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June 21, 2010

The Honorable John D. Rockefeller IV
Chairman
The Honorable Kay Bailey Hutchison
Ranking Minority Member
Committee on Commerce, Science, and Transportation
United States Senate

The Honorable James L. Oberstar
Chairman
The Honorable John L. Mica
Ranking Minority Member
Committee on Transportation and Infrastructure
House of Representatives

Subject: *Department of Transportation, Federal Aviation Administration: Automatic Dependent Surveillance--Broadcast (ADS-B) Out Performance Requirements To Support Air Traffic Control (ATC) Service*

Pursuant to section 801(a)(2)(A) of title 5, United States Code, this is our report on a major rule promulgated by the Department of Transportation, Federal Aviation Administration (FAA), entitled "Automatic Dependent Surveillance--Broadcast (ADS-B) Out Performance Requirements To Support Air Traffic Control (ATC) Service" (RIN: 2120-AI92). We received the rule on June 4, 2010. It was published in the *Federal Register* as a final rule on May 28, 2010. 75 Fed. Reg. 30,160. The final rule is effective on August 11, 2010.

The final rule amends FAA regulations by adding equipage requirements and performance standards for Automatic Dependent Surveillance-Broadcast (ADS-B) Out avionics on aircraft operating in Classes A, B, and C airspace, as well as certain other specified classes of airspace within the U.S. National Airspace System. ADS-B Out broadcasts information about an aircraft through an onboard transmitter to a ground receiver. Use of ADS-B Out will move air traffic control from a radar-based system to a satellite-derived aircraft location system. The final rule facilitates the use of ADS-B for aircraft surveillance by FAA and Department of Defense air traffic controllers to safely and efficiently accommodate aircraft operations and the expected increase in demand for air transportation.

Enclosed is our assessment of the FAA's compliance with the procedural steps required by section 801(a)(1)(B)(i) through (iv) of title 5 with respect to the rule. Our review of the procedural steps taken indicates that FAA complied with the applicable requirements.

If you have any questions about this report or wish to contact GAO officials responsible for the evaluation work relating to the subject matter of the rule, please contact Shirley A. Jones, Assistant General Counsel, at (202) 512-8156.

signed

Robert J. Cramer
Managing Associate General Counsel

Enclosure

cc: Nancy Molitor
Senior Program Analyst
Department of Transportation

REPORT UNDER 5 U.S.C. § 801(a)(2)(A) ON A MAJOR RULE
ISSUED BY THE
DEPARTMENT OF TRANSPORTATION,
FEDERAL AVIATION ADMINISTRATION
ENTITLED
"AUTOMATIC DEPENDENT SURVEILLANCE--BROADCAST (ADS-B)
OUT PERFORMANCE REQUIREMENTS TO
SUPPORT AIR TRAFFIC CONTROL (ATC) SERVICE"
(RIN: 2120-AI92)

(i) Cost-benefit analysis

FAA performed a cost-benefit analysis in conjunction with the final rule. FAA determined that the benefits of the final rule include the dollar savings in fuel, time, net reduction in CO₂ emissions, and the consumer surplus associated with the additional flights accommodated because of the rule. FAA estimated that the quantified benefits of the final rule range from \$6.8 billion (\$2.1 billion at 7 percent present value) to \$8.5 billion (\$2.7 billion at 7 percent present value). FAA determined that the estimated incremental costs of the final rule range from a low of \$3.3 billion (\$2.2 billion at 7 percent present value) to a high of \$7.0 billion (\$4.1 billion at 7 percent present value). The costs include costs to the government, as well as to the aviation industry and other users of the National Airspace System (NAS), to deploy ADS-B, and are incremental to maintaining surveillance via current technology (radar). The aviation industry would begin incurring costs for avionics equipage in 2012 and would incur total costs ranging from \$2.5 billion (\$1.4 billion at 7 percent present value) to \$6.2 billion (\$3.3 billion at 7 percent present value) with an estimated midpoint of \$4.4 billion (\$2.3 billion at 7 percent present value) from 2012 to 2035.

(ii) Agency actions relevant to the Regulatory Flexibility Act, 5 U.S.C. §§ 603-605, 607, and 609

FAA certified that the final rule will have a significant economic impact on a substantial number of small entities, and prepared a final regulatory flexibility analysis. FAA considered the economic impact on small-business part 91, 121, and 135 operators. FAA used a representative sample of 34 small entity operators and then used the U.S. Census Bureau data on the Small Business Administration's Web site to develop an estimate of the total number of affected small business entities. Based on their sample, FAA determined that the ADS-B costs are estimated to be greater than 2 percent of annual revenues for at least 1,015 small entities and greater than 1 percent of annual revenues for at least 1,562 small entity operators. FAA determined that in terms of competition, the final rule reduces small operators' abilities to compete and will have a disproportionately higher cost to small

operators. FAA considered five alternatives, including the final rule, and determined the final rule to be the most cost-effective solution to maintain a viable air transportation system.

(iii) Agency actions relevant to sections 202-205 of the Unfunded Mandates Reform Act of 1995, 2 U.S.C. §§ 1532-1535

FAA determined that the final rule was not expected to impose significant costs on state, local, or tribal governments. However, the final rule will result in expenditures in excess of \$136.1 million annually by the private sector, and thus is an unfunded mandate on the private sector. FAA described the alternatives considered in its Regulatory Flexibility Act analysis.

(iv) Other relevant information or requirements under acts and executive orders

Administrative Procedure Act, 5 U.S.C. §§ 551 et seq.

FAA published a notice of proposed rulemaking on October 5, 2007. 72 Fed. Reg. 56,947. The comment period was scheduled to close on January 3, 2008, but, in response to several commenters, on November 19, 2007, FAA extended the comment period to March 3, 2008. 72 Fed. Reg. 64,966. FAA received approximately 190 comments on the proposed rule from commenters including air carriers, manufacturers, associations, government agencies, and individuals.

FAA also chartered an aviation rulemaking committee (ARC) on July 15, 2007, to provide a forum for the U.S. aviation community to make recommendations on presenting and structuring an ADS-B Out mandate. The ARC made recommendations to FAA, and FAA published a notice in the *Federal Register* on October 2, 2008, reopening the comment period for the proposed rule for an additional 30 days to receive public comments on the ARC recommendations. FAA received approximately 50 comments on the ARC's recommendations, from commenters including air carriers, manufacturers, associations, and individuals. FAA responded to comments in the final rule. 75 Fed. Reg. 30,160.

Paperwork Reduction Act, 44 U.S.C. §§ 3501-3520

The final rule contains information collection requirements under the Paperwork Reduction Act. FAA submitted a copy of the requirements to the Office of Management and Budget (OMB) for review, and OMB has assigned number 2120-0728 in advance of approval.

FAA estimates that the average number of aircraft that will be equipped annually for the first 3 years is 577 and that by 2035, 247,317 aircraft will be equipped with the ADS-B equipment. The ADS-B equipment will continuously transmit information in "real time" to FAA ground receivers electronically, without input by a human

operator. FAA estimates that the base-case start-up costs for an ADS-B Out-compliant transponder to be \$4,371.90 million (in 2009 dollars).

Statutory authorization for the rule

The final rule is authorized by 49 U.S.C. §§ 40103 and 44701.

Executive Order No. 12,866 (Regulatory Planning and Review)

The final rule was determined by FAA to be an economically significant regulatory action under Executive Order 12,866 and was reviewed by the Office of Management and Budget.

Executive Order No. 13,132 (Federalism)

FAA determined that the final rule does not have federalism implications, because it will not have a substantial direct effect on the states, on the relationship between the federal government and the states, or on the distribution of power and responsibilities among the various levels of government.