

1100 – Submitting Aeronautical Data for Development Projects

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General

Airport development projects often result in a physical change to airport runways and navigational aid facilities. In order to maintain current and accurate aeronautical data, airport operators must submit appropriate survey information and related aeronautical information that accurately represent the physical improvements at their airport.

Aeronautical Information Services

The FAA office of Aeronautical Information Management (AIM) is the single authoritative government source for collecting, validating, storing, maintaining and disseminating aeronautical data to support real-time aviation activities within the United States. Within AIM, the [National Flight Data Center](#) (NFDC) serves as the principal element that collects and disseminates information detailing the physical description and operational status of all components of the National Airspace System (NAS). The NFDC maintains the National Airspace System Resources (NASR) database.

NASR Database

The NASR database provides official source data that defines and describes the infrastructure of the NAS. Data within the NASR originates from a wide spectrum of authorized sources, including Federal Government offices and systems, FAA air traffic facilities, airway facilities operations, regional offices, airport district offices, procedure developers, the Department of Defense, airport owners and operators, inspectors, and state governments.

Role of the FAA Office of Airports

One mission of the FAA Office of Airports is to collect airport data for submission to the NASR database. The FAA Office of Airports accomplishes this task under three separate programs.

1. Airport Safety Data Program (5010)
2. Obstruction Evaluation/Airport Airspace Analysis Program (OE/AAA)
3. Airport Data and Information Portal (ADIP)

Limitations of Use

Users of this guide should note the obligation for any required action addressed within this document originates within applicable Federal directives such as United States Code (USC), Public Law (PL), Code of Federal Regulations (CFR) and official FAA policies. The supplemental information provided within this guidance does not itself establish additional requirements for participation in the AIP. In the event there is a discrepancy between this guidance and current AIP policy, AIP policy shall always take precedence

1110 - Airport Data and Information Portal (ADIP)

Purpose

The FAA uses aeronautical data for several purposes. The FAA relies on information from the aeronautical survey to amend existing runway instrument flight procedures (IFPs) or develop new IFPs. The FAA also uses the commissioning data and airport diagram information to update various databases and publications such as the Airport Master Record, Airport Facility Directory, and the Terminal Procedures Publication.

FAA Survey Standards

The FAA requires accurate survey data in order to develop procedures and to publish charts and directories. The Airport Data and Information Portal (ADIP) serves as the FAA's official authoritative process for the collection and maintenance of airport and aeronautical data required to meet the demands of the Next Generation National Airspace System (NEXGEN).

All submitted data must be in the proper format in order to permit the FAA and the National Geodetic Survey (NGS) to validate accuracy and subsequently approve the collected data. The following FAA Advisory Circulars establish the standards that sponsors must follow when collecting and submitting data.

[AC 150/5300-16](#) General Guidance and Specifications for Aeronautical Surveys: Establishment of Geodetic Control and Submission to the National Geodetic Survey

[AC 150/5300-17](#) Standards for Using Remote Sensing Technologies in Airport Surveys

[AC 150/5300-18](#) General Guidance and Specifications for Submission of Aeronautical Surveys to NGS: Field Data Collection and Geographic Information System (GIS) Standards

Survey Guidance

The [FAA ADIP website](#) also has an "Info for Surveyors" in the "[Help](#)" section. This web page contains links to suggested forms, checklists, and templates that surveyors should find beneficial.

ADIP Process

The FAA ADIP website uses a data "Validation and Acceptance" workflow process. ADIP displays each step and tracks the completion status. For airport development projects that involve changes to safety-critical data (i.e. runway and obstacle information), the correct workflow process is the "Safety-Critical Data Collection, Including Design Data" project type and is outlined below. The other project types include PACS & SACS, EB-91 Vegetation Management, Non-Safety Critical, and Safety-Critical Data Collection, Not Including Design Data.

1. [Project Initiation](#)
 - Sponsor identifies project type and purpose
2. [Project Summary](#)
 - Sponsor identifies airport and authorizes surveyor access
 - Inputting a forecasted operational date establishes critical milestone dates
3. [Statement of Work](#)
 - Sponsor coordinates ADIP Statement of Work (SOW) with FAA project manager
 - Sponsor submits the ADIP SOW and supporting documents for FAA formal approval
 - FAA project manager approves or disapproves the ADIP SOW.
4. [Design](#)
 - Consultant uploads engineering .zipped design files (AutoCAD, ESRI, Microstation)
 - Design files represent a virtual data set
 - If runway changes are being made, sponsor submits [IAP request form](#)

- FAA begins procedure development/amendments based on virtual design data and schedules publication date
 - Work in progress: Surveyor proceeds with acquiring the survey data after the National Geodetic Survey (NGS) offers their approval of the quality control plans
5. Plans
 - NGS review applicable plans for approval or corrective action
 - Geodetic control plan
 - Survey and quality control plan
 - Imagery plan
 6. Imagery Data
 - Surveyor submits imagery data
 - Enter shipping information (e.g. FedEx Tracking number) into ADIP
 7. As-built Survey and Imagery
 - Complete as-built survey and imagery of new construction areas
 - Perform one-to-one validation (Design vs. As-built)
 - Highlight safety critical features that exceed 1ft x 1ft by 3" tolerance
 - Utilize "Test a survey File" to identify and correct geometry and attribute errors
 - Submit survey after correcting all errors
 - Upload "Design to As-built differences" document to final report tab
 - Upload final report
 8. Verification
 - NGS officially validates the survey after sponsor meets all project requirements
 - FAA finalizes IFP development
 9. Operational
 - ADIP administrative function
 - Establishes airport baseline data set

For additional information regarding this workflow process, refer to the "Info for Surveyors" [online help section](#) on the ADIP website.

Transition Policy

The FAA Office of Airports issued a policy memorandum entitled "[Airports Geographic Information System \(Airports GIS\) Transition Policy](#)" on 8/23/12 that addresses when airport owners must use ADIP to acquire and submit certain aeronautical data. The following summarizes these requirements:

Safety-Critical Projects - All airports must comply with ADIP requirements for any project that changes safety-critical data defined in AC 150/5300-18 and in Table 1 of the Transition Policy.

Non-Safety Critical Projects Only –Non-Primary Airports certificated under Part 139 or with an ATCT, Non Hub and all Hub Airports defined in the NPIAS must comply with ADIP data requirements for the collection of non-safety critical data. Other Non-Primary Airports are currently exempted from incorporating projects that collect **only** non-safety-critical data until further notice.

Non-safety critical only projects may or may not require a full survey per AC 150/5300-18. However, these projects must go through ADIP as a "Non-Safety Critical Project" type. "Non-Safety Critical Project" types do not involve NGS data verification. The sponsor's submission of non-safety critical data represents that the sponsor accepts the data as a true and accurate representation.

Most ADIP survey projects will involve the collection of both safety- and non-safety critical data. These efforts are collected as either "Safety-Critical Data Collection, Including Design Data" or "Safety-Critical Data Collection, Not Including Design Data" project types in ADIP. The sponsor must work closely with the FAA project manager on the scoping of these efforts.

Resources

Advisory Circulars

- [AC 150/5300-16](#) - Establishment of Geodetic Control and Submission to the NGS
- [AC 150/5300-17](#) - Standards for Using Remote Sensing Technologies in Airport Surveys
- [AC 150/5300-18](#) - Field Data Collection and Geographic Information System (GIS) Standards

[AGIS Transition Policy](#)

[FAA ADIP Website](#)

[National Geodetic Survey – Aeronautical Survey Program](#)

1120 - Revising Airport Aeronautical Information

Regardless of the type of approach (visual, non-precision, or precision) or the funding source (AIP, state, or local), airport operators must submit any revision to current aeronautical information to the FAA in a timely manner. Such actions assist with assuring the accuracy of FAA aeronautical databases and publications. The process for submitting the information will vary per the type of modification.

Submittal Timeframe

To meet critical publication dates, sponsors should strive to submit complete information to the FAA no later than the NFDC [cut-off dates](#). The cut-off date is typically six weeks prior to the publication date.

Method of Submittal

Airport owner/operators may use the [NFDC portal](#) when submitting requests to update non-safety-critical aeronautical information for their airport. There are two categories of changes, each requiring a different online process. **Changes to safety-critical data on airports must follow the ADIP submittal process and not the process below.** Safety-critical data is defined in AC 150/5300-18.

1) Airport Data Modifications

All modifications of airport data require the airport operator to complete and submit a NFDC [Airport Data Change Form](#) along with applicable attachments such as the marked-up 5010 and the as-built field survey.

When addressing additions, deletions and revisions, please note whether you are referring to the A/FD Legend Items (i.e. 21 – Runway data) or the 5010-1 elements (i.e. >31 Runway Length)

The following additional requirements apply when using the on-line process.

a. Change in Runway length and width (all runway types)

Submittal of runway length and width information through the NFDC portal only addresses runways that have no existing survey data and were modified by a non-AIP funded project.

b. Change in Runway Strength

Modifying reported runway strength requires submittal of a current pavement design form (FAA form 5100-1) signed by a qualified engineer. For AIP funded projects, submittal of this form typically occurs early in the project design phase with the submittal of the engineer's report. **Coordinate all runway strength changes through the Central Region Office.**

c. ARFF Index

Send information addressing changes to the Aircraft Rescue and Firefighting (ARFF) Index to the FAA Airports office for review and approval action.

Please include the following documentation:

- Meeting minutes from governing body
- Resolution from governing body
- Official letter or a marked up 5010 form signed by an authorized official

2) Airport Chart/Diagram Modifications

All modification of airport charts and diagrams require the airport operator to complete and submit a NFDC [Aeronautical Chart Change Form](#) with applicable attachments such as a marked-up airport diagram.

The preferred method of submission is in electronic format (PDF, TIF, JPG, or PPT). Please avoid submitting low-resolution documents such as that which result from faxing diagrams

Upon submittal of the Airport Data Change Form or an Aeronautical Chart Change Form, the user should receive an "Airport Data Change Receipt". The FAA program manager will also ensure the submitted data is correct before project closeout.

Resources

National Flight Data Center

- [Aeronautical Data Submittal](#)

1121 - Airport Master Record (5010) Updates

Purpose

FAA Form 5010-1 Airport Master Record addresses aeronautical data that describe the physical and operational characteristics of civil public-use airports and joint-use military airports that are active and in the National Airspace System (NAS). This 5010-1 contains airport data derived from the NASR database as of the effective date of the record.

Marking Up a 5010-1 Form

The preferred method for submitting changes to airport data that are not already covered by an ADIP submittal, is to mark-up a current 5010-1 record or submit the changes. While the FAA webpage [Airport Data & Contact Information](#) does permit users the ability to conduct a customized search of 5010 data; for ease of use, we recommend sponsors download a copy of the 5010 from ADIP. The available report format from this site is more conducive to redlining changes.

Please note the following when redlining the 5010-1 form

- Refer to the “Airport Master Record” [online help section](#) on the ADIP website for detailed information and descriptions for each data element
- Clearly identify all changes to the airfield by redlining applicable elements of the 5010-1 record
- **CAUTION:** Airport operators should avoid opening new runway pavements or energizing Nav aids without proper NOTAMS in place and the proper submittal of the updated 5010 data. Sponsors that fail to take proper action to update NOTAMS and aeronautical information may incur liability due to inaccurate published information

1122 - Airport Diagrams

Purpose

The FAA publishes Airport Diagrams for select airports with air traffic control towers. Airport Diagrams provided within the Terminal Procedures Publication (TPP) and the Airport/Facility Directory (A/FD) play an important role in providing situational awareness to pilots and assuring navigational safety during surface operations. It is imperative that aeronautical data including Airport Diagrams be accurate and current. Airports owners must take appropriate action to update these diagrams whenever significant airfield configuration changes occur.

How to Update

The preferred method for updating an airport diagram is to download a copy of the current diagram and then mark-up the copy to reflect all applicable configuration changes.

Airport diagrams are available online using the [FAA Diagram Search](#) form.

The airport diagram markup should provide sufficient detail that allows the FAA to understand what revisions are necessary.

Sponsors may also have their consultant provide a pdf copy of scaled CADD drawing that highlights the changes to airfield pavement configurations and designation.

RESOURCES

On-line Airport Diagrams

- [FAA Airport Diagram Search](#)

Policy

- [FAA Joint Order 7910.4 – Airport Diagrams](#)

1130 - Runway Commissioning Data

When Change Occurs

The extent of physical runway change and the type of approach that is affected are key factors in determining the aeronautical data requirements for a proposed runway modification. The information requirements that result generally fall within the following categories:

1. **Instrument Runways** – Development projects that affect precision and non-precision runways require an aeronautical survey conforming to the following FAA Advisory Circulars:
 - 150/5300-16 - Establishment of Geodetic Control
 - 150/5300-17 - Remote Sensing Technologies in Airport Surveys
 - 150/5300-18 - Field Data Collection and Geographic Information System (GIS) Standards
2. **Visual Runways** – Since there is no procedure development requirement for a visual runway, runway commissioning may occur with submittal of a field survey signed and sealed by a registered surveyor. However, per current FAA policy, development projects that affect visual runways on an airport with an instrument runway(s) may require surveys in accordance with the ADIP survey process. Coordinate with the FAA prior to making changes to the visual runway.
3. **When to Submit**

Timely submittal of information is critical to assure proper publication of accurate aeronautical data. The timing of the submittal is dependent upon the type of information and the intended purpose. We request AIP sponsors and their consultants coordinate with the appropriate FAA project manager **early** in the project design phase to establish appropriate time frames for data submission.

Reporting Date of Actual Commissioning

At the time change becomes effective, the airport owner/operator must contact the Automated Flight Service Station (AFSS) to commission the changes (i.e. activating PAPI or opening visual runway). The resulting NOTAM should clearly identify what changes went into effect. This NOTAM should remain in effect until appropriate publications reflect the actual airfield changes.

For AIP funded projects, the sponsor or their consultant shall initiate an email to the FAA project manager stating the changes are in effect and available to the public for aircraft operations. For runway improvement projects, this notification should also indicate whether all marking, lighting and NAVAIDS are in place and operational. *Note:* The FAA project manager does not take any action on this notification other than to file a record of this submittal in the project file.

1131 - Runway Instrument Flight Procedures (IFPs)

Advance Coordination Requirements

The collection of data to amend or establish new flight procedures requires significant advance coordination in order to accommodate the processes necessary for survey validation and flight procedure development. We strongly encourage sponsors and consultants hold a preliminary project meeting with the FAA project manager approximately **2-3 years** prior the anticipated runway project completion. This meeting should thoroughly address the acquisition and submittal of survey information and the timeframe requirements for procedure development.

Required Steps

While there are many steps involved in amending or establishing new IFPs, the general steps include the following when associated with a development project:

- a) Coordinate with FAA project manager regarding AIP eligibility and funding
- b) Acquire qualified surveyor
- c) Establish project within ADIP
- d) Initiate IFP request form
- e) Submit design files which establish virtual data
- f) FAA development of flight procedures based on virtual data
- g) Submit quality control plans for NGS review and approval action
- h) Conduct survey in accordance with FAA Standards
- i) Construct runway development project
- j) Conduct as-built survey and submit through ADIP
- k) NGS validation of as-built survey data
- l) Operational - Publish Approaches Refer to "[ADIP Process](#)" under Guide Section 1110 (ADIP) for additional information on the design/as-built workflow process for development of an IFP.

Expected Timeframes

The overall process of data collection followed by analysis, development, and publishing of a new or amended IFPs requires a considerable amount of time. Sponsors should plan on the following timeframes when establishing a project timeline.

Initial Coordination	1 - 3 months
Selection of Consultants	2 - 3 months
Acquire Data (Leaf-On).....	5 - 7 months
NGS Validation	4 - 7 months
Procedure Development	12 - 24 months
Total Timeframe	24-44 Months

Initiating IFP Requests

To facilitate proper planning for development of [IFPs](#), sponsors must submit an online request using the [Instrument Flight Procedure Request Form website](#). This action helps the FAA Flight Procedures Office plan their workload while providing a tracking mechanism for the sponsor.

For development projects, it is critical that sponsors submit their request concurrent with the online submittal of the ADIP statement of work. The sponsor is highly encouraged to identify within the IFP request the following information:

- Type and status of ADIP survey
- Type of procedure, minimums, and visibility
- Type of airfield and approach lighting, and on-airport weather reporting.
- Runway/taxiway length/width and runway marking type
- Anticipated construction start and end dates

1132 - Visual Runways

When to submit

Visual runways that are not planned to become instrument runways do not require the level of survey accuracy as required for instrument runways. However, certain caveats apply as identified below. The timing for submittal of survey data is thus not as demanding as that required for instrument flight procedures. The critical date for visual runways is typically the NFDC published [cut-off dates](#). This is generally 6 weeks prior to actual publication. Sponsors should strive to submit necessary information to the FAA prior to this cut-off date.

Because visual runways can be commissioned prior to a publishing date, we request sponsors submit necessary data approximately 2 weeks prior to the actual commissioning of the runway.

What information is required?

There are two interrelated processes for submitting data for a visual runway.

1. **ADIP Survey Data:** If the visual runway is on an airport with an instrument runway, then airport sponsors may be required to submit an ADIP survey. Close coordination with the FAA is required for a determination. Otherwise, no ADIP survey is required for visual runways. Sponsors must use the workflow process described under the "[ADIP Process](#)" in Guide Section 1110 (ADIP)
2. **Runway Commissioning Information:** To commission a visual runway on a visual airport not funded by AIP, the sponsor must submit the following information to the FAA:
 - a) A marked up 5010-1 form (Refer to Section AIP-1121)
 - b) A field survey signed and dated by a registered surveyor that includes the following information:
 - Runway end coordinates (NAD 83)
 - Runway threshold elevation (NAVD 88)
 - Touchdown Elevation (NAVD 88)
 - Runway length
 - Runway width

How to submit?

ADIP Survey Data: The sponsor must use the FAA ADIP system to submit survey data in conformance with Advisory Circular 150/5300-18.

Runway commissioning information: Airport owner/operators must use the ADIP website. The information submittal should be coordinated with their ADO to ensure the new information is published when the runway is opened.

1140 - Commissioning of Non-Federal VGSI

The commissioning of a non-fed visual glide slope indicator (VGSI), such as a PAPI, does not end with the physical installation of the equipment. The airport sponsor must submit applicable commissioning data to the FAA before activating a new or relocated VGSI.

Why Flight Check a VGSI?

In the past, many existing VGSI installations were placed in service without a flight inspection. This practice did not provide sufficient assurance that the VGSI met the aeronautical requirements of FAA Order 8200.1, U.S. Standard Flight Inspection Manual.

VGSIs form an integral part of instrument procedures to an airport and warrant an official flight check. Per FAA Order 8200.1, *"A commissioning inspection is required for all new VGSI(s) with an associated IFR procedure (to include circling approaches)"*.

This flight check will not only confirm visibility and correct signal presentation, but will also check for coincidence of the VGSI with other navigational aids serving the runway, confirm obstacle clearance, verify light intensity, and check for other limitations to the signal presentation.

AIP Funded VGSIs

Although this directive does not explicitly address flight check requirements for VGSIs installed on visual runways, it is our expectation that sponsors who install a VGSI using AIP funds always schedule a FAA flight check before making the system active.

Required Actions

There are four critical actions a sponsor needs to take before commissioning a new or relocated VGSI:

1) Verification of the Obstacle Clearance Surface (OCS)

The first step in commissioning a VGSI is confirming the OCS is clear of objects. This typically occurs during the design phase of the project. Figure 80 of the same circular provides a graphic illustration. We request the sponsor's engineering consultant provide a drawing with a sealed certification attesting the OCS is clear of all penetrating objects.

It is important to also note objects located adjacent to the outer boundary of the OCS. Even though an OCS may be clear, an object located outside of the OCS can pose a safety risk to pilots that may require mitigating measures such as baffling. Inspection Manual.

2) Submittal of VGSI facility data

Approximately 45 days prior to physical completion of the equipment installation, collect the following data for each individual VGSI and then submit the information to the appropriate FAA Flight Inspections Service office.

- Airport Name
- Location
- Airport Identifier
- Runway
- Owner of Equipment
- Indicate if new or modified equipment.
- Type of VGSI (Example VASI-2L, PAPI- 4R etc.)
- Distance from Runway Reference Point (RRP) to the runway threshold
- Angle of the VGSI to nearest hundredth of a degree (e.g. 3.00°)
- Threshold crossing height (TCH) calculate to the nearest tenth of a foot
- Elevation of the runway centerline at the RRP to the nearest tenth of a foot (NAVD88 datum)
- The geodetic coordinates and elevation for both ends of the runway (NAD83 datum)
- Identify name and phone number of person submitting the information

To facilitate this submittal, FAA Flight Inspection Services has prepared a recommended VGSI data form that sponsors may use to submit this data. Contact your FAA project manager to obtain a copy of this recommended submittal form. The sponsor should submit commissioning information to the FAA point of contact noted at the bottom of the form.

For facilities installed under an AIP funded grant, please submit a courtesy copy of the VGSI data to the FAA project manager. *Note:* The FAA project manager does not take any action on this notification other than to file a record of this submittal in the project file.

3) FAA Flight Check of the installed equipment

While the submittal of the VGSI data to the noted office can prompt the scheduling of a facility check, this action is not always assured. If you have not been contacted within a week of submitting the form, contact the FAA Flight Operations Management System. The scheduler for your geographic area will coordinate a time and date for the flight check.

For most projects, there will be a gap between when the contractor completes the project and the day of the flight check. Except for initial functionality tests, the airport operator should keep the VGSI **turned off** until it is time for the flight check. On the day of the flight check, turn the VGSI on. The flight check crew will let the airport operator know if the flight check was satisfactory.

Upon flight check acceptance, please immediately notify the FAA project manager via email.

The airport operator should receive a full flight inspection report within about 90 days of the flight check. If you do not receive the flight check report, call (405) 954-1862 to request your report.

Please note at this time, there is no charge for flight inspection services for non-Fed facilities.

4) Update of the Airport Master Record (FAA 5010-1)

Completing all the data submission and flight check actions does not get your VGSI into the Airport/Facility Directory.

To complete the process, airport operators must update their airport master record (FAA 5010-1 form). For VGSI facilities, the specific elements that require updating are lines 43, 44, and 45.

Refer to sponsor guide section 1121 to learn more about updating 5010-1 information.