

SECTION 4. AIRPORT DATA ACQUISITION SYSTEMS

997. GENERAL. This section contains specific information, direction, and guidance to inspectors for the review and approval of airport data acquisition systems. An airport data acquisition system is a subsystem of the performance data system described in section 3 of this chapter. Most of the data required for flight operations can be obtained by a subscription to a standard government or commercial aeronautical navigation charting service, such as the National Oceanic and Atmospheric Administration (NOAA), the Department of Defense (DOD), or the Jeppesen/Sanderson Company. Operators of large, transport category airplanes and commuter category airplanes require obstacle information for takeoff performance analysis which is more detailed than information provided by standard navigational charting services.

A. FAR 121.97(b) and FAR 121.117(b) require that a Part 121 operator's system of obtaining, maintaining, and distributing airport information be approved. A Part 135 operator's system must be acceptable. The criteria for approval and acceptance for both Parts 135 and 121 is identical.

B. Approval or acceptance of the operator's system of obtaining aeronautical data by the FAA is expressed in paragraph A9 of the OpSpecs. All operators should list one or more standard charting services in paragraph A9. For operators requiring obstacle data and maintaining a department to collect and process that data, a statement that the operator shall maintain the airport data acquisition system in accordance with a specified document should be entered in paragraph A9. For operators who contract from another party for obstacle data, both the contracting party and the contract containing the specific responsibilities of both the operator and contractor shall be identified in paragraph A9, or the document itself should be identified in paragraph A9.

999. OBSTACLE DATA SOURCES. There are several data sources that an operator or contractor may use to acquire obstacle data. POI's should be aware that no one source of data is sufficient and a combination of the following sources is required.

A. *Airport Obstruction Charts (OC's).* Airport obstruction charts (OC's) are produced by the National Ocean Service (NOS) under contract to the FAA. An

airport analysis must be based on an OC if one has been published for the airport being analyzed. OC's must be augmented with other information sources, however, for the following reasons:

(1) OC's are primarily produced for airports with precision instrument approaches. Only approximately 750 of 10,000 public-use airports in the U.S. have now been charted. There are 700 to 800 airports which have only nonprecision approaches for which there have not been any OC's prepared.

(2) Terrain surrounding the airport, which can have a significant impact on allowable takeoff weight, may not be shown on an OC. The coverage of OC's is limited to 10,000 feet from a nonprecision runway and 52,000 feet from a precision runway.

(3) Chart revision is usually conducted every 3 years. For many airports, however, the most recent chart revisions are considerably older.

B. *Obstruction Data Sheets (ODS's).* Obstruction data sheets (ODS's) are digital derivatives of the OC which contain runway and obstruction data in a tabular format. ODS's are issued to supplement the OC before its publication. When OC's are ordered for a particular airport from NOS, the ODS's should also be obtained. The NOS publishes quarterly notices that provide the dates of the latest editions of the OC and the ODS.

C. *Terrain Charts.* Terrain or quad charts are produced by the National Geological Survey for aviation usage as well as various other uses. The quad chart accurately depicts all terrain surrounding an airport, however, man-made obstruction data is not depicted. Terrain charts are primarily used for mountainous airports where the obstacles consist of terrain rather than man-made objects.

D. *Local Layout Plans.* Local layout plans may be used when OC's are not available. Since local layout plans must be prepared as a condition of federal funding to airports, the layout plans are available for many of the airports that do not have an OC. Local layout plans contain depictions of obstructions and terrain that penetrate the Part 77 planes. The layout plans may be as much as 3 to 5 years old so local surveys must be made. Local layout plans may be obtained from airport owners.

E. *FAA Form 5010-1*. The FAA Form 5010-1, "Airport Master Record," is prepared for all public-use airports. This master record contains comprehensive data on airports, including obstacles. The master record is updated annually for those airports where scheduled Part 121 or Part 135 operations are conducted. For other airports this data may not be updated for 3 to 5 years. Master records for the entire U.S. are maintained by the National Flight Data Center (NFDC), an agency of the FAA (ACC-330). FAA personnel can access copies of the form which are kept in regional airport division offices for each airport in the region.

(1) Much of the information on FAA Form 5010-1 comes from unverified sources. Often, obstacle heights and positions are estimates which have not been measured and verified by instruments. For these reasons, obstacle information taken from the master record must be verified by other sources before use.

(2) Obstacles that do not penetrate the obstruction planes defined in Part 77 are not necessarily included in the FAA Form 5010-1 data. When the takeoff flightpath passes over an area not covered by a Part 77 plane, obstacles can be present which are not identified. Even when the Part 77 plane overlaps the takeoff flightpath, obstacles lower than 200 feet can be seriously limiting to airplane takeoff performance but not be included in the FAA Form 5010-1 data.

F. *Digital Airport Database*. The digital airport database consists of the information from FAA Form 5010-1 for all U.S. airports. The data is recorded in digital form on magnetic tape and is updated every 56 days. This database is available to the public from the National Flight Data Center (NFDC.)

G. *Digital Obstruction Database*. NOS maintains an obstruction database. This database is revised quarterly, with revisions being available to the public in digital format recorded on magnetic tape from the NFDC. These tapes are revised every 56 days. This database contains all known, man-made objects that penetrate a Part 77 obstruct plane. The database does not, however, contain all obstacles which are significant in the takeoff case.

H. *National Flight Data Digest (NFDD)*. The National Flight Data Digest (NFDD) is published daily by the NFDC. The Thursday edition of the NFDD contains changes to obstruction data.

I. *Foreign Government Publications*. Runway and obstacle data, similar to U.S. publications, is available for

most (but not all) foreign airports. Access to this information must be obtained through the appropriate government.

J. *ICAO Aeronautical Information Publications*. ICAO publishes several forms of aeronautical data in forms similar to U.S. publications in format, purpose, and coverage. This information is available by subscription.

K. *Station Managers*. Most domestic and flag operators give station managers the tasks of maintaining surveillance of airports, gathering obstruction data, and reporting any actual or potential changes. Managers do this through personal observation, liaison with the airport management, and participation in groups, such as a snow removal committee. Before such information may be used, it must be verified by an official source. For example, one operator performs this verification by sending the airport manager a copy of the OC and requesting that the airport manager plot the new obstacle and then sign and date the chart.

L. *Air Transportation Association (ATA)*. The ATA maintains an airport data exchange committee through which members exchange airport and obstacle data.

M. *NOTAM's*. Temporary and immediate changes to airport information are published as Notices To Airmen (NOTAM's).

N. *Customer Interaction*. Large commercial services selling airport data are rapidly alerted to changes in obstacles by their customers. The commercial service then verifies the data from an official source and publishes the change.

1001. APPROVAL OF DATA ACQUISITION SYSTEMS. POI's may approve data acquisition systems using the following information and guidance.

A. *Characteristics of Approvable Systems*. An approvable or acceptable system for the acquisition of obstruction data must have the following characteristics:

(1) The system must include all airports and runways on which operations are conducted. The original data should be based on OC's or the ICAO equivalent. Data must be updated by active surveillance. When an operator serves airports where OC's are not available, other systems based on other data sources may be approved. The operator must show that the data is complete and accurate. To ensure accuracy, the data must be

maintained. In individual cases, the POI may approve the use of data from an operator-conducted survey.

(2) The operator must demonstrate the capability of maintaining continuous surveillance on the airports and runways served. Subscribing to a government publication is not sufficient surveillance because of the stated limitations of the data in these publications. Updated data must be validated and documented. The operator must have an active and timely revision process with sufficient personnel and physical resources to collect, process, and revise the data.

B. *Contractors and Commercial Sources.* POI's may approve or accept data systems that are operated by a contractor for the operator and that meet the criteria of previous subparagraph A.

(1) The primary issue in approving a contractor-operated system is the contractor's ability to maintain the

required airport surveillance. The contractor may do this by demonstrating that its client base adequately performs this function. Further, most legitimate contractors have access to ATA data through their clients. A contractor who cannot demonstrate adequate surveillance capabilities cannot be approved.

(2) POI's do not have to require that operators provide extensive documentation of the contractor's capabilities if the contractor is well established, has a wide client base, and provides a standardized service. When the POI has concerns about the contractor's capabilities, however, or when the operator proposes that the contractor provide a unique service, the POI shall require that the operator conduct a full analysis of the contractor's competence and then submit the analysis to the POI. When the POI is unsure of which course of action to take, the POI should seek guidance from the RFSD.

1002. - 1012. RESERVED

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