



U.S. Department  
of Transportation  
**Federal Aviation  
Administration**

# Memorandum

Subject: **ACTION:** Program Guidance Letter 12-04

Date: March 5, 2012

From:

Manager, Airports Financial Assistance Division,  
APP-500

Reply to  
Attn. of: Nancy S. Williams  
202-267-8822

To: PGL Distribution List

This Program Guidance Letter (PGL) addresses the eligibility and justification for avian radars.

FAA Regional Airports Offices and Airports District Offices are encouraged to distribute this PGL widely to the airport and consultant community.

Cancelled

SOAR Code: ST EQ MS Acquire  
Equipment (Add description "Avian  
Radar")

On November 23, 2010, FAA published Advisory Circular (AC) 150/5220-25, Airport Avian Radar Systems. The AC specified the requirements for Avian Radar systems at airports. This guidance addresses the eligibility and justification required to use AIP grant funds to acquire and install an avian radar system.

**Avian Radar Equipment is eligible for AIP grant funds.** AAS has determined that Avian Radar systems will be considered as "contributing significantly to the safety or security of individuals and property" at an airport as described in 49 USC 47102(3)(B)(ii). Accordingly we have determined that avian radar systems are eligible under the AIP, subject to the justification limitations set forth below. For funding and coding purposes, the priority is the same as snow removal equipment.

**Basis of Operation.** Avian radar systems operate off radar that transmits the detected images to a radar scope.

**Justification:** In order for an airport to ensure maximum benefit from an avian radar system, it must be able to collect, interpret and make use of the data from the system to eliminate or reduce wildlife hazards at the airport. Therefore acquisition and installation of an Avian Radar system is justified provided all of the following conditions exist:

1. The airport has an existing wildlife hazard management plan (WHMP) in place that has been accepted by FAA;

2. The airport has an ongoing bird harassment plan in place incorporating the recommendations for continued harassment by airport employees to reduce wildlife hazards;

3. If the airport is a Part 139 airport and has an Airport Certification Manual, the manual includes the requirements for operation and maintenance of the avian radar system, as well as requirements for analyzing the incoming data feeds, tracking the data, and acting on the data trends;

4. Because one of the major advantages of the system is the round-the-clock monitoring, the avian radar should be displayed in a location where it can be monitored during the hours that the airport is operational. If the airport is closed to aircraft operations during certain hours of a day, the radar scope does not need to be monitored during that period. As the AC indicates, without a clear understanding of the system's capabilities and limitations, the system's benefits will be greatly diminished.

Therefore, the airport employees who will be using the radar must have a clear understanding of what the radar is "seeing" to distinguish bird tracks from tracks produced by insects, airport vehicles, multiple echoes, or objects no longer in the expected position due to time-lag. The airport must have a training plan in place that includes initial and yearly follow-

up training on the proper use of radar readings, analysis and interpretation.

5. The costs of acquiring the radar equipment, installing the antenna(s) and radar equipment, and acquiring the Digital Radar Signal Processor are allowable costs. However, because accommodating the equipment is essentially providing space for airport employees to monitor the radar, the costs of modifying existing office space to accommodate the radar equipment, or acquisition of a mobile trailer or constructing a permanent structure to support the avian radar equipment is not allowable.

6. Because the proper placement of the antenna includes an initial trial placement, the costs of a trial installation and a final operational installation will be allowable in the cost of the unit.

7. The airport should maintain data to evaluate the radar performance. This should include the daily archives or radar recordings of birds tracked, related logs of birds harassed, hours in service, hours out of service, service and repair records, and updates to software or hardware. The data must be available for review by the FAA upon request.

8. The airport must maintain and operate the system according to the design parameters of the AC.

**Environmental Processing.** We have determined that installation of an avian radar system is a categorically excluded action under paragraph 308e, FAA Order 1050.1 (latest edition), unless extraordinary circumstances exist (see paragraph 606, FAA Order 5050.4 (latest edition)) that instead requires the preparation of an environmental assessment or environmental impact statement.

**Buy American.** The avian radar system must be compliant with the Buy American Preference Requirements. A Federal Register Notice was published on October 28, 2011, requesting that manufacturers of avian radar submit the product information to APP for review. Systems that meet the Buy American Preference requirements will be listed on the link, "Equipment Meeting Buy American Requirements" on the FAA website at the following address:  
[http://www.faa.gov/airports/aip/buy\\_american/](http://www.faa.gov/airports/aip/buy_american/)

**Site Selection and Airport Layout Plan Modifications.** The avian radar must be located on-airport. The airport must complete a site evaluation (Form 7460) review. If the installation of the avian radar includes permanent or semi-permanent construction, it must be shown on the ALP.

**Useful Life of Equipment.** The AC notes that the useful life of avian radar is 10 years. Although parts of the system may require replacement, interim replacement of system elements, including the computers supporting the equipment is not eligible for grant funding.

**Operational and Maintenance Costs.** Operational and Maintenance Costs of Avian Radar Systems are not eligible for AIP funding.

A copy of the October 4, 2010, AAS Finding of Significant Contribution is attached for information and reference.

Cancelled



## Federal Aviation Administration

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### Memorandum

Date: OCT 4 - 2010

To: Elliott Black, Acting Director, Airport Planning and Programming, APP-1

From: *Michael J. O'Donnell*  
Michael J. O'Donnell, Director of Airport Safety and Standards, AAS-1

Prepared by: James R. White, Deputy Director, Airport Safety and Standards, AAS-2

Subject: Finding of Significant Contribution from Use of Avian Radar to the Safety of Individuals and Property at Airports

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**Summary:** It is commonly understood that the threat of wildlife strikes are increasing. Populations of most large bird species are increasing. The population of Canada geese has increased about 7 percent per year for the last 20 years and the birds are remaining in urban areas. The number of aircraft operation is increasing. All this leads to an increase in bird strikes.

There is no single solution to mitigating strike risk. However, it is well documented that an effective mitigation plan can reduce the threat. An effective mitigation plan requires knowledge of bird activity, patterns, and attractants on or near the airport. This data is essential to determine wildlife mitigation resources, how to deploy the resources, and where to focus the harassment operations. Bird radar systems have proven effective at the airports where the FAA evaluated them. They have proven effective at the military and civilian airports where the radars are currently operational. The radars provide unique real-time alerting in day or night that enables the airport operator to immediately direct resources to the area of high-risk bird activity to initiate dispersal procedures.

An effective wildlife mitigation program is required under Part 139 when an airport has experienced multiple bird strikes or other triggering events. The FAA is in the process of expanding the requirement for a wildlife hazard assessment at all Part 139 airports and all General Aviation airports. There are numerous techniques that can be identified in an airport's wildlife management plan to reduce the risk from bird strikes. The availability of an effective bird radar system provides the basis for a real-time, day/night alerting system. This will result in the airport implementing a more effective wildlife risk reduction program and provide a significant contribution to aviation safety.

**Findings:** The Office of Airport Safety and Standards has evaluated the capabilities of commercially available avian radar to reliably detect and track birds on and in the vicinity of airports. We have evaluated various manufacturers' radar systems at John F. Kennedy, Boston Logan, Seattle, Dallas Ft. Worth, and Chicago international airports.

We have determined the avian radars have matured to the extent that they are suitable for operations on airports. In that regard, we have developed a performance specification for avian radar.

The operational use of avian radar will provide a significant contribution to aviation safety.

- It will provide 24-hour detection and tracking of birds on and in the vicinity of the airport. The ability to detect birds at night when they cannot be visually observed is particularly useful for airport operators and their wildlife management staff.
- The radar data and display will be monitored in the airport operations center. Software can generate alarms when the radar detects birds in the area. The operator can review the display and use the information in real-time to alert the airport staff responsible for mitigating wildlife hazards on the airport. The response staff can be dispatched to the location of the bird activity and immediately activate harassment measures to disperse the birds.
- The radar data is also a powerful tool for the airport operator to determine daily and seasonal bird activity patterns. This information will enable the airport to produce a more effective wildlife hazard management plan by identifying wildlife patterns and attractants. A more effective wildlife hazard plan leads directly to reduction of strike risk and an improvement in aviation safety. This information from avian radar will support development of an effective wildlife hazard mitigation program. An effective wildlife mitigation program can reduce the bird hazard on the airport through habitat management, active and passive dispersal techniques, and effective warning techniques, such as avian radar.
- There are several operational uses of the avian radar information. Output from the radar is a real-time digital display of the horizontal and vertical distribution of birds. The data can be displayed on multiple, remote computer monitors simultaneously in different format to support each user's requirements. Portable displays can be installed in response vehicles that will assist response units in responding to bird activity day or night. Various display configurations are provided with the systems and custom displays and functionality can be provided. Various alarm and risk levels can be automatically set so that a color-coded alarm will show up in the operations center when the radar determines there is a high-risk level from wildlife activity. The airport can direct enhanced harassment activity by ground staff until the radar determines that the high-risk level has passed. The radar data is automatically archived which can be useful for detailed trend analysis to support development of mitigation plans and activities. Hourly track plots can be developed and hourly activity graphs can be generated. Daily



reports can be compiled into monthly reports to refine work schedules and manpower requirements for mitigating bird hazards.

- In operations, the radar data would be monitored in the airport operations center. Airport wildlife management staff will assess approach and departure risks as well as risk in area surrounding the airport. The airport operations center will contact ground personnel in real-time to drive to the locations where the radar has detected increased bird activity to more specifically identify and assess the threat, and initiate dispersal activities.

**Conclusion:** Therefore for all the foregoing reasons I find pursuant to 49 USC 47102(3)(B)(ii) that the use of avian radar contributes significantly to the safety of individuals and property at airports.

Cancelled