



Highlights of [GAO-05-11](#), a report to the Chairman, House Aviation Subcommittee, Committee on Transportation and Infrastructure

## Why GAO Did This Study

The Federal Aviation Administration's (FAA) process for ensuring that air traffic control (ATC) systems will operate safely in the national airspace system is an integral part of the agency's multibillion-dollar ATC modernization and safety effort. GAO was asked to review (1) FAA's process for approving ATC systems for safe use in the national airspace system; (2) challenges FAA has faced approving ATC systems and how these challenges affected the cost, schedule, and performance estimates of the systems; and (3) actions FAA has taken to improve its process for approving ATC systems.

## What GAO Recommends

GAO is recommending that FAA develop ATC system-specific plans early in the approval process that specify how and when the approving and certifying offices within FAA and other stakeholders, including controllers, maintenance technicians, technical experts, and industry representatives, will meet to ensure coordination. FAA generally agreed with the findings and recommendation in this report.

[www.gao.gov/cgi-bin/getrpt?GAO-05-11](http://www.gao.gov/cgi-bin/getrpt?GAO-05-11).

To view the full product, including the scope and methodology, click on the link above. For more information, contact Katherine Siggerud at (202) 512-2834 or [siggerudk@gao.gov](mailto:siggerudk@gao.gov).

# AIR TRAFFIC CONTROL

## FAA Needs to Ensure Better Coordination When Approving Air Traffic Control Systems

### What GAO Found

FAA has separate processes for approving ground systems and certifying aircraft equipment for safe use in the national airspace system. FAA's process for approving ground systems, such as radar systems, is done in accordance with policies and procedures in FAA's Acquisition Management System. Approving ground systems, which are usually developed, owned, and operated by FAA, typically involves FAA's Air Traffic Organization determining whether a vendor is in compliance with contract requirements, followed by a rigorous test-and-evaluation process to ensure that the new system will operate safely in the national airspace system. The process for certifying aircraft equipment, which is usually developed by private companies, is done in accordance with Federal Aviation Regulations, with FAA serving as the regulator. If a system has both ground components and aircraft equipment components, then the system must go through both processes before it is approved for safe use in the national airspace system.

FAA has faced challenges approving systems for safe use in the national airspace system that contributed to cost growth, delays, and performance shortfalls in deploying these systems. We identified three specific challenges through the review of 5 ATC systems and our past work. These challenges are the need to (1) involve appropriate stakeholders, such as users and technical experts, throughout the approval process; (2) ensure that the FAA offices that have responsibility for approving ground systems and certifying aircraft equipment effectively coordinate their efforts for integrated systems; and (3) accurately estimate the amount of time needed to meet complex technical requirements at the beginning of the design and development phase.

FAA has taken some actions to address two of the three challenges we identified. However, FAA has not taken action to fully involve all stakeholders, such as air traffic controllers and technical experts, throughout the approval process. FAA officials believe that the agency's new Safety Management System will help ensure that the ground system approval and aircraft certification processes are better coordinated. FAA stated that coordination would improve because, as part of the new Safety Management System, the agency plans to realign its organizational structure to create a formal link between the Air Traffic Organization and the Office of Regulation and Certification. FAA expects full implementation of this system to take 3 to 5 years. We are reserving judgment on whether this change will fully address the challenge because of the early state of this effort and FAA's long-standing problems with internal coordination when approving ATC systems. As such, we believe that FAA should, in the interim, develop specific plans that describe how both internal and external coordination will occur on a system-specific basis.