update Account Information](#)

[Change Password](#)

Survey Projects

Manage your survey projects.

[My Survey Projects](#)

[Create New Survey Project](#)

[Test Survey File](#)

eALP Projects

Manage your electronic Airport Layout Plan (eALP) projects.

[My eALP Projects](#)

[Create New eALP Project](#)

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).

[Download RSAI database](#)

Help & Training

Learn more about Airports GIS.

[About Airports GIS](#)

[Support Desk](#)

[Online Help](#)

[IDLE Training](#)

Online Resources

Access the virtual library.

[National Geodetic Survey \(NGS\)](#)

[AeroNav Products \(AJV-3\)](#)

[NFDC Portal](#)

[AC 150/5300](#)

System Information

Version 4.3.1 - as of 01/28/2014.

[View Release History and Notes](#)

[Feedback Form](#)

Imagery and Data - GovCloud

View and upload / download airport data

[My Imagery](#)

[My Airport Data](#)

Administration

These functions are only for system administrators.

[User Management](#)

[Users Pending Approval \(3\)](#)

[More administration tools...](#)

Surface Analysis and Visualization

[Surface Analysis and Visualization](#)

[User's Guide - Booklet format](#)

[User's Guide - 8.5 x 11 format](#)

[Quick Reference Guide](#)



New Airports GIS Development in FY15

- **Cloud server FAA Implementation**
 - Aerial Photography – December 2014
 - ALP, Signage and Marking Plans, SHP files
- **Airport 20:1 Penetrations Visualization Tool**
 - January 2015
- **Modification of Standards in testing**
 - March 2015
- **eALP module quarterly improvements**
 - Working Model, Standardized Sheets
 - 4th Qtr FY 2015



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



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 Due Nov 17.
- **AC 150/5300-19 Airport Data and Information Program**
 - Expect to be released for Public Comment Jan 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 March 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
 - Looking at DO-200A/B certification for 18B/C data without NGS data validation.