

## Chapter 7. Airport Operations

**7.1. Introduction.** This chapter contains guidance on sponsor responsibilities for operation and maintenance of their airports. It is the responsibility of the FAA airports district offices (ADOs) and regional airports divisions to ensure that the sponsors under their jurisdiction operate and maintain their airports in accordance with federal grant assurances and federal transfer agreement obligations, including those that implicate aircraft operations and airport safety. This chapter does not cover the additional requirements that Title 14 Code of Federal Regulations (CFR) Part 139, *Certification of Airports*, imposes on airports serving certificated scheduled air carriers. (Contact the FAA Airport Safety and Operations Division, AAS-300, in Washington DC, for additional information on Part 139 compliance matters.) In addition, this chapter does not cover grant agreement special conditions, such as specific project closeout actions.

### 7.2. Scope of Airport Maintenance Federal Obligations.

**a. Agreements Involved.** Most airport agreements with the federal government impose on the sponsor a continuing federal obligation to preserve and maintain airport facilities in a safe and serviceable condition. An exception, however, may exist in transfer documents conveying federal lands under the authority of section 16 of the Federal Airport Act of 1946 (1946 Airport Act), section 23 of the Airport and Airway Development Act of 1970 (1970 Airport Act), and section 516 of the Airport and Airway Improvement Act of 1982 (AAIA). This current provision is codified at 49 U.S.C. § 47125). However, these transfers are normally followed with development grants that impose federal maintenance obligations.

Where section 16, 23, or 516 conveyances are made under circumstances that do not involve a follow-on development agreement, the maintenance and operation assurances should be incorporated into the transfer document as a special condition.

**b. Airport Facilities to be Maintained.** This section applies to all airport facilities shown on the Airport Layout Plan (ALP) as initially dedicated to aviation use by an instrument of transfer or federal grant agreement. Essentially this



*From a compliance standpoint, airport operations also encompass safety issues. For example, airport sponsors are required to inspect runways, taxiways, and other common-use paved areas at regular intervals to ensure compliance with operational and maintenance standards. Sponsors must make routine repairs, such as filling, sealing cracks, and repainting markings (as shown here) to prevent progressive pavement deterioration. (Photo: FAA)*

means that the sponsor cannot discontinue maintenance of a runway or taxiway or any other part of the airport used by aircraft until the FAA formally relieves the sponsor of the federal maintenance obligation. The federal obligations of the sponsor remain in force throughout the useful life of the facility, but no longer than 20 years – except for land that specifically obligates the airport in perpetuity.

However, in all cases, the actual obligating documents should be reviewed to ensure the exact terms of the applicable applications. When a facility is no longer needed for the purpose for which it was developed, the ADO or regional airports division may determine that the facility's useful life has expired in less than 20 years; the FAA may then authorize abandoning the facility or converting it to another compatible purpose.

For private airports, there is a minimum federal obligation of 10 years. If land was acquired with federal assistance, the federal obligation to maintain and operate the airport runs in perpetuity. Grants issued under programs preceding the Airport Improvement Program (AIP) may not always contain a perpetual obligation for land purchase, however, and the actual grant document should be reviewed.

***Most airport agreements impose on the sponsor a continuing federal obligation to preserve and maintain airport facilities in a safe and serviceable condition.***

**7.3. Grant Assurance 19, Operation and Maintenance.** Grant Assurance 19, *Operation and Maintenance*, is the most encompassing federal grant assurance related to airport maintenance. It requires the sponsor to operate and maintain the airport's aeronautical facilities – including pavement – in a safe and serviceable condition in accordance with the standards set by applicable federal, state, and local agencies. FAA pavement guidance applies.

**7.4. Maintenance Procedures.** Generally, airport agreements require the sponsor to carry out a continuing program of preventive and remedial maintenance. The maintenance program is intended to ensure that the airport facilities are at all times in good and serviceable condition to use in the way they were designed. Advisory Circular (AC) 150/5380-7A, *Airport Pavement Management Program*, discusses the Airport Pavement Management System (APMS) concept, its essential components, and how it can be used to make cost-effective decisions about pavement maintenance and rehabilitation. The airport agreement may express or imply such maintenance requirements and include specific federal obligations such as:

- a. Frequently check all structures for deterioration and repair.
- b. Inspect runways, taxiways, and other common-use paved areas at regular intervals to ensure compliance with operational and maintenance standards, to prevent progressive pavement deterioration, and to make routine repairs such as filling and sealing cracks.

- c. Inspect gravel runways, taxiways, and common-use paved areas at regular intervals to ensure compliance with operational and maintenance standards, to prevent progressive deterioration of operation areas, and to make routine repairs including filling holes and grading.
- d. Inspect turf airfields at regular intervals to ensure there are no holes or depressions, and otherwise to ensure that all turf areas are preserved through clearing, seeding, fertilizing, and mowing.
- e. Maintain field lighting and Visual Approach Slope Indicators (VASIs) in a safe and operable condition at all times. When conditions dictate, realign VASIs on a regular basis.
- f. Maintain airfield signage in a safe and operable condition at all times.
- g. Frequently inspect segmented circles and wind cones to ensure accurate readings and proper functioning.
- h. Frequently inspect all drainage structures including subdrain outlets to ensure unobstructed drainage.
- i. Frequently check all approaches to ensure conformance with federal obligations.

#### **7.5. Criteria for Satisfactory Compliance with Grant Assurance 19, Operation and Maintenance.**

Although an acceptable level of maintenance is difficult to express in measurable units, the FAA will consider a sponsor compliant with its federal maintenance obligation when the sponsor does the following:

- a. Fully understands that airport facilities must be kept in a safe and serviceable condition.
- b. Makes available the equipment, personnel, funds, and other resources, including contract arrangements, to implement an effective maintenance program.
- c. Adopts and implements a detailed program of cyclical preventive maintenance adequate to carry out this commitment.

**7.6. Airport Pavement Maintenance Requirement.** A parallel assurance to Grant Assurance 19, *Operation and Maintenance*, is the airport sponsor's federal obligation to maintain a pavement preventive maintenance program under Grant Assurance 11, *Pavement Preventive Maintenance*. This assurance requires sponsors with federally funded pavement projects for replacement or reconstruction approved after January 1, 1995, to implement an effective pavement maintenance and management program that runs for the useful life of any pavement constructed, reconstructed, or repaired with federal financial assistance. The program, at a minimum, must include (a) a pavement inventory, (b) annual and periodic inspections in accordance with AC 150/5380-6B, *Guidelines and Procedures for Maintenance of Airport*

*Pavements*, (c) a record keeping and information retrieval system, and (d) identification of maintenance program funding.<sup>10</sup>

**a. Guidelines for Inspecting Pavement.** FAA places a high priority on the upkeep and repair of all pavement surfaces in the aircraft operating areas. This ensures continued safe aircraft operations. While deterioration of pavement due to usage and exposure to the environment cannot be completely prevented, a timely and effective maintenance program can reduce this deterioration. Lack of adequate and timely maintenance is the greatest single cause of pavement deterioration and, as a result, loss of federal investment.

Many failures of airport pavement and drainage features have been directly attributed to inadequate maintenance characterized by the absence of an inspection program. FAA recognizes that a maintenance program, no matter how effectively carried out, cannot overcome or compensate for a major design or construction inadequacy. Nonetheless, an effective maintenance program can prevent total and possibly disastrous failure that may result from design or construction deficiencies. Maintenance inspection can reveal problems at an early stage and provide timely warning to permit corrective action. Postponement of minor maintenance can develop into a major pavement repair project. Failing to provide basic pavement maintenance can be a compliance concern to the FAA.

This chapter presents guidelines and procedures for inspecting airport pavements.

**b. Inspection Procedures.** Maintenance is a continuous function and a continuous responsibility of the airport sponsor. A series of



*A high priority should be given to the upkeep and repair of all pavement surfaces in the aircraft operating areas to ensure continued safe aircraft operations. While deterioration of the pavements due to usage and exposure to the environment cannot be completely prevented, a timely and effective maintenance program can reduce this deterioration to a minimum level. Properly maintaining airport pavement and marking is essential to preserving the pavement's life and ensuring safety. (Photos: FAA)*

<sup>10</sup> See Appendix A of Advisory Circular (AC) 150/5380-6B for program funding requirements.

scheduled, periodic inspections or surveys conducted by experienced engineers, technicians, or maintenance personnel must be carried out for an effective maintenance program. These surveys must be controlled to ensure that (i) each element or feature being inspected is thoroughly checked, (ii) potential problem areas are identified, and (iii) proper corrective measures are recommended. The maintenance program must provide adequate inspection follow-up to ensure corrective work is expeditiously accomplished and recorded. Although the organization and scope of maintenance activities will vary in complexity and degree from airport to airport, the general types of maintenance are relatively the same regardless of airport size or extent of development.

**c. Inspection Schedules.** The airport sponsor (often the supervisor of airport maintenance) is responsible for establishing a schedule for inspections. The inspection should be scheduled to ensure that all areas, particularly those that may not come under day-to-day observation, are thoroughly checked. Thorough inspections of all paved areas should be scheduled at least twice a year. In temperate climates, one inspection should be scheduled for spring and one for fall. Any severe storms or other conditions that may have an adverse effect on the pavement may also necessitate a thorough inspection. In addition, daily ride-down type inspections should be conducted.

**d. Pavement Recordkeeping.** Complete information concerning all inspections and maintenance performed should be recorded and kept on file. The severity level of existing distress types, their locations, their probable causes, remedial actions, and results of follow up inspection and maintenance should be documented. In addition, the file should contain information on potential problem areas and preventive or corrective measures identified. Records of materials and equipment used to perform all maintenance and repair work should also be kept on file for future reference. Such records may be used later in identifying materials and remedial measures that may reduce maintenance costs and improve pavement serviceability.

AC 150/5320-6D, *Pavement Design and Evaluation*, and AC 150/5380-7, *Airport Pavement Management Program* suggests procedures for performing a pavement condition survey.



*The obligation to maintain the airport does not extend to major rehabilitation of a facility that has become unusable due to normal and unpreventable deterioration or through acts of God, including earthquakes, as seen here in Alaska in 2002. Northway (ORT) runway was destroyed by a 7.9 magnitude earthquake. (Photo: FAA)*

(Copies of FAA Advisory Circulars are available on the FAA web site.) The pavement condition survey in conjunction with the Pavement Condition Index (PCI) may be used to develop pavement performance data. The PCI is a rating of the surface condition of a pavement and is a measure of functional performance with implications of structural performance. Periodic PCI determinations on the same pavement will show the changes in performance level with time.

### **7.7. Major Pavement Repairs.**

**a. Unpreventable Deterioration.** The federal obligation to maintain the airport does not extend to major rehabilitation of a facility that has become unusable due to normal and unpreventable deterioration or through acts of God. Therefore, a sponsor's federal maintenance obligations do not include such requirements as restoring a building destroyed by fire, earthquake, or hurricane winds, nor do they include undertaking a major rehabilitation of a portion of the airfield inundated by floods. Likewise, airport sponsor federal obligations do not include the complete resurfacing of a runway unless it is the result of obvious neglect of routine maintenance over time. Failure to perform day-to-day airport maintenance, however, may have a cumulative effect resulting in major repairs and reconstruction that will fall under the sponsor's federal obligations.

**b. Pavement Overstressing.** The sponsor has a commitment to prevent gross overstressing of the airport pavement beyond the load bearing capacity. If the airport pavement deteriorates and the sponsor is not prepared to strengthen the pavement, then the sponsor must limit the pavement's use to aircraft operations that will not overstress the pavement. (For additional information limiting this course of action, refer to Appendix S of this Order, *FAA Weight-Based Restrictions at Airports*.) Should failure occur because the sponsor failed to take timely corrective action after being advised of the pavement limitations, restoration of the failed pavement to a satisfactory condition may not be eligible for AIP funding.

**c. Sponsor Determines the Level of Airport Design Standards.** The sponsor – through preparation of an FAA-approved ALP – may determine the level of design standards for new construction, i.e., the aircraft design category of the airport, based generally on the critical type of aircraft to be served at the airport, as long as the sponsor applies these standards consistently and in a manner that supports the development and operation of the airport over a period of time. However, introducing weight limitations after a runway or taxiway is constructed to FAA standards may be considered an access restriction. Accordingly, coordination with the FAA headquarters Airport Compliance Division (ACO-100) is highly recommended to ensure compliance with federal obligations.

**7.8. Requirement to Operate the Airport.** A fundamental obligation on the sponsor is to keep the airport open for public use. Grant Assurance 19, *Operation and Maintenance*, requires the sponsor to protect the public using the airport by adopting and enforcing rules, regulations, and ordinances as necessary to ensure safe and efficient flight operations. Accordingly, the sponsor is more than a passive landlord because the assurance federally obligates it to maintain and operate the aeronautical facilities and common-use areas for the benefit of the public. This responsibility includes the following:

**a. Field Lighting.** If field lighting is installed, the sponsor must ensure that the field lighting and associated airport beacon and lighted wind and landing direction indicators are operated every night of the year or when needed. (See paragraph 7.12, *Part-time Operation of Airport Lighting*, in this chapter.) Properly maintaining marking, lighting, and signs can reduce the potential for pilot confusion and prevent a pilot deviation or runway incursion.

**b. Warnings.** If any part of the airport is closed or if the use of any part of the airport is hazardous, the sponsor must provide warnings to users, such as adequate marking and issuing a Notice to Airmen (NOTAM).

**c. Safe Operations.** The sponsor should adopt and enforce adequate rules, regulations, or ordinances as necessary to ensure safety and efficiency of aircraft operations and to protect the public using the airport. When a proposed action directly impacts the flight of an aircraft, that action should be coordinated with FAA Flight Standards and/or Air Traffic Control.

**7.9. Local Rules and Procedures.** One of the most important functions of local regulations is to control the use of the airport in a manner that will eliminate hazards to aircraft and people and structures on the ground.

For example, if aircraft are allowed to park too close to an active runway, aircraft themselves become a hazard to other aircraft. Rules and procedures that implement FAA airport design standards will ensure adequate separation of aircraft during ground operations. To keep motorists, cyclists, pedestrians, and animals from inadvertently wandering onto the airfield or areas designated for aircraft maneuvering, the sponsor should install adequate controls such as fencing and signage.

As in the operation of any public service facility, there should be adequate rules covering vehicular traffic, sanitation, security, crowd control, access to certain areas, and fire protection. The sponsor is also expected to control services such as fueling aircraft, storing hazardous materials, and spray painting at a public airport to protect the public.

Sometimes, measures are needed to reduce the likelihood of a runway incursion. For example, if a runway safety problem is identified at an airport, FAA compliance personnel should coordinate corrective action not only with the airport, but also with other FAA lines of businesses, including Flight Standards and/or Air Traffic. When possible, action should also be coordinated with the local Runway Safety Action Team (RSAT).

Often, local air traffic patterns are needed to establish uniform and orderly approaches and departures from the airport. Controlling aircraft operation is an area preempted under federal law and is the exclusive responsibility of the FAA. When working on local air traffic procedures, the sponsor must coordinate with FAA Flight Standards or/and Air Traffic to ensure safe operations.

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The FAA has a number of initiatives underway to prevent runway incursions. Several FAA documents address the airport operator's opportunity to help reduce the potential for runway incursions. These discuss runway incursion prevention measures airport operators should consider implementing.

**7.10. Operations in Inclement Weather.**

The federal obligation to maintain the airport does not impose any *specific* responsibility to remove snow or slush or to sand icy pavements. The sponsor is responsible, however, for providing a safe, usable facility. A safe and usable facility includes protection of runway safety areas and other areas that may be compromised if snow berms are left adjacent to the pavement edge. (See AC 150/5200-30C, *Airport Winter Safety and Operations*.) Where climatic conditions render the airport unsafe, the sponsor must promptly issue a NOTAM and, if necessary, close all or parts of the airport until unsafe conditions are remedied. The sponsor should correct unsafe conditions within a reasonable amount of time.

**7.11. Availability of Federally Acquired Airport Equipment.** The sponsor must use its AIP-funded equipment for the purpose specified in the grant agreement. It must maintain the equipment in accordance with appropriate advisory circulars. Refer to the actual grant agreements to confirm that the equipment under scrutiny is the same as listed in the sponsor's grant agreements.

**7.12. Part-time Operation of Airport Lighting.**

**a. Field Lighting When Needed.** The airport must operate field lights whenever needed. This means that the lights must be on during the hours of darkness (dusk to dawn) every night or be



*A sponsor's obligation to maintain the airport does not impose any specific responsibility to remove snow or slush or to sand icy pavements. To the extent possible, snow removal should be accomplished in those areas where public access is more likely. The sponsor, however, is responsible for providing a safe, usable facility. Where climatic conditions render the airport unsafe, the airport sponsor must promptly issue a Notice to Airmen (NOTAM). (Photo: FAA)*



available for use upon demand. This requirement can be effectively met by an attendant to turn on the proper lights when requested to do so by radio or other signal. The airport can also install an electronic device that permits remote activation of field lighting by radio equipment in an aircraft.<sup>11</sup>

**b. Part-time Operation.** At some locations, the airport may not need to operate the lights all night. This might occur where the aeronautical demand is seasonal or where demand ceases after a certain hour each night because the airport's location is not likely to be needed in an emergency. Also, many airports have in place pilot operated or on-demand lighting that is controlled via radio signals from the aircraft operating out of or into the airport in question.

In very rare cases, circumstances may make using an airport undesirable during certain hours of darkness, such as when air traffic control is suspended during some part of the night and the local environment (obstructions or heavy en route traffic) makes using the airport hazardous during that period. Under such circumstance, the FAA may consent to a part-time operation of field lights. In cases involving safety related hours of operations, it is essential that FAA Flight Standards be involved in any validation process.

**7.13. Hazards and Mitigation.** Grant Assurance 20, *Hazard Removal and Mitigation*, requires airport sponsors to protect terminal airspace. Accordingly, the sponsor must protect instrument and visual flight operations, including established minimum flight altitudes. Adequate protection includes the clearing, removing, lowering, relocating, marking, lighting, or mitigating of existing airport hazards. It also includes protecting against establishment or creation of future airport hazards, including wildlife hazards.

NOTE: Zoning is one means for protecting against obstructions, but may not be the best means since zoning can change and property owners may receive variances. Avigation and clearing easements may be a more effective means of protection.

If a sponsor has zoning authority and permits an obstruction to be erected near the airport that is found to be a hazard under 14 CFR Part 77, *Objects Affecting Navigable Airspace*, or that results in penetration or in any other impact upon the airport's approaches or use, the FAA may find that the sponsor is in violation of Grant Assurance 20, *Hazard Removal and Mitigation*.

**a. Obstruction Hazards.** Airports developed by or improved with federal funds are federally obligated to prevent the growth or establishment of obstructions in the aerial approaches to the airport. (See Grant Assurance 20, *Hazard Removal and Mitigation*.) The term "obstruction" refers to natural or manmade objects that penetrate surfaces defined in 14 CFR Part 77, *Objects Affecting Navigable Airspace*, or other appropriate citations applicable to the agreement applied to the particular airport.

In agreements issued prior to December 31, 1987, sponsors agreed to prevent as much as reasonably possible the construction, erection, alteration, or growth of an obstruction either by obtaining control of the land involved through the acquisition and retention of easements or other

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<sup>11</sup> See Advisory Circular (AC) 150/5340-30D, *Design and Installation Details for Airport Visual Aids*.

land interests or by the adoption and enforcement of zoning regulations. In many cases, uncontrolled growth of trees and vegetation can be a hazard. These hazards must be dealt with in conjunction with any applicable local or state requirements. The airspace allocated for protecting the airport will vary from airport to airport. FAA regional airports compliance staff should contact FAA Airspace Systems Support Group in the Air Traffic Organization (ATO) Service Area for the appropriate region for guidance on how to apply this provision when an issue is raised.

**b. FAA Guidance.** The FAA published the following advisory circulars relating to obstruction hazards:

(1). *A Model Zoning Ordinance to Limit Height of Objects Around Airports*, AC 150/5190-4A. This advisory circular provides airport sponsors with an effective zoning ordinance that can be used at the local level to protect the airport from obstructions.

***AC 150/5190-4A, A Model Zoning Ordinance to Limit Height of Objects around Airports provides airport sponsors with an effective zoning ordinance that can be used at the local level to protect the airport from obstructions.***

(2). *Procedures for Handling Airspace Matters*, FAA Order JO 7400.2G, provides information regarding the requirements for notifying the FAA of proposed construction or alteration under 14 CFR § 77.13. (See also FAA Order 8260.3, *United States Standard for Terminal Instrument Procedures (TERPS)* for Obstacle Clearance Surfaces.)

(3). *Obstruction Marking and Lighting*, AC 70-7460-1K. This advisory circular describes the standards for marking and lighting structures such as buildings, chimneys, antenna towers, cooling towers, storage tanks, and supporting structures of overhead wires. This advisory circular is available in the Air Traffic Division of any FAA regional office and on the FAA website.

**c. Federal Communications Commission (FCC) Guidance and the Obstruction Evaluation Process.**

(1). **Title 47 CFR Part 17, *Construction, Marking, and Lighting of Antenna Structures.*** Title 47 CFR Part 17 vests authority in the Federal Communications Commission (FCC) to issue public radio station licenses and prescribes procedures for antenna structure, registration, and standards. Part 17 provides the rules issued pursuant to the authority contained in Title III of the Communications Act of 1934, as amended. If the FAA determines that an antenna structure constitutes a hazard to air navigation – or there is a reasonable possibility it will constitute a hazard – Part 17 requires painting or illuminating the antenna structure. Part 17 requires notification to the FAA of certain antenna structures, including:

(a). When requested by FAA, any construction or alteration that would be in an instrument approach area<sup>12</sup> or when available information indicates it might exceed an obstruction standard of the FAA.

(b). Any construction or alteration on any of the following airports, including heliports:

(i). An airport that is available for public use and is listed in the Airport Directory of the current Airman's Information Manual or in either the Alaska or Pacific Airman's Guide and Chart Supplement.

(ii). An airport under construction that is the subject of a notice or proposal on file with the FAA (except for military airports) and it is clearly indicated that the airport will be available for public use.

(iii). An airport that is operated by an armed force of the United States.

Aeronautical facilities that do not exist at the time the application for a radio facility is filed will only be considered if the proposed airport construction or improvement plans are on file with the FAA as of the application filing date for the radio facility. Additional information regarding Title 47 CFR Part 17 is available online.

**(2). Obstruction Evaluation/Airport Airspace Analysis (OE/AAA).** In administering Title 14 CFR Part 77, *Objects Affecting Navigable Airspace*, the FAA's prime objectives are to promote air safety and the efficient use of navigable airspace. To accomplish this mission, anyone proposing to construct or alter an object that affects airspace must notify the FAA prior to construction by filing FAA Form 7460-1, *Notice of Proposed Construction or Alteration* in accordance with 14 CFR Part 77. Instructions for filing FAA Form 7460-1, *Notice of Proposed Construction or Alteration*, are described on the FAA web site. The same filing contact information is used to notify the FAA of actual construction using FAA Form 7460-2,



## A Model Zoning Ordinance to Limit Height of Objects Around Airports

AC: 150/5190-4A  
DATE: 12/14/87

### Advisory Circular

*A Model Zoning Ordinance to Limit Height of Objects Around Airports, AC 150/5190-4A. This advisory circular provides airport sponsors with an effective zoning ordinance that can be used at the local level to protect the airport from obstructions. This AC and additional information on this important subject can be found on the FAA web site.*

<sup>12</sup> The instrument approach area is defined in Advisory Circular (AC) 150/5300-13, *Airport Design*, Appendix 16, *New Instrument Approach Procedures*.

*Notice of Actual Construction or Alteration.* The proponent filing the form must submit very specific information about the project, such as a complete description of the proposed project, the latitude and longitude coordinates locating the object, height above ground level (AGL), site elevation above mean sea level (AMSL), total height, and the nearest airport.

Chapter 20 of this Order, *Compatible Land Use and Airspace Protection*, provides additional information relating to Grant Assurance 20, *Hazard Removal and Mitigation*, and obstruction protection. Typical projects include cell phone towers, top-mount antennas, buildings, power lines, radio broadcast towers, and temporary construction equipment such as cranes.

If the proposal is going to emit any electromagnetic broadcast signals, the proponent must also specify which radio frequencies will be used. The purpose of Form 7460-1 notification is to allow the FAA to conduct an airspace analysis on the proposal to determine whether or not the object will adversely affect airspace or navigational aids (NAVAIDS). If the FAA determines that the proposed object will penetrate airspace or adversely affect NAVAID equipment, the FAA can require, as a condition to a no-hazard determination, that the proponent reduce the height of the object, change the broadcast frequency, or outfit the object with obstruction marking and lighting. In cases where the FAA determines the object will be a hazard to air navigation, the FAA can issue a hazard determination, which may have the effect of prohibiting the project from being constructed. A determination of "no hazard," however, does not ensure a safe environment. Many areas may not be addressed following a federal analysis that may affect visual flight rule (VFR) flight operations. It is the role of the state to work to address those areas, ultimately striving for the highest level of safety between the pilot and the obstruction.

**(3). Guidance for Obstruction Evaluation.** *Procedures for Handling Airspace Matters*, JO 7400.2G, provides information regarding the requirements for notifying the FAA of proposed construction or alteration under 14 CFR § 77.13. AC 70/7460-1K, *Obstruction Marking and Lighting*, describes the standards for marking and lighting structures such as buildings, chimneys, antenna towers, cooling towers, storage tanks, supporting structures of overhead wires, etc. These circulars may be obtained by contacting the Air Traffic Division of any FAA regional office.

**(4). Filing for Proposed and Actual Construction.** FAA Form 7460-1, *Notice of Proposed Construction or Alteration* must be filed with the FAA Air Traffic Division of the appropriate FAA regional office for proposed construction. To notify the FAA of actual construction, Form 7460-2, *Notice of Actual Construction or Alteration*, must be filed with the FAA Air Traffic Division of the appropriate FAA regional office.

#### **d. Preexisting Obstructions.**

**(1). Federal Government Recognition.** Some airports were developed at locations where preexisting structures or natural terrain (e.g., hill tops) would constitute an obstruction by currently applicable standards. If the grant agreement did not specify the removal of such obstructions as a condition of the grant, its execution by the federal government constitutes a recognition that the removal was not reasonably within the power of the sponsor.

**(2). Threshold Displacement.** There are many former military airports acquired as public airports under the Surplus Property Act where the existence of obstructions at the time of development was considered acceptable. At such airports where these obstructions in the approach area cannot feasibly be removed, relocated, or lowered but are declared hazardous, the FAA may consider approving a displacement or relocation of the threshold. Threshold displacement requires FAA approval.

**e. Wildlife Hazards.** Information about the risks posed to aircraft by certain wildlife species has increased a great deal in recent years. Improved reporting, studies, documentation, and statistics clearly show that aircraft collisions with birds and other wildlife pose a serious public safety problem. Most public use airports have large tracts of open, undeveloped land that provide added margins of safety and noise mitigation. These areas can also present potential hazards to aviation if they encourage wildlife to enter an airport's approach or departure airspace or air operations area (AOA). Constructed or natural areas – such as poorly drained locations, detention/retention ponds, roosting habitats on buildings, landscaping, odor-causing rotting organic matter disposal operations, wastewater treatment plants, agricultural or aquaculture activities, surface mining, or wetlands – can provide wildlife with ideal habitat locations. Hazardous wildlife attractants on or near airports can jeopardize future airport expansion, which makes proper community land use planning essential.

AC 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports*, provides guidance to assess and address potentially hazardous wildlife attractants when locating new facilities and implementing certain land use practices on or near public use airports. Additional information, including accident data and *Wildlife Strikes to Civil Aircraft in the United States 1990-2007*,<sup>13</sup> is available on the FAA web site.

***Land use practices that attract or sustain hazardous wildlife populations on or near airports can significantly increase the potential for wildlife strikes.***

When considering proposed land uses, airport operators, local planners, and developers must take into account whether the proposed land uses, including new development projects, will increase wildlife hazards. Land use practices that attract or sustain hazardous wildlife populations on or near airports can significantly increase the potential for wildlife strikes. As such, the airport sponsor must take appropriate action to mitigate those hazards.

**(1). Airports Serving Piston-powered Aircraft.** For airports serving only piston-powered aircraft, FAA recommends a separation distance of 5,000 feet between an AOA and a hazardous wildlife attractant. This distance applies from the hazard to the existing AOA, as well as to any new and planned airport development projects meant to accommodate aircraft movement. AC 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports*, has more detail on this recommended separation.

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<sup>13</sup> As of the date of this publication, “1990-2007” was the current version. A new version is expected soon.

**(2). Airports Serving Turbine-Powered Aircraft.** For airports selling Jet-A fuel, FAA recommends a separation distance of 10,000 feet between an AOA and a hazardous wildlife attractant. This distance applies from the hazard to the existing AOA, as well as to any new and planned airport development projects meant to accommodate aircraft movement. AC 150/5200-33B, *Hazardous Wildlife Attractants on or Near Airports*, has more detail on this recommended separation.

**(3). Protection of Approach, Departure, and Circling Airspace.** For all airports, the FAA recommends a distance of five (5) statute miles between the farthest edge of the AOA and the hazardous wildlife attractant if the attractant could cause hazardous wildlife movement into or across the approach or departure airspace.



*Hazardous wildlife attractants on or near airports can jeopardize future airport expansion. Proper community land use planning is essential. (Photo: FAA)*

**(4). Special Requirements for Certain Landfills.** Under 49 U.S.C. § 44718(d), more stringent requirements apply to the establishment of landfills near certain airports. This requirement applies to landfills constructed or established after April 5, 2000, that would be within six (6) miles of an airport that primarily serves general aviation aircraft and scheduled air carrier operations using aircraft with less than 60 passenger seats. While this situation is uncommon, it is a statutory prohibition on a new landfill. See AC 150/5200-34A for more detailed information on the application of this requirement.

**7.14. Use of Airports by Federal Government Aircraft.** Through various agreements, the federal government retains the right to use airport facilities jointly, either with or without charges.

**a. Under Grant Agreements.** Grant Assurance 27, *Use by Government Aircraft*, provides that all airport facilities developed with federal aid and usable for air operations will be available to the federal government at all times without charge. When the sponsor deems that federal government use is substantial, the assurance permits the sponsor to charge reasonable fees that are in proportion to the government's use. Substantial use is defined in the assurances as the existence of one of the following conditions:

- Five (5) or more federal government aircraft are regularly based at the airport or on land adjacent to the airport;

- Federal government aircraft make 300 or more total calendar month operations (counting each landing and each takeoff as a separate operation);
- The gross cumulative weight of federal government aircraft using the airport in a calendar month (the total operations of federal government aircraft multiplied by gross certified weights of such aircraft) exceeds of five (5) million pounds.

***The Surplus Property Act gives the federal government the right to make nonexclusive use of the airfield without charge – except the use may not unduly interfere with other authorized aircraft, and the federal government shall pay for damage caused by its use.***

**b. The Surplus Property Act.** Title 49 U.S.C. § 47152, *Surplus Property Act*, gives the federal government the right to make nonexclusive use of the airfield without charge – except the use may not unduly interfere with other authorized aircraft. The federal government will pay for damage caused by its use and may contribute to maintaining and operating the airfield in proportion to its use.

Surplus Airport Property Instruments of Transfer issued under War Assets Administration Regulation 16 provide that the federal government shall at all times have the right to use the airport in common with others. Such use may be limited as necessary to prevent interference with use by other authorized aircraft, so long as such limitation does not restrict federal government use to less than 25 percent (25%) of the capacity of the airport. The regulation further provides that federal government use of the airport to this extent shall be without charge of any nature, other than payment for any damage caused.

**c. Federal Government Aircraft Classification.** All federal government aircraft are classified as airport users under federal obligations. Federal government aircraft include aircraft operated by the U.S. Army, U.S. Navy, Marine Corps, Air Force Reserve, all Air National Guard units, Coast Guard, National Oceanic and Atmospheric Administration (NOAA), National Aeronautics and Space Administration (NASA), Forest Service, and U.S. Customs Service.

**7.15. Negotiation Regarding Charges.** In all cases where the airport sponsor proposes to charge the federal government for use of the airport under the joint-use provision, the sponsor should negotiate directly with the using federal government agency or agencies in question. In other words, the FAA does not assume the role of negotiator when it comes to rates and charges imposed upon other federal government agencies; rather, it oversees compliance with applicable requirements such as those under Grant Assurance 27, *Use by Government Aircraft*. It is important to remember that in cases involving military units, the military entity in question may be subject to military regulations relating to fee negotiations. For example, Appendix J-1 of this Order provides *Air National Guard Pamphlet 32-1001, 8 April 2003, entitled Airport Joint Use*

*Agreements for Military Use of Civilian Airfields.* This pamphlet implements AFD 10-10, *Civil Aircraft Use of United States Air Force Airfields*, and AFD 32-10, *Installations and Facilities*, and applies to Air National Guard (ANG) flying units that operate on public airports. This pamphlet provides guidance for negotiating fair and reasonable charges to the government for joint use of the public airport's flying facilities.

#### **7.16. Land for Federal Facilities.**

**a. Grant Agreements.** Grant Assurance 28, *Land for Federal Facilities*, requires the sponsor to provide facilities for air traffic control and weather and communication activities. There are subtle differences in the terms of these assurances under the various grant programs. Therefore, when questions arise regarding the use of space, refer to the most current grant agreement.

**b. No Requirement for Free Rent.** Under the Airport Development Aid Program (ADAP) and the Airport Improvement Program (AIP), sponsors are not federally obligated to furnish space rent-free. However, the sponsor is required to furnish to the federal government without cost any land necessary for the construction at federal expense of facilities to house any air traffic control activities, such as very high frequency omni-directional radio range facilities (VORs),<sup>14</sup> Air Traffic Control (ATC) Towers or Terminal Radar Approach Controls (TRACONS), or weather reporting and communication activities related to air traffic control. This may include utility easements. The airport sponsor is not required to furnish land rent-free for parking or roads to serve the facility.

**c. Other Federal Agencies.** Sponsors on occasion do provide space to other federal government agencies such as postal, customs, FBI, or immigration services at no cost or at nominal rent. FAA does not view leasing space at these rates for activities that complement or support aeronautical operations as violating the self-sustaining grant assurance. However, federal agencies may not lease airport property for administrative purposes beyond the federal agencies' operational needs at no cost or nominal rent; airports should limit the leasehold to just the space necessary to conduct the federal operations, which may include some administrative space necessary to serve the operations. In most cases, an airport does not bear the expense for the space leased for customs, immigration, or agriculture operations, but rather the costs are built into the airlines' cost structure and are assessed to the airlines.

#### **7.17. Federal Government Use during a National Emergency or War.**

**a. Airports Subject to Surplus Property Instruments of Transfer.** The primary purpose of the Surplus Property Act is to make the property available for public airports. The Surplus Property Act also intended the transferred property and the entire airport to be available to the United States in times of a war or national emergency. Other transfer documents also reserve to the federal government the right of exclusive possession and control of the airport during war or national emergency.

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<sup>14</sup> A VOR is a ground based navigational facility.



**b. Airports Subject to Grant Agreements.**

Grant agreements do not contain any provision authorizing military agencies to take control of the airport during a national emergency.

**c. Negotiation Regarding Charges.**

Negotiations under war or national emergency clauses will be between the agency requiring the airport and the sponsor. The only compliance responsibility the FAA has with regard to such clauses is releasing the property from its federal obligations.

**7.18. Airport Layout Plan (ALP).**

Grant Assurance 29, *Airport Layout Plan*, requires the sponsor to depict the airport's boundaries, including all facilities, and to identify plans for future development on its ALP. An FAA-approved ALP (signed and dated) is a prerequisite to the grant of AIP funds for airport development or for the modification of the terms and conditions of a surplus property instrument transfer. (See Appendix R of this Order, *Airport Layout Plan*, for additional information.)



*Appendix J-1 of this Order provides AIR NATIONAL GUARD PAMPHLET 32-1001, 8 APRIL 2003, entitled "Airport Joint Use Agreements for Military Use of Civilian Airfields." This pamphlet implements AFPD 10-10, Civil Aircraft Use of United States Air Force Airfields, and AFPD 32-10, Installations and Facilities, and applies to Air National Guard (ANG) flying units that operate on public airports. (Photo: ANG)*

FAA approval of the ALP represents the concurrence of the FAA in the conformity of the plan to all applicable design standards and criteria. It also reflects the agreement between the FAA and the sponsor regarding the proposed allocation of airport areas to specific operational and support functions. It does not, however, represent FAA release of any federal obligations attached to the land or properties in question. In addition, it does not constitute FAA approval to use land for nonaeronautical purposes. This requires a separate approval from the regional airports division.

In any event, the approved ALP becomes an important instrument for controlling the subsequent development of airport facilities. Any construction, modification, or improvement that is inconsistent with the plan requires additional FAA approval.

**a. Compliance Requirements.** Federal grant agreements require sponsors to conform airport use and development to the ALP. The erection of any structure or any alteration in conflict with the plan as approved by the FAA may constitute a violation of this federal obligation under Grant Assurance 29, *Airport Layout Plan*. The Airport and Airway Safety and Capacity Expansion Act of 1987 (1987 Airport Act) further strengthened the Airport Layout Plan assurance language.

If the sponsor makes a change in the airport or its facilities that is not reflected in the ALP, and the FAA determines the change will adversely affect the safety, utility, or efficiency of any federally owned or leased or funded property on or off the airport, the FAA may require the airport to eliminate the adverse effect or bear the cost of rectifying the situation.

***Federal grant agreements require sponsors to conform their actions to the Airport Layout Plan. The erection of any structure or any alteration in conflict with the plan as approved by the FAA may constitute a violation of Grant Assurance 29, Airport Layout Plan.***



*In some cases, it is acceptable to close an airport temporarily for an aeronautical activity, such as an air show. Such closing should be well publicized in advance including issuing notices to airmen (NOTAMs) to minimize any inconvenience to the flying public. (Photo: U.S. Navy)*

**b. Abandonment.** The sponsor may not abandon or suspend maintenance on any operational facility currently reflected on an approved ALP as being available for operational use. The conversion of any area of airport land to a substantially different use from that shown in an approved ALP could adversely affect the safety, utility, or efficiency of the airport and constitute a violation of the federal obligation assumed. For example, the construction of a corporate hangar on a site identified on the ALP for future apron and taxiway use would be a departure from the controlling ALP. This could impair the utility of the airport and violate sponsor federal obligations. When making a periodic compliance review of an ALP, the inspector should consider whether grant acquired land is still needed for airport purposes, particularly when it is separated from the airport property by a highway or railway.

**7.19. Exhibit “A” and Airport Property Map.** Grant Assurance 29, *Airport Layout Plan*, requires the sponsor to submit an ALP. Airports also must have an airport property map, commonly referred to as Exhibit “A.” The airport property map indicates how various tracts of airport property were acquired, including the funding source. The primary purpose of the airport property map is to provide information on the use of land acquired with federal funds and/or the use of surplus property. The airport property map is important for determining land needed for airport purposes and the proper use of land sale proceeds. In many instances, but not all, the Exhibit “A” to the ALP will include the land inventory requirements. The Exhibit “A” map delineates all airport property owned, or to be acquired, by the sponsor regardless of whether the federal government participated in the cost of acquiring any or all such land. The FAA relies on this map when considering any subsequent grant of funds. In fact, The FAA AIP Handbook, Order 5100.38, requires a review of the ALP during project formulation. Any land identified on the Exhibit “A” map may not be disposed of or used for any different purpose without FAA consent.

**a. Land Accountability.** For compliance purposes, the airport needs to be able to account for land acquired with federal funds. The ALP and Exhibit “A” together may serve this purpose. The airport sponsor may have a separate airport property map or land inventory map if the ALP and Exhibit “A” do not include all required information regarding how various tracts of land were acquired and what federal grant or federal assistance program was used to acquire the land.

**b. Excess Land.** If any grant-acquired land is found to be in excess of airport needs, both present and future, the sponsor must dispose of the excess land and comply with FAA direction for returning or using the grant funds.

**7.20. Access by Intercity Buses.** Grant Assurance 36, *Access by Intercity Buses*, requires the airport sponsor to permit, to the maximum extent practicable, access to the airport by intercity buses or other modes of transportation. However, the airport sponsor has no federal obligation to fund special facilities for intercity buses or other modes of transportation.<sup>15</sup>

### **7.21. Temporary Closing of an Airport.**

**a. Closing for Hazardous Conditions** Airport owners are required to mark any temporary hazardous conditions physically and to warn users adequately through the use of NOTAMs. This implies a duty to provide similar warning notices when an airport is completely closed to air traffic as a result of temporary field conditions that make using the airport hazardous. Prompt action should be taken to restore the airport facilities to a serviceable condition as soon as possible.

**b. Closing for Special Events.** 49 U.S.C. § 47107(a)(8), implemented by Grant Assurance 19.a, *Operation and Maintenance*, requires that any proposal to close the airport temporarily for nonaeronautical purposes must be approved by the FAA.

**(1). Nonaeronautical Events.** An airport developed or improved with federal funds may not be closed to use the airport facilities for special outdoor events, such as sports car races, county fairs, parades, car testing, model airplane events, etc., without FAA approval. This has been the FAA policy since 1961 as outlined in *Compliance Requirements Part 6.00* (July 1961). In certain circumstances where promoting aviation awareness through such nonaeronautical activities as model airplane flying, etc., the FAA does support the limited use of airport facilities so long as there is not total closure of the airport. In these cases, safeguards need to be established to protect the aeronautical use of the airport while the nonaeronautical activities are in progress and to ensure that safety is not compromised.

**(2). Aeronautical Events.** There will be occasions when airports may be closed for brief periods for aeronautical events. Examples include an air show designed to promote a particular segment of aviation, or annual fly-ins, and aviation conventions. In such cases, airport management should limit the period the airport will be closed to the minimum time consistent with the activity. Such closing should be well publicized in advance including issuing NOTAMs to minimize any inconvenience to the flying public.

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<sup>15</sup> For related information, refer to *Intermodal Ground Access to Airports: A Planning Guide*, DOT, December 1996.

**c. Closing Part of an Airport.** In some instances, there may be sufficient justification to use part of an airport temporarily for an unusual event of local significance that does not involve closing the entire airport. *All* of the following conditions must be met:

- (1). The event is to be held in an area of the airport that is not required for the normal operation of aircraft and where the event would not interfere with the airport's normal use, or in a limited operational area of an airport having a relatively small traffic volume and where it has been determined that the event can be conducted in the area without interfering with aeronautical use of the airport.
- (2). Adequate facilities for landing and taking off will remain open to air traffic, and satisfactory arrangements are made to ensure the safe use of the facilities remaining open.
- (3). Proper NOTAMs are issued in advance.
- (4). Necessary steps are taken by the airport owner to ensure the proper marking of the portion of the airport to be temporarily closed to aeronautical use.
- (5). The airport owner notifies the appropriate FAA Flight Standards office in advance, as well as any air carrier using the airport.
- (6). The airport owner agrees to remove all markings and repair all damage, if any, within 24 hours after the termination of the event, or issues such additional NOTAMs as may be appropriate.
- (7). The airport owner coordinates the special activities planned for the event with local users of the airport before the event and with the Department of Defense (DoD) if there are any military activities at the airport.
- (8). No obstructions determined by FAA to be hazards, such as roads, timing poles, or barricades, will be constructed for the remaining operational area of the airport.
- (9). The airport sponsor is reimbursed for all additional costs incurred as a result of the event.

**d. Air Show Coordination.** Air shows at any airport require a Certificate of Waiver or Authorization (FAA Form 7711-1) that has been approved and issued by the appropriate FAA Flight Standards District Office (FSDO). Flight Standards, however, will not issue a Certificate or Waiver or Authorization to airports certificated under 14 CFR Part 139 until the FAA regional airports division has reviewed and concurred with the air show event.

(1). **Ground Operations Plan.** There must be a ground operations plan that addresses the Part 139 related requirements impacted by the air show. An airport certification inspector must approve this plan. Unless temporary arresting gear needs to be installed for military flight demonstrations, this requirement should have minimal impact on airport operators. Once the ground operations plan is approved, the airport certification inspector will send a letter to the airport operator and notify the appropriate FAA FSDO.

**(2). Other Issues.** Other issues to be addressed in coordinating an air show include:

- (a) Air show ground operations plan guidelines,
- (b) Airline operations,
- (c) Aircraft rescue and fire fighting (ARFF) capability,
- (d) Special emergency response procedures,
- (e) Temporary arresting gear installed in a runway safety area,
- (f) Integrity of runway safety areas, taxiway safety areas, and object free areas,
- (g) Pyrotechnic devices,
- (h) Temporary closures of runways and taxiways,
- (i) Movement area maintenance,
- (j) Public protection,
- (k) Fueling operations,
- (l) Air show ground vehicle operations,
- (m) Impact to NAVAIDs,
- (n) NOTAMs, and
- (o) Mitigation of wildlife hazards.

## **7.22. Transportation Security Administration (TSA) Security Requirements.**

**a. General Information.** The Transportation Security Administration (TSA) has instituted guidelines for general aviation (GA) airports. These guidelines provide a set of federally endorsed security enhancements, as well as a method for determining when and where these enhancements may be appropriate.

**b. The Twelve-Five Rule.** The Twelve-Five Rule requires that certain aircraft operators using aircraft with a maximum certificated takeoff weight (MTOW) of 12,500 pounds or more carry out a security program. Operators were required to be in compliance with the program effective April 1, 2003.

**c. Private Charter Rule.** The Private Charter Rule is similar to the Twelve-Five Rule, but adds requirements for aircraft operators using aircraft with an MTOW of greater than 45,500 kg

(100,309.3 pounds) or with a seating configuration of 61 or more. Operator compliance was required effective April 1, 2003.

**d. Compliance.** The relevant compliance implications of TSA security for GA are in the form of security requirements imposed by an airport sponsor upon airport users. When a complaint is brought to FAA attention, the FAA will attempt informal resolution. This process should involve the airport, TSA, and the impacted users. The FAA may be asked to render a preliminary decision on whether the security requirements imposed by the airport are consistent with the airport's other federal obligations. Most likely, this will involve the requirements for reasonable and not unjustly discriminatory terms and conditions for using the airport.

Compliance personnel may need to assess whether security requirements are consistent with TSA requirements and recommendations. The compliance implications of security at federally obligated airports may be in the form of security requirements covered by TSA. Coordination with ACO-100 is recommended when encountering complaints involving TSA requirements.

**7.23. through 7.26. reserved.**