



[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 43

[Docket No. FAA-2011-0763; Amendment No. 43-45]

RIN 2120-AJ91

Pilot Loading of Aeronautical Database Updates

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Final rule.

SUMMARY: This action amends the maintenance regulations by removing from the preventive maintenance category the task of updating databases used in self-contained, front-panel or pedestal-mounted navigation equipment. Further, we are adding text to the maintenance regulations that describes which equipment and, under which conditions, may have aeronautical databases updated by pilots as a non-maintenance function.

Equipment which does not meet the criteria outlined in the new regulation will continue to be updated as a maintenance function. This revision will ensure that pilots using specified avionics equipment have the most current and accurate data and thereby increase aviation safety.

DATES: This rule becomes effective [INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

FOR FURTHER INFORMATION CONTACT: For technical questions about this

rulemaking action, contact Chris Parfitt, Flight Standards Service, Aircraft Maintenance Division–Avionics Maintenance Branch, AFS-360, Federal Aviation Administration, 950 L’Enfant Plaza SW., Washington, DC 20024; telephone (202) 385-6398; facsimile (202) 385-6474; e-mail chris.parfitt@faa.gov.

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SUPPLEMENTARY INFORMATION:

Authority for this Rulemaking

The FAA’s authority to issue rules on aviation safety is found in Title 49 of the United States Code. Subtitle I, Section 106 describes the authority of the FAA Administrator. Subtitle VII, Aviation Programs, describes in more detail the scope of the agency’s authority.

This rulemaking is promulgated under the authority described in Subtitle VII, Part A, Subpart III, section 44701(a)(1), section 44703(b)(1)(D), and section 44711(a)(2). In section 44701(a)(1), the FAA is charged with prescribing regulations and minimum standards in the interest of safety for the manner of servicing of aircraft appliances. In section 44703(b)(1)(D), the FAA is charged with specifying the capacity in which the holder of a certificate may serve as an airman with respect to an aircraft. Section

44711(a)(2) prohibits any person from serving in any capacity as an airman with respect to a civil aircraft or aircraft appliance used, or intended for use, in air commerce without an airman certificate authorizing the airman to serve in the capacity for which the certificate was issued. This regulation is within the scope of the cited authority.

I. Overview of the Final Rule

This final rule allows all pilots operating aircraft equipped with certificated avionics equipment as described herein to perform updates of aeronautical databases. In 1996, the FAA updated the regulations defining preventive maintenance to include updating the navigation database of self-contained, front-panel or pedestal-mounted navigation equipment. This allowed the holder of a pilot certificate issued under part 61 to perform the database upload on any aircraft owned or operated by that pilot not used under parts 121, 129, or 135 (hereafter referred to as “restricted operations”). The safety record established by pilots performing those database updates, the evolution of installed avionics equipment, and the expansion of database use in avionics equipment installed in all classes of certificated aircraft have prompted changes put into effect by this final rule.

In both the 1996 final rule and the NPRM issued for this final rule, the term “navigation database” was used. To create harmonization with existing guidance (i.e., Advisory Circular AC 20-153, Paragraph 7 – Definitions), the term “navigation database” is changed to “aeronautical database” in the discussion of this final rule.

This final rule recognizes the installed avionics equipment, the media upon which databases are stored, and the means by which databases are uploaded to the avionics

equipment have evolved, and they will continue to do so. Accordingly, language such as “...self-contained, front-panel or pedestal-mounted navigation equipment...” used in the 1996 final rule has been eliminated and replaced by conditions which will enable a pilot or operator to determine which equipment may have aeronautical databases updated by a pilot.

II. Background

The navigation equipment most prevalent in 1996 can, for the sake of discussion, be divided into two categories.

Large transport category aircraft were typically equipped with Flight Management Systems that were comprised of a Control Display Unit on the flight deck and a Flight Management Computer in the electronics bay. These systems were typically updated using a portable dataloader which was connected to the system via a remote connector. These systems required the trained skills and knowledge of authorized maintenance personnel to perform the update.

Some avionics manufacturers had also been manufacturing systems that performed similar functions as those installed on the large transport aircraft, but those systems were small, self-contained units typically installed on the front panel or pedestal in the flight deck of smaller transport category and general aviation aircraft. These systems stored their database on removable media, such as a Secure Digital (SD) card, rather than in resident memory. The database update was accomplished by removing the SD card with the old database and replacing it with the SD card containing the new

database.

On May 1, 1996, the FAA issued regulations (61 FR 19498) categorizing pilot-performed updates of navigation databases as preventive maintenance. Pilots operating aircraft under parts 121, 129, and 135 by regulation are not permitted to perform preventive maintenance, and therefore, those pilots could not update navigation databases. The FAA determined at that time that navigation database updates presented some risk when performed by a pilot on a part 121, 129, or 135 aircraft because they were typically equipped with more sophisticated equipment that required special tools (a portable dataloader) and skills to update. However, as a result of pilot-performed updates, pilots of aircraft used in non-restricted operations received the benefit of having the most current aeronautical data available at all times. Much like this final rule, the 1996 final rule was the FAA's first step toward bringing the regulations up to date with technology.

Since implementation of the 1996 final rule, the FAA regularly receives petitions for exemption from parts 121, 129, and 135 operators requesting relief from the requirement for authorized personnel to perform database updates. The FAA has considered the history of successful and easily-performed, incident-free pilot updates of databases established on aircraft used in non-restricted operations. As a result, the FAA has determined that safety-based reasons no longer exist to justify the requirements for authorized maintenance personnel to perform database updates on aircraft based upon a regulatory operating part rather than by the design of the installed avionics equipment.

A. Statement of the Problem

Since implementation of the 1996 final rule, installed avionics equipment has continued to evolve. Manufacturers developed systems for large transport category aircraft that make use of a permanently-installed dataloader as part of the certificated system. These systems eliminate the need for use of special tools (portable data loaders) to initiate a database update.

Similar systems, and the self-contained systems discussed above, have come into prevalent use on smaller aircraft, from general aviation aircraft to business jets. Under current regulations, a pilot operating such an aircraft under part 91 may update databases, while a pilot of the same type of aircraft with the same installed avionics equipment operated under parts 121, 129, or 135 cannot update databases.

At this time, newly-manufactured aircraft—such as the Boeing 787, Airbus A380, and others—are equipped with technology such as the Gatelink system which enables wireless updating of systems and databases. The current regulation does not accommodate such advances in technology; this final rule does. While the FAA recognizes the need to allow for future technologies, the FAA also recognizes its inability at this time to predict what those technologies may be. As such, certification of future systems must include evaluation of the methods, means, and materials required for performing aeronautical database updates. Such equipment must be designed and certified in a manner that allows clear determination by a pilot or operator of whether or not the system can be updated by a pilot under this final rule, or must be updated by

authorized maintenance personnel.

The current requirement for authorized personnel to perform updates, as it applies to avionics equipment described in this final rule, can no longer be justified based on safety concerns. It imposes unnecessary operating costs and operational inefficiencies on certificate holders conducting operations under parts 121, 129, and 135. To comply with operating regulations, such as those under part 91.503, these operators must ensure the required database is current. Updates are performed within a prescribed cycle to ensure currency, which is not always possible if the database expires when the aircraft is away from the home base or at a station where authorized maintenance personnel are not available. Operational costs are increased for the certificate holder whenever an aeronautical database expires while the aircraft is en route. If the aircraft is en route and located where authorized personnel are not available to perform the update, the operator has three options: (1) operate the aircraft with an expired database, (2) reroute the aircraft to an authorized repair station, or (3) transport an authorized mechanic to the aircraft's location. Each of these options imposes additional operational costs in terms of operational restrictions, manpower and fuel consumption.

If the aircraft is operated with an expired database, the pilot must adhere to operational restrictions, which automatically prohibits the use of certain routes within the National Airspace System, resulting in the use of a less direct route to the destination. If the aircraft is rerouted to a repair station, or authorized personnel are transported to the aircraft's location, the operator must absorb the costs of additional fuel consumption, and

valuable time can be lost locating mechanics and transporting them to the aircraft. This is particularly true for operations conducted in remote areas where traveling greater distances to repair stations would be required. Exercising any one of the above-noted options increases the pilot's workload by requiring the selection of alternate routes appropriate for an expired database. Air traffic controller workloads are also increased when the aircraft is re-routed because certain routes are only available to aircraft using the current database for any given period. At a minimum, the operator must facilitate the transport of authorized personnel to the location of the aircraft. Eliminating the requirement for approved personnel will increase operational efficiency for certificate holders and contribute to reduced air traffic control and pilot workloads.

The stated problem is that the regulations have fallen behind technology and fail to address the pervasive use of installed avionics dependent upon aeronautical databases. This final rule acknowledges the evolution of technology by removing the task of pilot-performed updates of databases in certain installed avionics from the preventive maintenance regulations and by allowing pilot-performed updates of databases in accordance with new regulatory requirements. Differences between this final rule and its NPRM are the result of the recommendations made by commenters in response to the NPRM, which are discussed in greater detail below.

A benefit from the final rule will be a reduction in the FAA's issuance of grants of exemption to parts 121, 129, and 135 certificate holders seeking relief from the requirement for authorized maintenance personnel to perform the updating task. The

FAA's workload has been impacted by the regular receipt of petitions for exemption requesting that pilots be allowed to perform updates. The increased workload has impacted the FAA's ability to more efficiently process petitions for exemption. Delaying the issuance of a justified exemption, where safety is not compromised, forces eligible certificate holders to continue paying for unnecessary services by authorized personnel and bear the resulting operational inefficiencies and increased costs. This final rule resolves these issues by eliminating the requirement for parts 121, 129, and 135 operators to use authorized personnel to update databases in the avionics equipment described herein.

B. Summary of the NPRM

The FAA proposed to amend the part 43 maintenance regulations in the NPRM (76 FR 64859, October 19, 2011), by removing the task of updating databases used in self-contained, front-panel or pedestal-mounted navigational equipment from the preventive maintenance category. The primary intended effect of the proposal was to enable regular use of the most current and accurate navigational data by allowing pilots using navigation units to perform database updates as they became due. Specific regulatory text was included to restrict the type of equipment eligible for pilot-performed updates, including requirements for the pilot to receive appropriate training and to verify the upload status to determine if minimum equipment list (MEL) restrictions need to be followed.

C. Differences between NPRM and Final Rule

The final rule represents a departure from the NPRM in terms of the description of the equipment eligible for pilot-performed updates. In addition, the regulatory text has been modified from the originally-proposed text to permit pilot-performed updates on all certificated aircraft upon compliance with the certificate holder's procedures or the manufacturer's instructions. The changes from those proposed in the NPRM arose directly from suggestions made by commenters in response to the NPRM.

D. Overview of Comments Received

The comment period for the NPRM closed on December 19, 2011. We received comments from 52 commenters raising a total of seven substantive issues. Commenters to the NPRM represented aviation associations, manufacturers of avionics equipment, aircraft operators, owners, and other individuals. The commenters, in general, expressed support for the proposed rule change. Some commenters supplied alternative recommendations, as discussed more fully in the "Discussion of the Final Rule" below.

The FAA received comments regarding the following proposals:

- Relocation of the requirement from 14 CFR part 43 to other CFR parts (since performing the updates would no longer be preventive maintenance);
- Recordkeeping requirements;
- Training for pilots;

- Technological advancements in data-transfer mechanisms and methods;
- Limitation on types of media that could be used for storing data;
- Inconsistent references to terrain databases; and
- Possible labor-management issues.

III. Discussion of the Final Rule

The final rule is consistent with the NPRM to the extent that they both authorize pilot-performed updates on all certificated aircraft operating under parts 121, 129, and 135.

Performing database updates on avionics systems that require tools or special equipment to accomplish the data transfer continues to be maintenance and requires that approved personnel perform the update.

Upon issuance of this rule, all pilots operating appropriately-equipped aircraft will be permitted to perform database updates in accordance with the certificate holder's or manufacturer's instructions. To comply with the requirements of 14 CFR §§ 43.3 (k)(iv) and (v), the certificate holder will be required to revise the existing procedures for updating the database in its manual. This information will replace or augment the operator's existing database updating procedures. Pilot-owners of general aviation aircraft will be required to include the manufacturer's instructions in their pilot's handbook or flight manual.

Requirements and procedures for performing database updates are established by the aircraft or avionics manufacturer in coordination with the FAA at the time of

certification for its use on the aircraft. If a manufacturer designs a system that an aircraft owner or operator would determine meets the criteria for pilot-performed updates of databases under the conditions of the rule but, due to system criticality or other factors, that system should only be updated by authorized maintenance personnel, the manufacturer must specify that requirement in its instructions for continued airworthiness (ICA). The ICAs that include these procedures will be accepted by the FAA.

Under the final rule, if performing an update would require special access to installed equipment, or use of tools or special equipment, then the task must still be performed by authorized personnel under the provisions of part 43 as maintenance, and all pertinent maintenance regulations would apply. Operators may continue to use authorized maintenance personnel or facilities to perform the database updates even if the avionics meet the criteria of this rule.

Commenters, including Garmin International (“Garmin”) and the Aircraft Electronics Association (AEA), stated that the proposal to remove database updates from the preventive maintenance category, without placing them in another category, would have resulted in database updates becoming maintenance tasks. The commenters asserted that doing so would place more burdens on operators.

We considered the commenters’ concerns and determined that the problem they identify can be resolved by drafting § 43.3(k) differently. We have removed paragraph (c)(32) of Appendix A to part 43, which pertains to updating navigation databases of certain equipment installed on aircraft operated under non-restricted operating

regulations. Updating aeronautical databases will not be regulated as maintenance on specified equipment in accordance with the requirements set forth under the new paragraph (k) in § 43.3. Updating databases of other installed avionics has been, and will continue to be, conducted as maintenance under part 43.

An anonymous commenter recommended that regulations relating to updating databases should be placed under the applicable operating parts (i.e., parts 121, 129, and 135) as preflight duties and should also require pilot training. In general, we rejected these recommendations because specified avionics systems are approved for use on all certificated aircraft regardless of the regulations under which the aircraft is operated. The intended effect of this rule change is to regulate pilot-performed database updates by installed avionics equipment type, rather than by the operating regulations under which flights are conducted.

Several commenters, including Garmin, the Aircraft Electronics Association (AEA), NetJets, and the Aircraft Owners and Pilots Association (AOPA), stated that a definition for databases approved for pilot-performed updates would, in effect, create a barrier to the use of newer technology and would restrict the selection of databases approved for use during pilot-performed updates to those approved under the 1996 final rule, namely navigation and communication. AOPA suggested that the FAA should write the rule to accommodate later developments in database capabilities. These commenters recommended we adopt the definition of “aeronautical database” contained in AC 20-153A. Along the same lines, one commenter recommended that the FAA should define

“[air traffic control] ATC navigational software data” because today many databases include active terrain and obstacle information.

We agree. To address this concern, aeronautical information service databases will be authorized for use at the time of certification in accordance with guidance provided in AC 20-153A. The rule will not limit database use based on subject-matter descriptions, unlike the 1996 final rule, which specifically addressed ATC navigational software, thereby limiting database use to that single subject matter.

Universal Avionics, Honeywell International, Inc. (“Honeywell”), and Garmin stated that the description used in the NPRM for approved nav-systems would exclude the use of newer systems and data-transfer mechanisms such as those employing wireless technology. In the NPRM, we used the term “nav-systems” to describe aeronautical information avionics devices that are self-contained, front instrument panel-mounted ATC navigational software database systems.

The FAA agrees with these commenters. It is our intention for this rule to be equipment based and allow accommodation of emerging technology. Therefore, we have changed the description of the avionics devices that will be eligible for pilot-performed updates. The NPRM used the same description provided in the 1996 final rule, basically, “self-contained, front instrument panel-mounted and pedestal-mounted ATC navigational system databases—excluding those of automatic flight control systems, transponders, and microwave frequency distance measuring equipment (DME), and any updates that affect system operating software—that require no disassembly.” In this final rule, we are

approving pilot-performed updates of installed avionics if the equipment is approved by the Administrator and does not require the use of tools or special equipment. Data-transfer mechanisms, database storage media, and usable subject databases will be determined by the FAA and manufacturer at the time the device is certificated for use on the aircraft.

These same commenters and some other commenters, expressed concern about system integrity in terms of how data would be protected with the newer avionics. This rule does not address the manufacture of avionics equipment or the development of usable databases, and, as such, protection of data integrity goes beyond the scope of this rule. Nonetheless, we note that new technologies approved for use on aircraft will be developed with attention to data integrity. Current technology uses databases which are developed in accordance with standards developed by Aeronautical Radio, Inc. (ARINC), which has been the world standard since 1975. These standards have proven effective in preserving data integrity. Moreover, protection for the integrity of the system and data will continue to be addressed under existing regulations by applicable design, production, installation, and certification approvals. In all cases, the FAA will work with the manufacturer to ensure the highest level of integrity for aeronautical data and data-transfer mechanisms.

Another individual commenter stated that the phrase used in the NPRM “files that are ‘non-corruptible’ upon loading,” is very confusing. We agree, the phrase “files that are non-corruptible, upon loading” is confusing and we have omitted this language from

the final rule. To address the same issue with greater clarity, the final rule requires that to be eligible for pilot-performed updating, written procedures must be provided to the pilot performing the updates. Those procedures will identify the status verification function as defined by the system manufacturer.

One individual commenter asked when updates can be installed and/or used. The commenter stated that whether disks are mailed to the user or downloaded, they are available about 10 days before the due dates. In this matter, the pilot-operator performs the update in accordance with the manufacturer's instructions, which should address any limitations, or contact the manufacturer if the instructions do not address the point to inquire whether loading the updated database prior to the effective date would negatively impact system performance.

Several commenters, including AOPA and NetJets, were concerned about the requirement for the pilot to record each update in a maintenance logbook. AOPA expressed concern that the NPRM proposed a requirement that would create a second recordkeeping requirement and that the return to service maintenance entry required by § 43.7 would need to be completed by "qualified personnel." NetJets recommended that the FAA specifically state in the final rule preamble that no aircraft maintenance entries or signatures are required when pilots perform aeronautical database updates. We have considered the comments and agree that it is unnecessary for the pilot to make a record of the update. Recordkeeping requirements for the pilot have been eliminated. The current

regulations do not require pilot-owners to record each update in a maintenance logbook, and the absence of such a requirement has not been problematic.

Honeywell and NetJets suggested that the FAA focus on the device used to provide aeronautical information services instead of how the device is installed (i.e., “self-contained, front-instrument panel-mounted and pedestal-mounted”). The commenters were not as concerned with how the device was installed as with how the device received data uploads. This point was captured by one commenter who stated, “[A]lthough most of the systems have cards that are accessible from the ‘front’ of the unit, they [can] also have [a] system that updates by accessing data stored on a ‘medium’ read by a Data Transfer Unit (DTU), and DTUs can be installed almost anywhere in the aircraft [sic].”

We agree. Data-transfer mechanism designs are constantly evolving. In 1996, floppy disks inserted in portable dataloaders externally connected to the processor were commonly used to update databases. Today, floppy disks are still used in those installed systems that have not been replaced, but floppy disks are not used by currently-produced systems. Instead, we see the pervasive use of permanently installed data-transfer mechanisms. These mechanisms can include a slot for an SD card, an installed dataloader, or even wireless technology. Pilots will not be permitted to update databases of installed avionics that use portable dataloaders such as those used with the older navigational systems installed on large transport category aircraft.

We have extended the rule to allow all certificated data-transfer mechanisms, but we specifically exclude means of data transfer that require physical connection to installed equipment such as portable dataloaders and laptops.

The National Air Transportation Association (NATA) stated, “When the FAA proposes new regulations affecting air carrier aircraft that require actions by authorized maintenance personnel, the agency does not consider as a benefit the fact that certificated mechanics and repair stations will get more work. Therefore doing the opposite, considering, as a cost, the loss of business when the FAA deems a requirement is no longer applicable or necessary, should not occur either.”

The FAA concurs. The FAA merely noted that the rule could affect certain parties. The FAA did not state that such effects are a cost of the rule and did not ascribe any such cost to the final rule. It bears noting that this rule is permissive; thus, certificate holders are not required to approve pilot-performed updates on their operations.

The Air Line Pilots Association (ALPA) submitted the only direct objection to this rulemaking for labor-management reasons. The objections are set forth below followed by our response.

ALPA stated that because of the high level of safety achieved by commercial aviation, airline travel in the U.S. and Canada has been accomplished by the use of highly trained professionals and technical specialists performing their respective tasks in a coordinated and disciplined fashion. ALPA contends that the proposal would make airline pilots responsible for certain additional aircraft maintenance and maintenance

recordation functions that should continue to be properly performed by maintenance and ground support personnel.

We agree that this final rule will give operators the option to impose the additional responsibility to perform the update on pilots. However, the pilot-performed updates are allowed only on avionics equipment where the process of updating is simplified to a point where it can be performed quickly and easily. Significantly, database uploads that require the special skills or training or the use of tools or special equipment will continue to be a maintenance task that authorized personnel must perform.

In addition, as discussed below, we have removed all recordkeeping requirements for pilots who perform these updates. We do not agree with implicit concern that allowing pilot-performed updates in any way diminishes safety. As we discussed earlier, at the certification level continuing measures will be taken to ensure that safety will not be compromised. Also, as stated earlier, the FAA has not received any incident reports stating that a pilot's failure to make a maintenance logbook entry for performing the database update has had any impact on aviation safety.

ALPA also contends that the philosophical shift in airline operational tasks and definitions of employee roles, which this rulemaking represents, would give rise to a number of issues that would negatively impact airline pilots and justify rejection. ALPA stated airline operations depend on quick turn-arounds for on-time departures. Giving pilots an additional task in the form of updating navigational systems while they

endeavor to achieve an on-time departure would create additional time pressure and could result in greater risks of errors in all cockpit duties.

We note the final rule is permissive in nature. Operators have the option to require that maintenance personnel perform the database updates. However, we again emphasize that pilot-performed updates on applicable avionics equipment is a very simple task that will take only a couple minutes to perform, as the system is largely automated.

ALPA also states that pilots would assume a new and additional responsibility for which no training is approved, including: (1) obtaining the storage media from someone within the company in a timely fashion, (2) safeguarding the media while in their possession so that it is not lost, stolen, or damaged, (3) properly loading the updates into the nav-system, (4) recording the updates in maintenance logs and/or other documents, and (5) returning the storage media to the appropriate individual within the company when the update is completed, as required.

Whether training is required will be a determination made by the FAA, the operator, and the manufacturer. In any case, minimal training will be necessary because of the nature of the equipment, and the pilot's current familiarity with the system. Media-storage issues have not changed and will continue to be the certificate holder's responsibility as the subscriber to the database service, and thus, the operator would be responsible for providing the updates to the pilot. Protection of the data would not require special skills or action because data is stored on media similar to an SD card or

flash drive. Further, post-update security is not an issue because the data on the storage media would have no useable value. Finally, we have eliminated the proposal to have recordkeeping requirements. We therefore believe the concerns raised by ALPA have all been addressed.

ALPA states that provisions in current collective-bargaining agreements could make the assumption of the responsibility for updating aeronautical data impossible for pilots at a particular carrier, as updating may not be included within the scope of pilots' responsibilities. At a minimum, this proposal could result in labor-management contention.

We do not believe the FAA's role is to intervene between management, labor, and collective-bargaining units on issues arising from a permissive rulemaking. Should issues arise related to compliance or concerning FAA expectations with this final rule, we would provide guidance or legal interpretation upon request.

IV. Regulatory Notices and Analyses

A. Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Orders 12866 and 13563 direct that each Federal agency shall propose or adopt a regulation only upon a reasoned determination that the benefits of the intended regulation justify its costs. Second, the Regulatory Flexibility Act of 1980 (Public Law 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Public Law 96-39) prohibits agencies from

setting standards that create unnecessary obstacles to the foreign commerce of the United States. In developing U.S. standards, this Trade Act requires agencies to consider international standards and, where appropriate, that they be the basis of U.S. standards. Fourth, the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that include a federal mandate likely to result in the expenditure by state, local, or tribal governments, in the aggregate, or by the private sector, of \$100 million or more annually (adjusted for inflation with base year of 1995). This portion of the preamble summarizes the FAA's analysis of the economic impacts of this rule.

In conducting these analyses, the FAA determined that this rule: (1) has benefits that justify its costs, (2) is not an economically "significant regulatory action" as defined in section 3(f) of Executive Order 12866, (3) is not "significant" as defined in DOT's Regulatory Policies and Procedures, (4) will not have a significant economic impact on a substantial number of small entities, (5) will not create unnecessary obstacles to the foreign commerce of the United States, and (6) will not impose an unfunded mandate on state, local, or tribal governments, or on the private sector by exceeding the threshold identified above.

Department of Transportation Order DOT 2100.5 prescribes policies and procedures for simplification, analysis, and review of regulations. If the expected cost impact is so minimal that a proposed or final rule does not warrant a full evaluation, this order allows that a statement to that effect and the basis for it to be included in the

preamble if a full regulatory evaluation of the cost and benefits is not prepared. Such a determination has been made on this rule for the following reasons:

The rule is permissive in nature and will provide relief to all operators of certificated aircraft who elect to allow pilot-performed updates, rather than to pay for services of an authorized repair station or mechanic. The rule eliminates the requirement that only repair stations and authorized mechanics can perform database updates and allows pilots to perform the update on avionics equipment approved by the Administrator and described herein. Allowing pilots to perform the updates will save the operator the expense of either making a positioning flight to a repair station or transporting an authorized mechanic to the aircraft to perform the update. Public comments on the proposed rule supported this change and there were no contrary comments to the economic analysis in the Regulatory Evaluation.

Using the cost information supplied by commenters, who provided the only available data for assessing the impact of this rule, the FAA has determined that this rule is not a “significant regulatory action” as defined in section 3(f) of Executive Order 12866, and this rule is not “significant” as defined in DOT’s Regulatory Policies and Procedures.

B. Total Estimated Benefits and Costs of This Final Rule

The two benefits from this rule will arise from increased safety and reduced operational costs. The primary safety benefit is that affected aircraft operators will no longer be forced to occasionally operate aircraft without the most current aeronautical

database when the database expires and authorized personnel are not available to perform the update. A corollary safety benefit is a reduction in workloads for pilots and air traffic controllers, which accrues a benefit to the aircraft operator and to air traffic control. As previously discussed, the use of avionics systems contributes to increased safety in four respects: (1) by providing the pilot with accurate aeronautical information; (2) by increasing access to airports under less than optimal flight conditions; (3) by increasing workforce efficiency for both the aircraft pilot and air traffic control; and (4) by generating more efficient use of the airspace system.

Avionics systems databases are generally updated every 28 days, although some are updated as often as every 14 days. The current regulations allow only pilots of aircraft operated under non-restricted operating regulations to perform the database update; all other operators (i.e. those operating under parts 121, 129 and 135) must have an authorized repair station or mechanic perform the update. This requirement creates a problem for operations conducted under part 121, 129, 135 and other restricted operators if the database expires when the aircraft is en route or at a remote location and authorized personnel are not available to perform the update. If the database expires, the aircraft operator/pilot has one of three choices: (1) fly the aircraft to a location where authorized personnel are available; (2) fly authorized personnel to the aircraft; or (3) operate the aircraft under MEL restrictions, which limits the pilot's options in terms of routes flown and airport accessibility. Each of the three options results in added operational costs in terms of man-hours and additional and increased fuel costs. Reducing the number of

unnecessary aircraft operations conducted due to an expired database eliminates increased pilot and ATC workloads associated with re-vectoring flights or transporting authorized personnel to perform updates.

One commenter reported that its airplanes averaged 1.25 operations a year per aircraft under MEL because the aeronautical database upload had to be deferred until the aircraft could reach a repair station. Another commenter reported that its fleet of 12 aircraft had to operate between 10 and 15 times a year flying under MEL because certificated maintenance personnel were unavailable at the remote location where the aircraft was when the aeronautical database needed to be updated.

Pilots of non-restricted operations have been performing database updates on these types of avionics systems since 1996 and the FAA knows of no accidents or incidents attributable to errors by these pilots from performing these updates. Today, aircraft operated under all parts of the regulations are regularly equipped with avionics systems whose database update procedures are similar to those used by pilots who perform database updates on aircraft in non-restricted operations. The ease of pilot-performed updates combined with the absence of any accidents or incidents provides ample evidence that all pilots flying aircraft equipped with appropriate avionics devices should be permitted to perform updates. Consequently, allowing pilots of restricted operations to perform updates will reduce the numbers of route-restricted flights required by reason of an expired database.

The second benefit will be cost savings to the operators. Allowing their pilots to update aeronautical databases eliminates the costs associated with paying authorized personnel to perform the task and the costs of a positioning flight to a repair station, or transporting a certificated mechanic to the aircraft to install the update. In practice, the costs of having authorized personnel perform database updates are minimal because the task would be performed concurrent with a number of other tasks as part of a maintenance service. Even when done specifically to update the database, the cost is relatively small. This conclusion is supported by reports received from commenters stating that the rule would generate such cost savings. However, only one commenter provided an estimate of the cost of a positioning flight, which was an average of \$7,700 from the components of crew costs, fuel costs, and lost revenue. In a clarifying comment to the FAA, that commenter reported that during 2011 its airplanes incurred \$514,333 in direct crew costs and fuel costs for positioning flights solely to update aeronautical databases. This commenter also reported that its 600 aircraft made 218 of these positioning flights, which is an average of about 0.36 positioning flights per year per aircraft. Thus, its reported average cost per positioning flight was about \$2,360.

In the Initial Regulatory Evaluation for the proposed rule, the FAA estimated that the cost of a single positioning flight ranges between \$1,000 and \$2,500 and that the cost to transport a certified mechanic to an aircraft is similar. The FAA has determined that its initial estimate was reasonable. However, the FAA cannot use one commenter's statement to quantify a total societal cost-savings from this rule for two reasons. The first

reason is that this operator's experiences may not be typical of all the operators that will be affected by the rule. The second reason is that the FAA does not know the number of existing aircraft or the numbers of future aircraft that will have aeronautical database systems that will be affected by the rule. Nevertheless, given the number of commenters who did state that they would receive cost savings from the rule, the FAA concludes that the rule will result in reduced man-hours and fuel costs by reducing the numbers of positioning flights required solely to update the databases.

A third benefit is that the final rule, which will allow all pilots operating appropriately equipped aircraft to perform database updates, which will also pave the way for future technologies. Certification regulations make approval of new devices contingent upon conforming to established criteria for approved equipment, which imparts flexibility allowing the use of newer devices.

In the Initial Regulatory Evaluation, the FAA determined that the proposed rule would impose minimal costs because it would allow a pilot to upload the current database; a task that currently imposes an additional cost on the operator who must have the update performed by a certificated mechanic or in a repair station. The comments received in response to this issue support the FAA's determination.

C. Who Is Affected by This Rule?

This rule affects all operators of certificated aircraft equipped with installed avionics that: (1) have a pilot accessible data transfer mechanism permanently installed on the flight deck; (2) can be updated without the use of tools, and (3) is programmed to

provide a data load status. This rule will also affect maintenance personnel and repair stations that parts 121, 129, and 135 operators were previously required to pay for updating databases.

D. Sources of Information

The primary sources of information were the commenters, which included part 135 operators, part 121 operators, aircraft electronics manufacturers, an aircraft electronics association representative, a pilot union, and several individuals.

E. Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (Public Law 96-354) (RFA) establishes “as a principle of regulatory issuance that agencies shall endeavor, consistent with the objectives of the rule and of applicable statutes, to fit regulatory and informational requirements to the scale of the businesses, organizations, and governmental jurisdictions subject to regulation. To achieve this principle, agencies are required to solicit and consider flexible regulatory proposals and to explain the rationale for their actions to assure that such proposals are given serious consideration.” The RFA covers a wide range of small entities, including small businesses, not-for-profit organizations, and small governmental jurisdictions.

Agencies must perform a review to determine whether a final rule will have a significant economic impact on a substantial number of small entities. If the agency determines that it will, the agency must prepare an initial regulatory flexibility analysis as described in the RFA. However, if an agency determines that a final rule will not have a

significant economic impact on a substantial number of small entities, section 605(b) of the RFA provides that the head of the agency may so certify and a regulatory flexibility analysis is not required. The certification must include a statement providing the factual basis for this determination, and the reasoning should be clear.

The net economic impact of this rule will provide regulatory cost relief. As this rule will reduce costs for some small entities, the acting FAA Administrator certifies that this rule will not have a significant economic impact on a substantial number of small entities.

F. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Public Law 96-39), as amended by the Uruguay Round Agreements Act (Public Law 103-465), prohibits Federal agencies from establishing standards or engaging in related activities that create unnecessary obstacles to the foreign commerce of the United States. Pursuant to these Acts, the establishment of standards is not considered an unnecessary obstacle to the foreign commerce of the United States, so long as the standard has a legitimate domestic objective, such as protection of safety, and does not operate in a manner that excludes imports that meet this objective. The statute also requires consideration of international standards and, where appropriate, that they be the basis for U.S. standards. We assessed the potential effect of this rule and determined that it will not constitute an obstacle to the foreign commerce of the United States, and, thus, is consistent with the Trade Assessments Act.

G. Unfunded Mandates Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (Public Law 104-4) requires each Federal agency to prepare a written statement assessing the effects of any Federal mandate in a proposed or final agency rule that may result in an expenditure of \$100 million or more (adjusted annually for inflation with the base year 1995) in any one year by state, local, and tribal governments, in the aggregate, or by the private sector; such a mandate is deemed to be a “significant regulatory action.” The FAA currently uses an inflation-adjusted value of \$143.1 million in lieu of \$100 million. This rule does not contain such a mandate; therefore, the requirements of Title II do not apply.

H. Paperwork Reduction Act

The Paperwork Reduction Act (PRA) of 1995 (44 U.S.C. 3507(d)) requires that the FAA consider the impact of paperwork and other information collection burdens imposed on the public. We have determined that there is no information collection burden associated with this final rule.

I. International Compatibility and Cooperation

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with International Civil Aviation Organization (ICAO) Standards and Recommended Practices to the maximum extent practicable. The FAA has reviewed the corresponding ICAO Standards and Recommended Practices and has identified no differences with these regulations.

Executive Order 13609, Promoting International Regulatory Cooperation, promotes international regulatory cooperation to meet shared challenges involving health, safety, labor, security, environmental, and other issues and to reduce, eliminate, or prevent unnecessary differences in regulatory requirements. The FAA has analyzed this action under the policies and agency responsibilities of Executive Order 13609, and has determined that this action would have no effect on international regulatory cooperation.

J. Environmental Analysis

FAA Order 1050.1E identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act in the absence of extraordinary circumstances. The FAA has determined this final rulemaking action qualifies for the categorical exclusion identified in paragraph 312(f) of the Order and involves no extraordinary circumstances.

K. Regulations Affecting Intrastate Aviation in Alaska

Section 1205 of the FAA Reauthorization Act of 1996 (110 Stat. 3213) requires the Administrator, when modifying regulations in 14 CFR in a manner affecting intrastate aviation in Alaska, to consider the extent to which Alaska is not served by transportation modes other than aviation, and to establish appropriate regulatory distinctions.

The final rule would also provide an incremental benefit to aircraft providing air transportation to remote parts of Alaska by relieving pilots from having to fly with operational restrictions when the database expires.

V. Executive Order Determinations

A. Executive Order 12866

See the “Regulatory Evaluation” discussion in the “Regulatory Notices and Analyses” section elsewhere in this preamble.

B. Executive Order 13132, Federalism

The FAA analyzed this final rule under the principles and criteria of Executive Order 13132, Federalism. We determined that this action will not have a substantial direct effect on the States, or the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government and, therefore, will not have federalism implications.

C. Executive Order 13211, Regulations that Significantly Affect Energy Supply, Distribution, or Use

The FAA has analyzed this final rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use (May 18, 2001). We have determined that it is not a “significant regulatory action” under the executive order because it is not a “significant regulatory action” under Executive Order 12866, and it is not likely to have a significant adverse effect on the supply, distribution, or use of energy.

VI. How to Obtain Additional Information

A. Rulemaking Documents

An electronic copy of a rulemaking document may be obtained by using the

Internet—

1. Search the Federal eRulemaking Portal (<http://www.regulations.gov>);
2. Visit the FAA’s Regulations and Policies Web page at http://www.faa.gov/regulations_policies/ or
3. Access the Government Printing Office’s Web page at <http://www.gpoaccess.gov/fr/index.html>.

Copies may also be obtained by sending a request (identified by notice, amendment, or docket number of this rulemaking) to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267-9680.

B. Comments Submitted to the Docket

Comments received may be viewed by going to <http://www.regulations.gov> and following the online instructions to search the docket number for this action. Anyone is able to search the electronic form of all comments received into any of the FAA’s dockets by the name of the individual submitting the comment (or signing the comment, if submitted on behalf of an association, business, labor union, etc.).

C. Small Business Regulatory Enforcement Fairness Act

The Small Business Regulatory Enforcement Fairness Act (SBREFA) of 1996 requires FAA to comply with small entity requests for information or advice about compliance with statutes and regulations within its jurisdiction. A small entity with questions regarding this document, may contact its local FAA official, or the person

listed under the FOR FURTHER INFORMATION CONTACT heading at the beginning of the preamble. To find out more about SBREFA on the Internet, visit

http://www.faa.gov/regulations_policies/rulemaking/sbre_act/.

List of Subjects in 14 CFR Part 43

Aircraft, Aviation Safety, Reporting and Recordkeeping requirements.

The Amendments

In consideration of the foregoing, the Federal Aviation Administration amends chapter 1 of Title 14, Code of Federal Regulations, as follows:

PART 43—MAINTENANCE, PREVENTIVE MAINTENANCE, REBUILDING, AND ALTERATION

1. The authority citation for part 43 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701, 44703, 44705, 44707, 44711, 44713, 44717, 44725.

2. Amend § 43.3 by adding new paragraph (k) to read as follows:

§ 43.3 Persons authorized to perform maintenance, preventive maintenance, rebuilding, and alterations.

* * * * *

(k) Updates of databases in installed avionics meeting the conditions of this paragraph are not considered maintenance and may be performed by pilots provided:

(1) The database upload is:

- (i) Initiated from the flight deck;
 - (ii) Performed without disassembling the avionics unit; and
 - (iii) Performed without the use of tools and/or special equipment.
- (2) The pilot must comply with the certificate holder's procedures or the manufacturer's instructions.
- (3) The holder of operating certificates must make available written procedures consistent with manufacturer's instructions to the pilot that describe how to:
- (i) Perform the database update; and
 - (ii) Determine the status of the data upload.
3. Amend Appendix A to part 43 by removing paragraph (c)(32).

Issued in Washington, DC on October 12, 2012.

Michael P. Huerta
Acting Administrator

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