1100 – Submitting Aeronautical Data for Development Projects

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General

(10/5/12)

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

(10/5/12)

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

(10/5/12)

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

(10/5/12)

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 Geographic Information Systems (AGIS)

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 - Airports Geographic Information System (AGIS)

Purpose
(10/5/12)
The FAA uses aeronautical data for several purposes. The FAA relies on information from the aeronautical survey to modify existing runway approaches or develop new instrument approaches, including both precision and non-precision approaches. 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
(10/5/12)
The FAA requires accurate survey data in order to develop procedures and to publish charts and directories. The Airports Geographic Information System (AGIS) serves as the FAA's official 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 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. Sponsors and consultants should no longer reference FAA standard 405 when acquiring aeronautical surveys.

- **AC 150/5300-16** 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** Field Data Collection and Geographic Information System (GIS) Standards

Sponsor Guidance for Selecting a Qualified Surveyor
(10/5/12)
The FAA AGIS Website includes a section entitled "Steps to Follow" to assist sponsors with the process of selecting a qualified surveyor. This web page provides suggested forms for the Request for Proposals as well as the Statement of Work.

AGIS Survey Guidance
(10/5/12)
The FAA implementation of AGIS represents a major paradigm shift from the previous method of collecting airport data. To address the large number of questions created by this change, the FAA has published "A Guide to Airport Surveys" (pdf). This guide addresses:

- General responsibilities
- System processes
- Coordination requirements
- Data gathering, formulation and documentation
- AGIS use and navigation

This guide identifies common mistakes users make throughout the data gathering, formulation, and validation and approval processes. It also answers many of the "repeat" questions and identifies common procedural mistakes users make. The FAA AGIS website also has a section entitled "Surveyor Introduction." This web page contains links to suggested forms, checklists and templates that surveyors should find beneficial.

AGIS Process
(10/5/12)
The FAA AGIS website uses a data "Validation and Acceptance" workflow process. AGIS displays each step and tracks the completion status. For most airport development projects that involve safety critical data (i.e. runway information), the "Design/As-built Airport Data" project type is the most appropriate workflow process.

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 AGIS Statement of Work (SOW) with FAA project manager
   • Sponsor uploads and submits AGIS SOW for FAA formal approval
   • FAA project manager approves or disapproves the AGIS SOW and classifies the project as safety critical or non-critical

4. Design
   • Consultant uploads engineering .zipped design files (AutoCad, ESRI or Bentley)
   • Design files represent a virtual data set
   • Sponsor submits IAP request form
   • FAA develops procedures based on virtual design data
   • 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 AGIS

7. As-built Survey
   • Complete as-built survey of new construction areas
   • Perform one-to-one validation (Design vs. As-built)
   • Highlight safety critical features that exceed 1 ft x 1 ft 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
   • NGS officially validates the survey after Sponsor meets all project requirements

8. Verification
   • AGIS administrative function
   • Establishes airport baseline data set and electronic Airport Layout plan

For additional information regarding this workflow process, refer to the video “The Design/As-Built Workflow” (wmv) from the FAA AGIS Video Training Series.

AGIS Transition Policy (10/5/12)
The FAA Office of Airports has issued a policy memorandum entitled “Airports Geographic Information System (Airports GIS) Transition Policy” (8/23/12) that addresses when airport owners must use AGIS to acquire and submit aeronautical data. The following summarizes these requirements.

Safety Critical Projects - All airports must immediately comply with AGIS requirements for the following activities:
   • Relocate or move a runway end or threshold
   • Displaced threshold
   • Extend, shorten or shift a runway
   • Widen runway
   • Add of modify stopway, clearway or EMAS
   • Implement of modify declared distances
   • New or revised Instrument approach procedures
   • Install or relocate NAVAID (electronic or visual)
   • Changes to airport elevation or airport reference point
   • Airports currently listed as needing Surface Movement Guidance and Control System charts

Non-Safety Critical Projects – Airports must submit as-built data for non-safety critical projects based upon the following schedule:
   FY 2012 ......Large and Medium Hub Airports
   FY 2013 ......Small Hub Airports
   FY 2014 ......Non Hub Airports
   FY 2015 ......Non-Primary Airports certificated under Part 139 or with an ATCT
Non-safety projects include:
- Runway reconstruction (no geometric or dimensional change)
- Taxiway/apron construction or reconstruction
- Acquisition of airport land or easements
- Rehabilitation or installation of airfield lighting
- Construction of structure/building
- Installation of Fencing

Non-safety critical projects may or may not require a full AGIS survey per AC 150/5300-18. However, these projects must go through Airports GIS as an as-built data project. Such types of Airport GIS projects generally do not involve NGS data verification. The Sponsor’s submission of the design or as-built data into AGIS represents the sponsor accepts the data as a true and accurate representation.

**Resources**

<table>
<thead>
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<th>Advisory Circulars</th>
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<tr>
<td>AC 150/5300-16 - Establishment of Geodetic Control and Submission to the NGS</td>
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<td>Sponsor Steps to Follow</td>
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<td>NGS Aeronautical Web Site</td>
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<td>NGS PACS/SACS Data Sheets</td>
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</table>
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. The process for submitting the information will vary per the type of modification.

Submittal Timeframe

(10/5/12)

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

(08/19/14)

Airport owner/operators must use the NFDC portal when submitting requests to update aeronautical information for their airport. There are two categories of changes, each requiring a different online form.

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. Refer to Figure 1120-1 for a screenshot of the NFDC Airport Data Change form.

   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**
      Submittal of runway length and width information through the NFDC portal only addresses visual runway approach procedures. Submission of runway length and width data for Instrument Approach Procedures (RNAV, GPS, ILS, SID, STAR, etc.) requires the airport to submit a survey conforming to AC 150/5300-18 through the FAA Airports GIS program.

   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.

   c. **Visual Guidance Slope Indicators (VASI and PAPIS)**
      Requires prior submittal of a VGSI commissioning data form (FAA AVN form) and an engineer’s certification stating the obstacle clearance surface is free of objects. Refer to Section AIP-1140 for additional information.

   d. **Obstruction Removal**
      Requires submittal of a letter from the Sponsor that certifies they have removed the obstruction identified on the current 5010-1. The letter must identify the survey that originally established the object as an obstruction.

   e. **Right Traffic and Declared Distances**
      Contact the FAA Airports Office to discuss submittal requirements for these changes.

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

   g. **Airport Name**
      Send requests to change an airport name to the FAA Point of contact for the Airport Safety Data Program. 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. Refer to [Figure 1120-2](#) for a screenshot of the NFDC Airport Chart Change form.

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.
AIP Funded Projects

Upon submittal of the Airport Data Change Form or an Aeronautical Chart Change Form, the user should receive an “Airport Data Change Receipt”. AIP Sponsors should forward a copy of this receipt to the FAA project manager. *Note:* The FAA project manager does not take any action on this submittal other than to file a record of this submittal in the project file.

Resources

**National Flight Data Center**
- Aeronautical Data Submittal
- NFDC Helpdesk
1121 - Airport Master Record (5010) Updates

Purpose
(10/5/12)
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
(10/5/12)
The preferred method for submitting changes to airport data is to mark-up a current 5010-1 record. 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 record from the external website AirportIQ 5010. 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 FAA Advisory Circular AC 150/5200-35 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
- For changes to runway data, the values on the redlined 5010 must correspond exactly with the associated AGIS as-built survey
- CAUTION: Airport operators should avoid opening new runway pavements or energizing Navaids 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
## 5010 Data Elements (Per AC 150/5200-35)

*10/5/12*

The following lists select 5010-1 elements that construction improvements typically affect.

### Runway Data

<table>
<thead>
<tr>
<th>Number</th>
<th>Data Element</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt;30</td>
<td>RUNWAY IDENTIFICATION</td>
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<tr>
<td>&gt;31</td>
<td>LENGTH</td>
</tr>
<tr>
<td>&gt;32</td>
<td>WIDTH</td>
</tr>
<tr>
<td>&gt;33</td>
<td>SURFACE-TYPE &amp; CONDITION</td>
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<tr>
<td>&gt;34</td>
<td>SURFACE TREATMENT</td>
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<tr>
<td>&gt;35</td>
<td>GROSS WT:(Single Wheel)</td>
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<tr>
<td>&gt;36</td>
<td>GROSS WT: DW</td>
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<tr>
<td>&gt;37</td>
<td>GROSS WT DTW</td>
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<td>GROSS WT DDTW</td>
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<tr>
<td>&gt;39</td>
<td>PCN</td>
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### Lighting/Approach Aids

<table>
<thead>
<tr>
<th>Element</th>
<th>Data Element</th>
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<tr>
<td>&gt;40</td>
<td>EDGE INTENSITY</td>
</tr>
<tr>
<td>&gt;42</td>
<td>RWY MARK TYPE –CONDITION</td>
</tr>
<tr>
<td>&gt;43</td>
<td>VGSI-Visual Glide Slope Indicator</td>
</tr>
<tr>
<td>&gt;44</td>
<td>THRESHOLD CROSSING HEIGHT</td>
</tr>
<tr>
<td>&gt;45</td>
<td>VISUAL GLIDE ANGLE</td>
</tr>
<tr>
<td>&gt;46</td>
<td>CENTERLINE TOUCHDOWN ZONE</td>
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<td>&gt;47</td>
<td>RVR-RVV</td>
</tr>
<tr>
<td>&gt;48</td>
<td>REIL</td>
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<td>&gt;49</td>
<td>APPROACH LGHTS</td>
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### Obstruction Data

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<tr>
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<tr>
<td>&gt;50</td>
<td>FAR PART 77 CATEGORY</td>
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<td>&gt;51</td>
<td>DISPLACED THRESHOLD</td>
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<td>&gt;52</td>
<td>CONTROLLING OBSTRUCTION</td>
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<tr>
<td>&gt;53</td>
<td>OBSTRUCTION MARKED AND LIGHTED</td>
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<tr>
<td>&gt;54</td>
<td>HEIGHT ABOVE RUNWAY END</td>
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<td>DISTANCE FROM RUNWAY END</td>
</tr>
<tr>
<td>&gt;56</td>
<td>CENTERLINE OFFSET</td>
</tr>
<tr>
<td>&gt;57</td>
<td>OBSTRUCTION CLEARANCE</td>
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<tr>
<td>&gt;58</td>
<td>CLOSE IN OBSTRUCTION</td>
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### Declared Distances

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<tr>
<td>&gt;60</td>
<td>TORA (Take Off Runway Available)</td>
</tr>
<tr>
<td>&gt;61</td>
<td>TODA (Take Off Distance Available)</td>
</tr>
<tr>
<td>&gt;62</td>
<td>ASDA (Available Stopping Distance Available)</td>
</tr>
<tr>
<td>&gt;63</td>
<td>LDA (Landing Distance Available)</td>
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</table>

### RESOURCES

**5010 Database**
- Online 5010’s (GCR Rigmar)

**Advisory Circular**
- AC 150/5200-35A - Submitting the Airport Master Record

**Sample Documents**
- Sample 5010-1 Mark-up
1122 - Airport Diagrams

Purpose

(10/5/12)

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

(10/5/12)

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 cartographer to understand what revisions are necessary. To assist with this effort, we have prepared a Sample Airport Diagram Markup.

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

<table>
<thead>
<tr>
<th>On-line Airport Diagrams</th>
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<tbody>
<tr>
<td>• FAA Airport Diagram Search</td>
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<table>
<thead>
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<tr>
<td>• FAA Joint Order 7910.4 – Airport Diagrams</td>
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<tr>
<th>Sample Documents</th>
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<tr>
<td>• Sample Airport Diagram Mark-up</td>
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1130 - Runway Commissioning Data

When Change Occurs

(10/5/12)

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 Approach 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 approach, runway commissioning may occur with submittal of a field survey signed and sealed by a registered surveyor. However, per current AGIS policy, development projects that affect visual runways also require acquisition and submittal of survey information in conformance with AC 150/5300-18.

When to Submit

(10/5/12)

Timely submittal of information is critical to assure proper publication of accurate aeronautical data. The timing of the submittal is dependant 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

(10/5/12)

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 Approach Procedures (IAP)

Advance Coordination Requirements
(10/5/12)

The collection of data to modify or create approach procedures requires significant advance coordination in order to accommodate the processes necessary for survey validation and approach 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
(10/5/12)

While there are many steps involved in revising or establishing new approach procedures, the general steps include the following:

a) Coordinate with FAA project manager regarding AIP eligibility and funding
b) Acquire qualified surveyor
c) Establish project within AGIS
d) Initiate IAP request form
e) Submit design files which establish virtual data
f) FAA Development of approach 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 AGIS
k) NGS validation of as-built survey data
l) Operational - Publish Approaches

Refer to "AGIS Process" under Guide Section 1110 (AGIS) for additional information on the Design/As-built workflow process for development of an instrument approach procedure.

Expected Timeframes
(10/5/12)

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

- Initial Coordination ............. 1-6 months
- Selection of consultants ...... 3-4 months
- Acquire Data (Leaf-On)........ 6-8 months
- NGS Validation .................. 4-6 months
- Procedure Development ...... 10-12 months

Total Timeframe ............... 24–36 Months

Initiating Instrument Approach Procedure (IAP) Requests
(08/19/14)

To facilitate proper planning for development of Instrument Flight Procedures, Sponsors must submit an online Instrument Approach Procedure Request Form. This action helps the FAA procedure development office better plan their workload. Sponsors should submit this request at about the same time they initiate efforts to obtain an AGIS survey. When submitting this request, please indicate the status of your survey acquisition, the anticipated date for submittal to NGS and the FAA approval date for your current airport layout plan.
1132 - Visual Runways

When to submit
(10/5/12)
Visual runways do not require development of approach procedures. The timing for submittal of survey data is thus not as demanding as that required for an instrument approach procedure. 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?
(10/5/12)
There are two interrelated processes for submitting data for a visual runway approach.

1. AGIS Survey Data: Airport owners must acquire and submit survey through AGIS for all projects involving safety critical elements. This includes runways with only planned visual approaches. Airport owner should address acquisition of applicable survey data during both during the design phase and the as-built phase. Sponsors should use the Design/As-built workflow process described under the “AGIS Process” in Guide Section 1110 (AGIS)

2. Runway Commissioning Information: Since there is no procedure development associated with a visual approach, the runway commissioning may occur before the as-built survey is fully processed through the AGIS system. To commission a visual approach, 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

   All data values in the field survey must correspond exactly with the values in the AGIS as-built survey submittal.

   Airport owners should note that a visual approach with circling minimums may require they conduct an obstruction survey. This will involve submittal of additional survey data through AGIS and will likely take more time than just a straight visual approach. Contact the FAA project manager to discuss this issue.

How to submit?
(10/5/12)
AGIS Survey Data: The Sponsor must use the FAA AGIS system to submit as-built survey data in conformance with Advisory Circular 150/5300-18.

Runway commissioning Information: Airport owner/operators must use the NFDC portal and the associated NFDC Airport Data Change Form. The airport owner/operator should attach applicable documents such as the marked-up 5010 and the as-built field survey. Refer to section AIP-1120 for additional information on submitting changes to aeronautical data.
1140 - Commissioning of Non-Federal VGSI

The commissioning of a non-federal visual guidance slope indicator (VGSI) such as a VASI or a PAPI does not end with the physical installation of the equipment. The airport owner/operator must submit applicable commissioning data to the FAA before activating a new or relocated VGSI.

Why Flight Check a VGSI?
(10/5/12)

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 8200.1C, US Standard Flight Inspection Manual.

Visual glide slope indicators (such as PAPI, VASI, etc) form an integral part of any 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 VGSI
(10/5/12)

Although this directive does not explicitly address flight check requirements for VGSI 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
(10/5/12)

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

1) Verification of the Obstacle Clearance Surface

The first step in commissioning a VGSI is confirming the obstacle clearance surface is clear of objects. This typically occurs during the design phase of the project. Section 7.5.d of AC 150/5340-30 defines the OCS for PAPI systems. 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 not 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.

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 (eg. 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
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 at (405) 954-7936. 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 Guide Section 1121 to learn more about updating 5010-1 information.