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DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Parts 61 and 141

[Docket No.: FAA-2015-1846; Notice No. 15-03]

RIN 2120-AK71

Aviation Training Device Credit for Pilot Certification

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Notice of proposed rulemaking.

SUMMARY: This rulemaking proposes to relieve burdens on pilots seeking to obtain aeronautical experience, training, and certification by increasing the allowed use of aviation training devices. These actions are necessary to bring the regulations in line with current needs and activities of the general aviation training community and pilots.

DATES: Send comments on or before [INSERT DATE 30 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: Send comments identified by docket number FAA-2015-1846 using any of the following methods:

- Federal eRulemaking Portal: Go to http://www.regulations.gov and follow the online instructions for sending your comments electronically.

- Mail: Send comments to Docket Operations, M-30; U.S. Department of Transportation (DOT), 1200 New Jersey Avenue, SE., Room W12-140, West Building Ground Floor, Washington, DC 20590-0001.
- Hand Delivery or Courier: Take comments to Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: Fax comments to Docket Operations at 202-493-2251.

Privacy: In accordance with 5 U.S.C. 553(c), DOT solicits comments from the public to better inform its rulemaking process. DOT posts these comments, without edit, including any personal information the commenter provides, to http://www.regulations.gov, as described in the system of records notice (DOT/ALL-14 FDMS), which can be reviewed at http://www.dot.gov/privacy.

Docket: Background documents or comments received may be read at http://www.regulations.gov at any time. Follow the online instructions for accessing the docket or go to the Docket Operations in Room W12-140 of the West Building Ground Floor at 1200 New Jersey Avenue, SE., Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

FOR FURTHER INFORMATION CONTACT: For technical questions concerning this action, contact Marcel Bernard, Airmen Certification and Training Branch, Flight Standards Service, AFS-810, Federal Aviation Administration, 898 Airport Park Road, Suite 204, Glen Burnie, MD 21061; telephone: (410) 590-5364 x235 email marcel.bernard@faa.gov.

For legal questions concerning this action, contact Anne Moore, Regulations Division, Office of the Chief Counsel, AGC-200, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591; telephone (202) 267-3073; email anne.moore@faa.gov.

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 (49 U.S.C.). 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 49 U.S.C. 106(f), which establishes the authority of the Administrator to promulgate regulations and rules; 49 U.S.C. 44701(a)(5), which requires the Administrator to promote safe flight of civil aircraft in air commerce by prescribing regulations and setting minimum standards for other practices, methods, and procedures necessary for safety in air commerce and national security; and 49 U.S.C. 44703(a), which requires the Administrator to prescribe regulations for the issuance of airman certificates when the Administrator finds, after investigation, that an individual is qualified for, and physically able to perform the duties related to, the position authorized by the certificate.

I. Background

Since the 1970s, the FAA has gradually expanded the permitted use of flight simulation for training – first permitting simulation to be used in air carrier training programs and eventually permitting pilots to credit time in devices toward the aeronautical experience requirements for airman certification and recency. Currently, Title 14 of the Code of Federal Regulations (14 CFR) part 60 governs the qualification of flight simulation training devices

(FSTDs), which include full flight simulators (FFSs) level A through D and flight training devices (FTDs) levels 4 through 7. The FAA has, however, approved other devices, including aviation training devices (ATDs), for use in pilot certification training, under the authority provided in 14 CFR 61.4(c).[1]

For over 30 years, the FAA has issued letters of authorization (LOAs) to manufacturers of ground trainers, personal computer-based aviation training devices (PCATD), FTDs (levels 1 through 3), basic aviation training devices (BATD), and advanced aviation training devices (AATD). These LOAs were based on guidance provided in advisory circulars (ACs) that set forth the qualifications and capabilities for the devices. Prior to 2008, most LOAs were issued under the guidance provided in AC 61-126, Qualification and Approval of Personal Computer-Based Aviation Training Devices, and AC 120-45, Airplane Flight Training Device Qualification. Starting in July of 2008, the FAA approved devices in accordance with AC 61-136, FAA Approval of Basic Aviation Training Devices (BATD) and Advanced Aviation Training Devices (AATD). More recently, on December 3, 2014, the FAA published a revision to AC 61-136A, Approval of Aviation Training Devices and Their Use for Training and Experience.

In 2009, the FAA issued a final rule that for the first time introduced the term "aviation training device" into the regulations and placed express limits on the amount of instrument time

[1] Section 61.4(c) states that the "Administrator may approve a device other than a flight simulator or flight training device for specific purposes."

in an ATD that could be credited toward the aeronautical experience requirements for an instrument rating.[2]

Since the 2009 final rule, § 61.65(i) has provided that no more than 10 hours of instrument time received in an ATD may be credited toward the instrument time requirements of that section. In addition, appendix C to part 141 permits an ATD to be used for no more than 10 percent of the total flight training hour requirements of an approved course for an instrument rating.

Prior to the 2009 final rule, the FAA had issued hundreds of LOAs to manufacturers of devices that permitted some ATDs (as well as ground trainers, and FTDs (levels 1 through 3)) to be used to a greater extent than was ultimately set forth in the regulations. The FAA continued to issue LOAs for AATDs in excess of the express limitations in the regulations after the publication of the 2009 final rule.

On January 2, 2014, the FAA published a notice of policy requiring manufacturers of ATDs to obtain new LOAs reflecting the appropriate regulatory allowances for ATD use. 79 FR 20.[3] The notice stated the FAA's conclusion that it could not use LOAs to exceed express limitations that had been placed in the regulations through notice and comment rulemaking. The FAA noted that, since August 2013, LOAs issued for new devices reflect current regulatory requirements. However, manufacturers and operators who held LOAs issued prior to August

[2] In a 2007 NPRM, the FAA proposed to limit the time in a personal computer-based aviation training device that could be credited toward the instrument rating. Pilot, Flight Instructor, and Pilot School Certification NPRM, 72 FR 5806 (February 7, 2007). Three commenters recommended that the FAA use the terms "basic aviation training device" (BATD) and "advanced aviation training device" (AATD). Pilot, Flight Instructor, and Pilot School Certification Final Rule, 74 FR 42500 (August 21, 2009) ("2009 Final Rule"). In response to the commenters, the FAA changed the regulatory text in the final rule to "aviation training device," noting BATDs and AATDs "as being aviation training devices (ATD) are defined" in an advisory circular.

[3] "Notice of Policy Change for the Use of FAA Approved Training Devices," January 2, 2014.

2013 acted in reliance on FAA statements that were inconsistent with the regulations. Therefore, the FAA granted a limited exemption from the requirement in the regulations to provide manufacturers, operators, and pilots currently training for an instrument rating time to adjust to the reduction in creditable hours. This short-term exemption was intended to provide an interim period to transition the LOAs for all previously approved devices in accordance with the new policy. The FAA found the exemption to be in the public interest in order to prevent undue harm caused by reasonable reliance on the LOAs.

As stated in the notice, this short term exemption expired on January 1, 2015. The FAA explained that after that date, no applicant training for an instrument rating under part 61 may use more than 10 hours of instrument time in an ATD toward the minimum aeronautical experience requirements required to take the practical test for an instrument rating.[4] In addition, no instrument rating course approved under appendix C to part 141 may credit more than 10 percent of training in ATDs toward the total flight training hour requirements of the course (unless that program has been approved in accordance with § 141.55(d) or (e)).[5]

To address the discrepancy between the level of ATD credit allowed historically by LOA and the lower allowances placed in the regulations, the FAA published a direct final rule that would have amended the regulations governing the use of ATDs.[6] The direct final rule would have increased the use of these devices for instrument training requirements above the levels established in the 2009 final rule. In developing this direct final rule, the FAA noted that ATD

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[4] Under § 61.65, a person who applies for an instrument rating must have completed 40 hours of actual or simulated instrument time of which 15 hours must have been with an authorized instructor who holds the appropriate instrument rating.
[5] Under appendix C, each approved course for an instrument rating must include 35 hours of instrument training for an initial instrument rating or 15 hours of instrument training for an additional instrument rating.
[6] 79 FR 71634, December 3, 2014, withdrawn at 80 FR 2001, January 15, 2015 (RIN 2120-AK62).

development has advanced to an impressive level of capability. Many ATDs can simulate weather conditions with variable winds, variable ceilings and visibility, icing, turbulence, high definition (HD) visuals, hundreds of different equipment failure scenarios, navigation specific to current charts and topography, specific navigation and communication equipment use, variable "aircraft specific" performance, and more. The visual and motion component of some of these devices permit maneuvers that require outside visual references in an aircraft to be successfully taught in an AATD. Many of these simulation capabilities were not possible in previously approved devices (such as PCATDs).

In the direct final rule, the FAA stated its belief that permitting pilots to log increased time in ATDs would encourage pilots to practice maneuvers until they are performed to an acceptable level of proficiency. In an ATD, a pilot can replay the training scenario, identify any improper action, practice abnormal/emergency procedures, and determine corrective actions without undue hazard or risk to persons or property. In this fashion, a pilot can continue to practice tasks and maneuvers in a safe, effective, and cost efficient means of maintaining proficiency.

II. The Direct Final Rule

As described in the previous section, to address the discrepancy between FAA regulations and prior policy, on December 3, 2014, the FAA published a direct final rule that would have increased the allowed use of ATDs. The FAA received 20 comments to the direct

final rule.[7] The provisions of the direct final rule, the comments received, and FAA's responses to those comments are discussed below.

A. Credit for aeronautical experience requirements for an instrument rating and approved instrument rating courses

Credit for aeronautical experience requirements for an instrument rating: The direct final rule would have increased the maximum time that may be credited in an ATD toward the aeronautical experience requirements for an instrument rating under § 61.65(i). The direct final rule would have permitted a person to credit a maximum of 20 hours of aeronautical experience acquired in an approved ATD toward the requirements for an instrument rating. Devices that qualify as AATDs would have been authorized for up to 20 hours of experience to meet the instrument time requirements. Devices that qualify as BATDs would have been authorized for a maximum of 10 hours of experience to meet the instrument time requirements.

Approved instrument rating courses: The direct final rule also would have amended appendix C to part 141 to increase the limit on the amount of training hours that may be accomplished in an ATD in an approved course for an instrument rating. An ATD would have been permitted to be used for no more than 40 percent of the total flight training hour requirements in an approved instrument rating course.

Comments received: The FAA received 20 comments regarding these provisions. Eighteen comments supported the provisions. However, two commenters raised concerns. As those comments were adverse to the direct final rule, the FAA was required to withdraw the

[7] The direct final rule and the comments received thereto may be found in FAA Docket No. FAA-2014-0987 at http://www.regulations.gov.

direct final rule, 80 FR 2001, (Jan. 15, 2015). 14 CFR 11.13. The comments and FAA's responses are discussed below.

Comments supporting the direct final rule: Eighteen comments supported the direct final rule provisions with 16 comments from individuals, and two from the Society of Aviation and Flight Educators (SAFE) and the Aircraft Owners and Pilots Association (AOPA).

Nine commenters simply stated their general support. Several other commenters noted that use of ATDs would save pilots time and money. The FAA notes that none of those commenters provided quantified estimates regarding time or cost savings.

One commenter asserted that the ability to simulate a wide variety of situations or to drill procedures through repetition in an ATD is far greater than in the actual aircraft. The commenter believed that the ATD learning environment is less stressful, less noisy, and less unpredictable, thus making it a better classroom to learn detailed instrument procedures.

Another commenter asserted that the rule provisions would enhance safety by allowing more pilots to add instrument ratings to their certificates. The commenter believed that the rule provisions would potentially reduce controlled flight into terrain accidents because pilots would be more likely to have a higher level of proficiency in controlling solely by reference to the instruments.

One commenter expressed a desire that the same principles applied to required instrument experience under 14 CFR 61.57. The FAA notes that this comment is beyond the scope of this rulemaking.

Adverse comments: The FAA received two adverse comments regarding these provisions. The first commenter, who indicated he is a professional pilot, airline transport pilot, and flight instructor with multiple ratings (airplane multiengine, airplane single-engine, and

instrument-airplane), believed that flight requires the use and correlation of all senses in order to make a lasting impression. The commenter believed the fundamentals of instructing agrees with this position. More importantly, the commenter believed that acclimation to instrument meteorological conditions helps pilots relate these various inputs and strategies to deal with them. The commenter asserted that ATDs are valuable as procedure trainers, but not as valuable as "everyone seems to think. The rapid redeployment of a situation seems like an advantage, yet it diminishes the learning because it seems so easy to recover from a botched maneuver." The commenter also asserted that resetting the situation diminishes the "routine" that a pilot relies on to take him or her to a specific place, which interferes greatly with the learning of each step.

The commenter also believed that no amount of graphic imagery or display setup, even in full motion simulators, ever causes a pilot to lose consciousness of the fact that it is a simulator. The commenter asserted that flight simulators are wonderful, but very limited devices. Instead of increasing a pilot's skill, however, they have come between real-world flying and desktop flying. The commenter stated that they have increased reliance on screens and autopilots and diminished the pilot's sense of being in charge of the aircraft and the flight. Stalls, thunderstorms, and icing are the greatest dangers, yet ATDs cannot depict these accurately or realistically.

Finally, the commenter noted the belief that the industry at large always diminishes the importance of safety and increases the importance of costs whenever training requirements are considered. The commenter believed one hour in any aircraft is worth ten in front of an ATD. The commenter stated, "The cost of a lost aircraft and all its crew is not worth the imagined savings gained from flying imaginary aircraft in imaginary environments."

The second commenter, who is or was, a flight instructor with an instrument rating and an air traffic controller, questioned whether flight students should be trained and live in an

unrealistic world. The commenter believed that training in the classroom environment and in labs was an excellent preparatory environment, but nothing like the realities of real life. While the commenter "highly recommend[ed]" the use of such devices, the commenter cautioned the direct final rule included too much of a reduction. The commenter advised: "Proceed with appropriate caution and understand the risk involved."

Public comments responding to the adverse comments: SAFE submitted a comment in response to the first adverse comment received. SAFE noted that microprocessor developments over the past several years have resulted in a new generation of increasingly affordable mid and upper level devices which replicate sensory inputs with an incredible degree of accuracy and which are becoming commonplace in the training market. SAFE stated that ATDs can provide the student with excellent opportunities to focus on learning the correct procedures for situations such as nighttime operations, narrow or sloping runways, glassy water, and instrument meteorological conditions without interference from conflicting or adverse sensory inputs before being exposed to them in the live flight environment where confusion can occur between the body and the brain until training and experience overcome the sensory input.

SAFE claimed that "Peer reviewed research conclusively shows that when properly utilized as part of a comprehensive training program [training] devices actually speed up the learning process by allowing students to bypass areas of successful understanding and to concentrate on areas where more practice is required. * * * Specific research by the military and major airlines show that these devices can consistently enhance student retention of lesson material, increase student confidence levels, and reduce accident and loss rates." The FAA notes that SAFE did not provide sources for these claims.

SAFE further asserted that ATDs have proven very effective in simulating certain emergencies too dangerous to practice in the air. This practice builds pilot confidence in being prepared to handle such situations should they occur. SAFE also asserted that current military and civilian research shows a positive relationship between ATD use and safer flying. SAFE did not provide research or source citations to support these assertions.

Finally, SAFE noted that one of the key factors in today's extreme dropout rate in flight training is the "very high cost." SAFE stated "[W]e must find a way to contain the training costs without sacrificing safety or operation utility. ATDs, properly utilized, are a modern component in achieving this."

AOPA also supported the rule with the following statement and stated that the FAA should "continue to permit the flight training industry to maximize the use of aviation training devices (ATDs) for instrument flight training in order to certificate safe competent pilots in a structured and economical way." AOPA also provided discussion concerning the adverse comments received and suggested why they should be considered without substance and not adverse within the context of the direct final rulemaking process.

FAA Response: The FAA agrees with the commenters who support increased training time in ATDs, including the comments related to the dynamic training capability of these devices, cost savings, and recent technical advancements that enhance the usability of ATDs.

To the extent that an adverse commenter asserted that flying must involve a "correlation of all senses" and that "sounds and feel are vital to recognizing unusual attitudes" when other senses fail, the FAA disagrees concerning positive aircraft control skills and has provided

extensive guidance on this topic in the Instrument Flying Handbook (FAA-H-8083-15B).[8] In particular, the Handbook advises that pilots should disregard sensory perceptions and "[m]ost importantly, become proficient in the use of the flight instruments and rely upon them." The Handbook further states "[t]hese undesirable sensations cannot be completely prevented, but through training and awareness, pilots can ignore or suppress them by developing absolute reliance on the flight instruments."[9]

The FAA believes that training in ATDs and FSTDs, when used in conjunction with training in an aircraft, teach an instrument student to trust the appropriate sense, vision, in order to successfully operate an aircraft in low visibility conditions. Training in an ATD reinforces this necessary skill and any reliance on "sounds or feel" may ultimately lead to loss of control when operating an aircraft in instrument meteorological conditions. Because ignoring the postural senses involves relying on visual clues, the ATD provides an excellent platform for a pilot to develop this portion of his or her instrument flying skills. The FAA recognizes that a device does not require motion in order to be approved as an AATD; thus, these devices are limited in that they cannot completely train the pilot to ignore outside sensory perceptions. The FAA finds that a pilot can develop this ability during the aeronautical experience that an applicant for an instrument rating must obtain in an aircraft.

The same commenter also discussed the capability of an aviation training device to "[reset] the situation." The commenter suggested that this capability makes it too easy to recover from an unsatisfactory maneuver by simply returning to a previous location during the simulated

[8] http://www.faa.gov/regulations_policies/handbooks_manuals/aviation/
[9] FAA-H-8083-15B Instrument Flying Handbook updated 7/2/2014 pg. 3-9

flight. The commenter explained that this diminishes the routine that a pilot relies on during flight. The FAA does not agree and finds significant value in the ability of the device to be reconfigured to return to a point at which the pilot is having difficulty with a particular procedure or maneuver. This will allow the pilot to practice the corrective action until able to successfully complete the procedure or maneuver. This feature allows repetitive practice of a difficult procedure in a short period of time that could potentially add hours of training if accomplished in an aircraft. Additionally, simulation supports the long-endorsed teaching practice of "meaningful repetition."[10] More practice in an aviation training device until a pilot performs a particular segment of a procedure or action correctly, before attempting the same in an aircraft, is an acceptable and desirable practice. Because half of the required instrument time under part 61 (20 hours), or 60 percent of the total flight training hours under part 141 (21 hours), would be accomplished in an aircraft, the necessary routine mentioned by the commenter will be provided during those lessons performed while in flight.

In addition, the commenter stated that "[T]he consequences of training pilots in ATDs is that they do not experience the fear that accompanies real-life emergencies, or the sensory inputs that come with icing and thunderstorm contact." The FAA does not support flight training that involves intentional flight into dangerous weather conditions. Rather, the FAA expects pilots to purposely avoid icing[11] and thunderstorm conditions[12] and be taught to be proficient at doing so. In contrast, ATDs allow training to simulate inadvertent flight into these adverse conditions that cannot be accomplished safely in an aircraft. In an ATD, students are afforded an opportunity to

[10] FAA-H-8083-9A Flight Instructors Handbook pg. 2-35
[11] AC 91-74A Pilot Guide: Flight in Icing Conditions, Pilot Strategies pg. 42
[12] AIM Aeronautical Information Manual 7-1-29 Thunderstorm Flying

practice recommended actions when encountering these undesirable weather conditions without risk. There are many emergency procedures that can be practiced in ATDs that cannot be safely accomplished in the aircraft. This allows for training that students would not otherwise receive and provides the appropriate mitigation of risk without diminishing the quality or depth of training.

Finally, the commenter stated that "[f]light simulators are wonderful, but very limited devices," asserting that simulators have increased reliance on screens and autopilots and diminish the pilot's sense of being in charge. The commenter disapproved of instructors relying less on real world experience and that the industry at large puts costs before safety. The FAA believes that these comments reflect the commenter's concern about automation and advanced avionics versus concern about simulators. Despite the commenter's concern over automation and advanced avionics, the FAA recognizes that use of these systems has become commonplace in general aviation aircraft. It is therefore beneficial to teach the use of these advanced systems in ATDs to supplement training in the aircraft.

The second commenter provided some support for the use of ATDs, noting for example that the cockpit is not a suitable classroom in which to teach. The commenter also expressed concerns that are not specific to ATDs, such as communication skills, not directly pertinent to the direct final rule or to this proposed rule. However, the commenter discussed whether training flight students in an unrealistic world is appropriate.

The FAA believes that ATDs are specifically designed to replicate the real world and help pilots to develop their instrument skills in advance of receiving training and experience in

an aircraft.[13] The concerns raised by both commenters are mitigated by the fact that a substantial portion of the required instrument time would still be accomplished in an aircraft. Instrument rating applicants would need to obtain a minimum of 20 hours of instrument time in an aircraft under part 61 or complete a minimum of 60 percent of the training requirements in an aircraft under part 141.[14] Additional scrutiny of the pilot's proficiency occurs before an FAA examiner during a practical test which must be conducted in an aircraft in the national airspace system. The FAA specifically notes that the airman instrument practical test requires demonstration of a specific level of proficiency and expertise in flight, and airman testing in ATDs is not permitted.[15]

Recently documented research concerning training effectiveness in simulation devices that reflect modern ATD systems is limited. The FAA notes two studies related to ATDs that were done in the past 20 years. The first paper published in May of 2005 titled "Effectiveness of Flight Training Devices Used for Instrument Training,"[16] referenced the use of an Elite PCATD and a Frasca 141 Level 1 FTD. Students using these two trainers generally completed their flight lessons (i.e., those accomplished in an aircraft) in less time. The overall findings reported that flight training hours required to develop basic instrument flying skills (the report referenced aircraft control, instrument departures, en-route and approach procedures) was reduced. Training hours required to develop advanced skills, such as NDB holds, approaches, and partial panel

[13] AC 61-136A, FAA Approval of Aviation Training Devices and Their Use for Training and Experience
[14] An exception would still exist for those courses that are approved under 14 CFR 141.55(d) and (e).
[15] FAA-S-8081-4E, Instrument Rating Practical Test Standards, Appendix 1
[16] Taylor, H.L., Talleur, D.A., Emanuel Jr., T.W., Rantaner, E., "Effectiveness of Flight Training Devices Used for Instrument Training," Final Technical Report AHFD-05-9/FAA-05-4, Federal Aviation Administration, May 2005. A copy of this document has been placed in the docket for this rulemaking.

procedures, were not necessarily reduced. However, cross country flight training time was reduced by up to 50 percent for some of these same individuals.

The second research paper, "Transfer of Training Effectiveness of Personal Computer-Based Aviation Training Devices,"[17] published in May 1997, discusses the use of a PCATD trainer for a two-semester instrument course. Trainees that used the training device were able to develop the proficiency to perform some exercises in the aircraft with a flight time savings of 15 percent to 40 percent relative to those that did not use the training device. However, for some other exercises, a burden of an extra 25 percent in flight time resulted for those students that used the training device.

The FAA believes that these earlier studies are largely incomplete because the training devices used in the aforementioned studies do not reflect the current capabilities and standards[18] required for AATDs as the FAA approves them today. Most of these older devices utilized in the available studies lack the sophistication now facilitated by more readily available advanced computer system software and hardware, including improved visuals/databases, and the increased system fidelity and replication that these newer training systems take advantage of today. The FAA also notes that with the increased implementation of scenario-based training, ATDs are used more effectively than in the past. Therefore, the FAA considers the results of these findings somewhat inapplicable and, for the reasons described above, believes that the proposed regulatory change is still in the best interest of aviation safety. The FAA seeks

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[17] Taylor, H.L., Lintern, G., Hulin, C.L., Talleur, D., Emanuel, T., Phillips, S., "Transfer of Training Effectiveness of Personal Computer-Based Aviation Training Devices," DOT/FAA/AM-97/11, Office of Aviation Medicine, Washington, DC, May 1997. A copy of this document has been placed in the docket for this rulemaking.

[18] AC 61-136 first published in July 2008 provided the standards used today for the approval and use of ATD's. This was recently revised in December 2014.

comment regarding any additional relevant data or institutional research that supports the training and safety advantages when using ATDs, or establishes that such devices do not enhance pilot training and flight safety.

As of January 1, 2015, all LOAs issued prior to August 23, 2013, for training devices approved to meet requirements under parts 61 and 141 terminated.[19] This means that experience obtained in these devices may no longer be credited toward aeronautical experience or currency requirements in parts 61 and 141 unless the FAA has issued an updated LOA. Therefore, any FAA-approved ATDs being used to meet current aeronautical experience requirements have been demonstrated to meet the updated standards for AATDs set forth in AC 61-136 (as amended). Devices that were approved beginning August 23, 2013, were issued an LOA with a 5-year expiration date. This will ensure that the type of device meets acceptable standards for use in crediting aeronautical experience and currency. Devices that do not meet the standard for an AATD will either be issued an LOA that approves the device as a BATD (with lower time crediting allowances as described in AC 61-136) or will simply not be issued an LOA in which case the device can be used as a training aid, but not credited for aeronautical experience.

In addition, current ATD approval and use involves substantial FAA scrutiny and oversight as provided in the recently revised AC 61-136A, FAA Approval of Aviation Training Devices and Their Use for Training and Experience. As noted above, this includes a review for renewal of approvals every five years, confirming that these training devices continue to perform to the updated standards. This review is based on standards and practices that combine over 30 years of experience between the FAA and industry.

[19] 79 FR 20, Notice of Policy Change for the Use of FAA Approved Training Devices

B. View-limiting devices

Under § 61.51(g), a person may log instrument time only for that flight time when the person operates an aircraft solely by reference to the instruments under actual or simulated conditions. When instrument time is logged in an aircraft, a pilot wears a view-limiting device to simulate instrument conditions and ensure that he or she is flying without utilizing outside visual references. Currently, § 61.65(i) requires a pilot who is logging instrument time in an ATD to wear a view-limiting device. The direct final rule would have revised § 61.65(i)(4) to eliminate the requirement that pilots accomplishing instrument time in an ATD wear a view-limiting device.

The purpose of a view-limiting device is to prevent a pilot (while training in an aircraft during flight) from having outside visual references that would naturally be present otherwise. These references are not available in a training device and a pilot has no opportunity to look outside for any useful visual references pertaining to the simulation. The FAA recognizes that the majority of these devices have a simulated visual display that can be configured to be unavailable or represent "limited visibility" conditions that preclude any need for a view-limiting device to be worn by the student. This lack of visual references requires the pilot to give his or her full attention to the flight instruments which is the goal of any instrument training or experience. The FAA believes that using a training device can be useful because it trains the pilot to focus on, appropriately scan and interpret the flight instruments. Since these devices incorporate a visual system that can be configured to the desired visibility level, use of a view-limiting device would have no longer been required by the direct final rule.

When the FAA introduced § 61.65(i)(4) requiring view-limiting devices in the 2009 final rule, the preamble was silent as to why a view-limiting device was necessary. 74 FR 42500,

42523. Based on comments from industry, the FAA has determined that due to the sophistication of the flight visual representation for ATDs and the capability of presenting various weather conditions appropriate to the training scenario, a view-limiting device is unnecessary. Because persons operating an ATD can simulate both instrument and visual conditions, FAA LOAs specifically reference § 61.51 that stipulates a pilot can only log instrument time when using the flight instruments for reference and operation.[20]

Comments received: The FAA received one comment in response to this provision in the direct final rule. The commenter believed that removing the requirement for a student to wear a view-limiting device while using an ATD is a sensible decision. The commenter believed that there is much more benefit to be gained by the view limiting features of the ATD itself than by a view-limiting piece of headgear.

FAA Response: The FAA agrees that it is unnecessary for a student to wear a view-limiting device when using an ATD. The FAA finds that this requirement is not necessary because ATDs do not afford relevant outside references.

III. The Proposed Rule

After consideration of the comments received to the direct final rule, the FAA is proposing the following changes to 14 CFR parts 61 and 141. These changes are the same as in the direct final rule, 79 FR 71634, (Dec. 3, 2014), withdrawn at 80 FR 2001, (Jan. 15, 2015).

[20] AC 61-136A Appendix 4, Training Content and Logging Provisions references limitations for logging instrument time.

A. Credit for the aeronautical experience requirements for an Instrument Rating

The FAA is proposing to increase the maximum time that may be credited in an ATD toward the instrument time requirements for an instrument rating under § 61.65(i). A person would be permitted to credit a maximum of 20 hours of instrument time in an approved ATD toward the requirements for an instrument rating.[21] Devices that qualify as AATDs would be authorized for up to 20 hours of instrument time. Devices that qualify as BATDs would be authorized for a maximum of 10 hours of instrument time. In light of this difference, pilots must – as required by current regulations – include in their logbooks the type and identification of any ATD that is used to accomplish aeronautical experience requirements for a certificate, rating, or recent flight experience. 14 CFR 61.51(b)(1)(iv). The FAA is retaining the existing limit of 20 hours of combined time in FFSs, FTDs, and ATDs that may be credited towards the aeronautical experience requirements for an instrument rating.

B. Approved Instrument Rating Courses

The FAA is also proposing to amend appendix C to part 141 to increase the limit on the amount of training hours that may be accomplished in an ATD in an approved course for an instrument rating. An ATD could be used for no more than 40 percent of the total flight training hour requirements in an instrument rating course. The FAA notes that this rule would not change the current provisions in appendix C which limit credit for training in FFSs, FTDs, and ATDs, that if used in combination, cannot exceed 50 percent of the total flight training hour requirements of an instrument rating course.

[21] As required under § 61.51(g)(4), to log instrument time in an ATD for the purpose of a certificate or rating, an authorized instructor must be present.

In addition, the FAA is proposing to amend § 141.41 to clarify the existing qualification and approval requirement for FSTDs and to add the qualification and approval of ATDs by the FAA, which is currently conducted pursuant to § 61.4(c).

C. View-Limiting Device

The FAA is proposing to revise § 61.65(i)(4) to eliminate the requirement that pilots accomplishing instrument time in an ATD wear a view-limiting device. The FAA emphasizes, however, that a pilot – whether in an aircraft, FFS, FTD, or ATD – may log instrument time only when the pilot is operating solely by reference to the instruments under actual or simulated conditions. If a pilot is using an ATD and the device is providing visual references upon which the pilot is relying, this would not constitute instrument time under § 61.51(g).

IV. Advisory Circulars and other Guidance Materials

To further implement this rule, the FAA is proposing to revise the following FAA Order:

FAA Order 8900.1, Flight Standards Information Management System, Volume 11, Chapter 10, Section 1, (Basic and Advanced Aviation Training Device) Approval and Authorized Use under 14 CFR Parts 61 and 141.

V. Regulatory Notices and Analyses

A. Regulatory Evaluation

Changes to Federal regulations must undergo several economic analyses. First, Executive Order 12866 and Executive Order 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 notice of proposed rulemaking.

In conducting these analyses, FAA has determined that this proposed 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) would not have a significant economic impact on a substantial number of small entities; (5) would not create unnecessary obstacles to the foreign commerce of the United States; and (6) would not impose an unfunded mandate on State, local, or tribal governments, or on the private sector by exceeding the threshold identified above. These analyses are summarized below.

Department of Transportation DOT Order 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 permits that a statement to

that effect and the basis for it be included in the preamble if a full regulatory evaluation of the costs and benefits is not prepared. Such a determination has been made for this notice of proposed rulemaking. The reasoning for this determination follows:

The provisions included in this rule are either relieving or voluntary. The elimination of the requirement to use a view-limiting device is a relieving provision. The other two provisions are voluntary and cost relieving – additional ATD credit for instrument time for an instrument rating and additional ATD credit for approved instrument courses, if acted upon, is cheaper than flight training time.

Persons who use the new provisions would do so only if the benefit they would accrue from their use exceeded the costs they might incur to comply. Given the hundreds of LOAs issued, industry's high usage of ATDs, and SAFE and AOPA's endorsement of ATDs, the proposed change in requirements is likely to be relieving. Benefits will exceed the costs of a voluntary rule if just one person voluntarily complies.

Since this proposed rule would offer a lower cost alternative, would provide regulatory relief for the use of view-limiting devices, and would allow greater voluntary use of ATDs, the expected outcome would be cost relieving to minimal impact with positive net benefits.

B. 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 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 a regulatory flexibility analysis as described in the RFA.

However, if an agency determines that a rule is not expected to 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.

Most of the parties affected by this rule would be small businesses such as flight instructors, aviation schools, and fixed base operators. The general lack of publicly available financial information from these small businesses precludes a financial analysis of these small businesses. While there is likely a substantial number of small entities affected, the provisions of this proposed rule are either relieving (directly provides cost relief) or voluntary (provides benefits or costs only if a person voluntarily chooses to use the rule provision). The FAA made the same determination as part of the direct final rule and received no comments.

If an agency determines that a rulemaking will not result in a significant economic impact on a substantial number of small entities, the head of the agency may so certify under section 605(b) of the RFA. Therefore, as provided in section 605(b), the head of the FAA certifies that this rulemaking would not result in a significant economic impact on a substantial number of small entities.

C. 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 the 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.

The FAA has assessed the potential effect of this proposed rule and determined that it would have only a domestic impact and therefore would not create unnecessary obstacles to the foreign commerce of the United States.

D. 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 (in 1995 dollars) 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 $151.0 million in lieu of $100 million.

This proposed rule does not contain such a mandate. Therefore, the requirements of Title II of the Act do not apply.

E. Paperwork Reduction Act

The Paperwork Reduction Act 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. The FAA has determined that there is no new requirement for information collection associated with this proposed rule.

F. International Compatibility and Cooperation

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to conform to 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.

G. 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 rulemaking action qualifies for the categorical exclusion identified in paragraph 312f and involves no extraordinary circumstances.

VI. Executive Order Determinations

A. Executive Order 13132, Federalism

The FAA has analyzed this rule under the principles and criteria of Executive Order 13132, Federalism. The agency has determined that this action would not have a substantial

direct effect on the States, or the relationship between the Federal Government and the States, or on the distribution of power and responsibilities among the various levels of government, and, therefore, would not have Federalism implications.

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

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

C. Executive Order 13609, Promoting International Regulatory Cooperation

Executive Order 13609, Promoting International Regulatory Cooperation, (77 FR 26413, May 4, 2012) 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.

VII. Additional Information

A. Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The agency also invites comments relating to the economic,

environmental, energy, or federalism impacts that might result from adopting this document. The most helpful comments reference a specific portion of the rule, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should send only one copy of written comments, or if comments are filed electronically, commenters should submit only one time.

The FAA will file in the docket all comments it receives, as well as a report summarizing each substantive public contact with FAA personnel concerning this rulemaking. Before acting on this proposed rule, the FAA will consider all comments it receives on or before the closing date for comments. The agency may change this rule in light of the comments it receives.

Proprietary or Confidential Business Information: Commenters should not file proprietary or confidential business information in the docket. Such information must be sent or delivered directly to the person identified in the FOR FURTHER INFORMATION CONTACT section of this document, and marked as proprietary or confidential. If submitting information on a disk or CD ROM, mark the outside of the disk or CD ROM, and identify electronically within the disk or CD ROM the specific information that is proprietary or confidential.

Under 14 CFR 11.35(b), if the FAA is aware of proprietary information filed with a comment, the agency does not place it in the docket. It is held in a separate file to which the public does not have access, and the FAA places a note in the docket that it has received it. If the FAA receives a request to examine or copy this information, it treats it as any other request under the Freedom of Information Act (5 U.S.C. 552). The FAA processes such a request under Department of Transportation procedures found in 49 CFR part 7.

B. Availability of Rulemaking Documents

An electronic copy of rulemaking documents may be obtained from the Internet by—

- Searching the Federal eRulemaking Portal (http://www.regulations.gov);
- Visiting the FAA's Regulations and Policies web page at http://www.faa.gov/regulations_policies, or
- Accessing the Government Printing Office's web page at http://www.fdsys.gov.

Copies may also be obtained by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue SW., Washington, DC 20591, or by calling (202) 267-9677. Commenters must identify the docket or notice number of this rulemaking.

All documents the FAA considered in developing this proposed rule, including economic analyses and technical reports, may be accessed from the Internet through the Federal eRulemaking Portal referenced above.

List of Subjects

14 CFR part 61

Aircraft, Airmen, Aviation safety, Teachers.

14 CFR part 141

Airmen, Educational facilities, Reporting and recordkeeping requirements, Schools.

The Proposed Amendment

In consideration of the foregoing, the Federal Aviation Administration proposes to amend chapter I of title 14, Code of Federal Regulations as follows:

PART 61—CERTIFICATION: PILOTS, FLIGHT INSTRUCTORS, AND GROUND INSTRUCTORS

1. The authority citation for part 61 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701-44703, 44707, 44709-44711, 45102-45103, 45301-45302.

2. Amend § 61.65 by revising paragraph (i) and adding paragraph (j) to read as follows:

§ 61.65 Instrument rating requirements.

* * * * *

(i) Use of an aviation training device. A maximum of 20 hours of instrument time received in an aviation training device may be credited for the instrument time requirements of this section if—

(1) The device is approved and authorized by the FAA;

(2) An authorized instructor provides the instrument time in the device; and

(3) The FAA approved the instrument training and instrument tasks performed in the device.

(j) A person may not credit more than 20 total hours of instrument time in a flight simulator, flight training device, aviation training device, or combination toward the instrument time requirements of this section.

PART 141—PILOT SCHOOLS

3. The authority citation for part 141 continues to read as follows:

Authority: 49 U.S.C. 106(f), 106(g), 40113, 44701-44703, 44707, 44709, 44711, 45102-45103, 45301-45302.

4. Revise § 141.41 to read as follows:

§ 141.41 Flight simulators, flight training devices, aviation training devices, and training aids.

An applicant for a pilot school certificate or a provisional pilot school certificate must show that its flight simulators, flight training devices, aviation training devices, training aids, and equipment meet the following requirements:

(a) Flight simulators and flight training devices. Each flight simulator and flight training device used to obtain flight training credit in an approved pilot training course curriculum must be:

(1) Qualified under part 60 of this chapter; and

(2) Approved by the Administrator for the tasks and maneuvers.

(b) Aviation training devices. Each aviation training device used to obtain flight training credit in an approved pilot training course curriculum must be evaluated, qualified, and approved by the Administrator.

(c) Training aids and equipment. Each training aid, including any audiovisual aid, projector, mockup, chart, or aircraft component listed in the approved training course outline, must be accurate and relevant to the course for which it is used.

5. Amend Appendix C to part 141 by revising paragraph (b) in section 4 to read as follows:

Appendix C to Part 141—Instrument Rating Course

* * * * *

4. Flight training. * * *

(b) For the use of flight simulators, flight training devices, or aviation training devices—

(1) The course may include training in a flight simulator, flight training device, or aviation training device, provided it is representative of the aircraft for which the course is approved, meets the requirements of this paragraph, and the training is given by an authorized instructor.

(2) Credit for training in a flight simulator that meets the requirements of § 141.41(a) cannot exceed 50 percent of the total flight training hour requirements of the course or of this section, whichever is less.

(3) Credit for training in a flight training device that meets the requirements of § 141.41(a), an aviation training device that meets the requirements of § 141.41(b), or a combination of these devices cannot exceed 40 percent of the total flight training hour requirements of the course or of this section, whichever is less.

(4) Credit for training in flight simulators, flight training devices, and aviation training devices if used in combination, cannot exceed 50 percent of the total flight training hour requirements of the course or of this section, whichever is less. However, credit for training in a flight training device or aviation training device cannot exceed the limitation provided for in paragraph (b)(3) of this section.

* * * * *

Issued in Washington, DC, under the authority of 49 U.S.C. 106(f), 44701(a)(5), and 44703(a), on June 10, 2015.

Michael J. Zenkovich, Acting Director
Flight Standards Service.
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