

[4910-13]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 61

[Docket No. 28095; SFAR No. 73-1]

RIN: 2120-AG47

Robinson R-22/R-44 Special Training And Experience Requirements

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: This final rule extends the expiration date of Special Federal Aviation Regulation (SFAR) 73, and amends the special training and experience requirements for pilots operating the Robinson R-22 or R-44 helicopters in order to maintain the safe operation of Robinson helicopters. It also requires special training and experience requirements for certified flight instructors conducting student instruction or flight reviews. The purpose of this action is to maintain awareness of and training for the potential hazards of particular flight operations needed for the continued safe operation of Robinson helicopters.

EFFECTIVE DATE: December 31, 1997.

FOR FURTHER INFORMATION CONTACT: Robert J. O'Haver, Operations Branch, AFS-820, General Aviation and Commercial Division, 800 Independence Avenue, SW., Washington, DC 20591; telephone: (202) 267-7031.

SUPPLEMENTARY INFORMATION:

Availability of Final Rule

This document may be downloaded from the FAA regulations section of the FedWorld electronic bulletin board (telephone: 703-321-3339), the Federal Register's electronic bulletin board (telephone: 202-512-1661), or the FAA's

Aviation Rulemaking Advisory Committee Bulletin Board (telephone: 800-322-2722 or 202-267-5948).

Internet users may access the FAA's web page at <http://www.faa.gov> or the Federal Register's web page at http://www.access.gpo.gov/su_docs to download recently published rulemaking documents.

Any person may obtain a copy of this final rule by submitting 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. Communications must reference the amendment number of this final rule.

Persons interested in being placed on the mailing list for future rules should request a copy of Advisory Circular (AC) No. 11-2A, Notice of Proposed Rulemaking Distribution System, which describes the application procedure.

Small Entity Inquiries

The Small Business Regulatory Enforcement Fairness Act of 1996 (SBREFA) requires the FAA to report inquiries from small entities concerning information on, and advice about, compliance with statutes and regulations within the FAA's jurisdiction, including interpretation and application of the law to specific sets of facts supplied by a small entity.

The FAA's definitions of small entities may be accessed through the FAA's web page <http://www.faa.gov/avr/arm/sbrefa.htm>, by contacting a local FAA official, or by contacting the FAA's Small Entity Contact listed below.

If you are a small entity and have a question, contact your local FAA official. If you do not know how to contact your local FAA official, you may contact Charlene Brown, Program Analyst Staff, Office of Rulemaking, ARM-27, Federal Aviation Administration, 800 Independence Avenue, SW., Washington, DC 20591, 1-888-551-1594. Internet users can find additional information on SBREFA in the "Quick Jump" section of the FAA's web page at <http://www.faa.gov>

and may send electronic inquiries to the following Internet address: 9-AWA-SBREFEA@faa.dot.gov.

Background

Part 61 of Title 14 of the Code of Federal Regulations (14 CFR part 61) details the certification requirements for pilots and flight instructors. Particular requirements for pilots and flight instructors in rotorcraft are found in subparts C through G, and appendix B of part 61. These requirements do not address any specific type or model of rotorcraft. However, the FAA determined in 1995 that specific training and experience requirements are necessary for the safe operation of Robinson R-22 and R-44 helicopters.

The R-22 is a 2-seat, reciprocating engine-powered helicopter that is frequently used as low-cost initial student training aircraft. The R-44 is a 4-seat helicopter with similar operating characteristics and design features of the R-22. The R-22 is the smallest helicopter in its class and incorporates a unique cyclic control and rotor system. Its small size and relatively low operating costs result in its use as a training or small utility aircraft, and its operation by a significant population of relatively inexperienced helicopter pilots. However, certain aerodynamic and design features of the aircraft cause specific flight characteristics that require particular pilot awareness and responsiveness.

The FAA found that the R-22 met 14 CFR part 27 certification requirements and issued a type certificate in 1979; however, the R-22 has had a high number of fatal accidents due to main rotor/airframe contact when compared to other piston powered helicopters. Overall, since the R-22 was certificated, there have been 339 accidents in the U.S. involving R-22's. Many of these accidents have been attributed to pilot performance or

inexperience, leading to low rotor revolutions per minute (RPM) or low "G" conditions that resulted in mast bumping and/or main rotor-airframe contact accidents.

In its analysis of accident data, the FAA has found that apparently qualified pilots may not be properly prepared to safely operate the R-22 and R-44 helicopters in certain flight conditions. The additional pilot training, originally established by SFAR 73, continues to be needed for the safe operation of these helicopters.

Previous Regulatory Action

To address the accident causes, on March 1, 1995, the FAA published SFAR 73 (60 FR 11256) which required certain additional experience and training to perform pilot-in-command (PIC) and/or certified flight instructor (CFI) duties. SFAR 73 was issued on an emergency basis without the usual public notice and comment; however, the FAA sought comment on the final SFAR.

Since the issuance of SFAR 73, which expires on December 31, 1997, no accidents have occurred related to low rotor RPM, low g maneuvers, and main rotor/airframe contact. Therefore, on November 21, 1997 (62 FR 62486), the FAA published a Notice of Proposed Rulemaking (NPRM) No. 97-15 which proposed to extend the provisions of SFAR 73 until December 31, 2002, with a minor amendment. As noted above, the preamble to Notice No. 97-15 discussed the 46 comments that the FAA had received after the issuance of SFAR 73 in 1995 and those comments were considered by the FAA in the issuance of this rule.

The Amendment

As previously noted, since the issuance of SFAR 73, there has been a dramatic drop in the accident rate of Robinson helicopters associated with low "G" maneuvers, low rotor rpm and main rotor/airframe contact. Also in the

interim, the FAA has taken steps to improve the airworthiness of the R-22 and R-44 through the issuance of a number of airworthiness directives. Both of these factors support the FAA's proposal to extend the provisions of SFAR 73.

The comments received on SFAR 73 demonstrated that there is a general consensus that the required training is beneficial to those operating Robinson helicopters. Also, the ongoing increase of new rotary wing pilots supports continuing the requirements of SFAR 73.

This rule also contains a minor amendment to SFAR 73 to clarify paragraph 2(b)(5) regarding the instructor experience required to conduct training in either the R-22 or R-44. The FAA has recognized that the R-44, which was not operated in the U.S. in large numbers when SFAR 73 was originally promulgated, is being operated in greater numbers now. The FAA has also recognized that the R-44 is a more stable aircraft than the R-22. Therefore, the FAA is allowing the crediting of up to 25 flight hours acquired in the R-22 helicopter towards the 50 flight hour experience requirements of paragraph 2(b)(2)(i) for the R-44, and up to 5 hours of dual instruction received in the R-22 credited toward the 10 hour dual flight instruction requirement of 2(b)(2)(ii) for the R-44.

In addition, paragraph 2(b)(5)(ii) is clarified in this amendment. The FAA had received many inquiries as to the intent of this paragraph. Individuals have mistaken the intent of the paragraph and had concluded that instructors may be endorsed to provide flight instruction in the R-22 or R-44 if they comply with paragraph 2(b)(1)(ii) or 2(b)(2)(ii) of the SFAR. It is contended that the reference in paragraph 2(b)(5)(ii) to the experience requirements of 2(b)(1)(i) or 2(b)(2)(i) includes the "or;" at the end of the sentence.

This was not the FAA's intent; paragraph 2(b)(5)(ii) separately refers to the R-22 and the R-44. However to avoid any future confusion, the FAA is changing paragraph 2(b)(5)(ii) to clarify the specific requirements.

As discussed in Notice No. 97-15, the FAA is also amending paragraphs 2(b)(1)(ii) and 2(b)(2)(ii) in response to a comment made by Robinson Helicopter Company (RHC) supported by 15 additional commenters on the original emergency SFAR. RHC proposed a reduction in the hours of dual instruction from 10 hours to 5 hours for those persons who had an experience level of more than 200 flight hours in helicopters.

Additionally, a clause stating the need for a flight instructor's endorsement prior to exercising the privileges of a pilot in command of an Robinson R-44 was inadvertently left out of the proposal to amend paragraph 2(b)(2)(ii). That requirement exists in the current SFAR as written; it's omission is considered minor and editorial in nature and had been corrected in this amendment.

Discussion of Comments

Fifty-six comments were received before the docket closed on December 22, 1997 on Notice No. 97-15. Of this total, 42 individual pilot commenters submitted identical letters supporting the position of the R-22/R-44 Operators & Pilots Association.

The identical pilot commenters express overall support of SFAR 73, citing various statistics documenting the reduced accident rate involving R-22 and R-44 helicopters since the SFAR has been in effect. While these commenters are in favor of continuing the mandated awareness training for all pilots of R-22 and R-44 helicopters, they recommend that "mandated hourly flight requirements... be modified unless future fatal accident rates indicate

otherwise." Specifically, these commenters recommend amending paragraph 2(b)(5)(ii) to read as follows:

"and for the R-22, has had at least 150 flight hours in an R-22 (or at least 200 flight hours in helicopters, at least 50 flight hours of which were in the Robinson R-22), or for the R-44, has had at least 200 flight hours in helicopters, 50 flight hours of which were in the Robinson helicopters. Up to 25 flight hours of Robinson R-22 flight time may be credited toward the 50 hour requirement."

The effect of the recommended change would be to reduce the total number of required flight hours for a qualified R-22 flight instructor from 200 flight hours to 150 flight hours if all 150 flight hours were in an R-22.

These commenters state that this change would enhance safety by ensuring that flight instructors operating in the R-22 have a greater number of flight hours in the same make and model of helicopter that they will be teaching in.

The FAA disagrees with this comment. As was stated in the preamble to SFAR 73 and the NPRM, the FAA is convinced a clear relationship exists between pilot inexperience in the R-22 and R-44 helicopter and main rotor/airframe contact accidents. In 23 of the 30 fatal accidents, the pilots apparently manipulating the controls have had less than 200 flight hours in the model of Robinson helicopter they were operating. The FAA has determined that 200 flight hours is needed for the safe operation of either helicopter.

One commenter (Rotorcraft, Inc.) states that SFAR 73 is an unfair burden on R-22/R-44 operators and should not be continued. This commenter states that SFAR 73 serves no safety function because the R-22/R-44 has been found to be the safest in the industry.

The FAA disagrees with this statement. Prior to the SFAR, there were 30 fatal accidents involving Robinson helicopters and low rotor RPM or "low G"

maneuvers leading to main rotor/airframe contact. The R-22's and the R-44's two blade, low inertia, teetering rotor system (combined with a high tail mount position of the tail rotor) has repeatedly been involved in the type of accident which this SFAR is designed to address. The FAA determined that the additional special experience requirements and awareness training was necessary for safe operation of these helicopters as part of a comprehensive program that responded to the high number of accidents involving these helicopters. Other elements of the program included addressing design and operational issues that may have been contributing factors in some of these accidents. The FAA has determined that SFAR 73 is essential for the safe operation of the R-22 and R-44 helicopters.

Robinson Helicopter Company and Sky Helicopters support the proposed changes in SFAR 73 but strongly recommends that the same reasoning should be applied to the biennial flight review, which would then recognize flight review in the R-22 to be valid for flight in the R-44. These commenters and one other commenter also request that the requirements of the SFAR "be reviewed and re-evaluated at least every two years so that any additional changes based upon experience may be promptly implemented." Thus, this commenter recommends that SFAR 73 should be extended until December 31, 1999, rather than 2002.

The FAA disagrees with the comment regarding biennial flight reviews. The requirements for the flight review in the R-22 helicopter were established by the R-22 Flight Standardization Board (FSB) Report, dated February 15, 1995. This report states in paragraph 8.2, "All pilots who wish to act as pilot in command of a Robinson R-22 aircraft should complete a flight review as required by FAR Part 61.56 in a Robinson R-22 model helicopter." The FSB report for the R-44, also dated February 15, 1995, make similar statements regarding the completion of a flight review in a R-44 specifically.

The FAA disagrees with the recommendation for a shorter effective period. A longer effective period of the SFAR will allow for sufficient collection of data and analysis. But, as noted below, other safety authorities have stated that this SFAR should be made permanent. The FAA has determined that 5 years of data will more fully address both recommendations.

Another comment submitted by Robinson Helicopter Company's Engineering Department recommends simplification of the wording of the amendatory language in the proposal.

The FAA did not adopt this suggestion. The FAA reviewed the specific wording suggested and determined that the wording as written in the proposed rule was clear regarding the type of flight hours which can be credited toward the aeronautical experience for the R44, i.e. the creditable time must be in the R-22, not a helicopter other than the R-22.

Another comment by an individual helicopter pilot says that the SFAR has been successful in reducing fatal accidents in the R-22 and R-44, caused by low RPM stalls and low G maneuvering, through increased pilot awareness training. The commenter states that this training will continue to be carried forward and that there is no longer a need for the SFAR, therefore it should not be renewed.

The FAA disagrees with this recommendation. The specific points made by this commenter are the precise reasons why the FAA will extend the SFAR so as to ensure that this training is given to new students entering the training population. The R-22's and R-44's accident record before and after this SFAR is strong evidence that a mandatory rule is needed for the continued safe operation of these helicopters.

Another individual helicopter pilot supports the annual awareness training required by the SFAR but believes that adding more restrictions

(additional flight instruction hours) would increase the cost of flying Robinson helicopters, thereby discouraging people from flying these helicopters. This commenter says that the cost analysis in the proposal "appears to be about 15-20% low for the available services in my area" (Kansas). The commenter suggests not changing SFAR 73 for another year so that more data can be compiled.

For reasons discussed previously, the FAA has determined that the extension of the SFAR as amended is needed. Also, this amendment has not added any restrictions from the previous rule, but instead, has granted credit for specific experience in the R-22, thereby reducing the overall requirements for gaining a rating in both the R-22 and R-44. Therefore, this SFAR will not increase flight instruction hours.

Also, the Chairman of the National Transportation Safety Board (NTSB) filed a comment that concurred with the extension of the SFAR as proposed. He noted that the NTSB had made multiple recommendations to the FAA concerning the R-22 and R-44, and that the NTSB recommended the SFAR should be made permanent. The FAA agrees with the NTSB and most commenters that safety dictates that the SFAR should continue without lapse until December 31, 2002. Accordingly, this rule is to be effective in less than 30 days to prevent that lapse. As noted in the NPRM, the current SFAR expires on December 31, 1997 and such lapse would be detrimental to aviation safety.

International Civil Aviation Organization (ICAO) and Joint Aviation Regulations

In keeping with U.S. obligations under the Convention on International Civil Aviation, it is FAA policy to comply with ICAO Standards and Recommended Practices to the maximum extent practicable. The FAA has determined that this

rule does not conflict with any international agreement of the United States.

Paperwork Reduction Act

Information collection requirements in this rule have been approved by the Office of Management and Budget (OMB) under the provisions of the Paperwork Reduction Act of 1995 (44 U.S.C. 3507(d)), and have been assigned OMB Control Number 2120-0021.

Regulatory Evaluation Summary

Both the executive and legislative branches of government recognize that economic considerations are an important factor in establishing regulations. Executive Order 12866 signed by President Clinton on September 30, 1993 requires Federal agencies to assess both the costs and benefits of proposed regulations and, recognizing that some costs and benefits are difficult to quantify, propose or adopt regulations only upon a reasoned determination that the benefits of each regulation justify its costs. In addition, the Regulatory Flexibility Act of 1980 requires Federal agencies to determine whether or not proposed regulations are expected to have a significant economic impact on a substantial number of small entities, and, if so, examine feasible regulatory alternatives to minimize the economic burden on small entities. Finally, the Office of Management and Budget directs agencies to assess the effects of proposed regulations on international trade.

This section summarizes the FAA's economic and trade analyses, findings, and determinations in response to these requirements. The complete economic and trade analyses are contained in the docket.

Benefits

The benefits of the final rule will be a reduction of the number of fatal accidents that occur in Robinson helicopters associated with low "G" maneuvers that can result in main rotor contact with the airframe. The estimated reduction in the number of accidents is expected from the increased level of safety related to specific flight training and awareness training requirements for all individuals operating Robinson R-22 and R-44 aircraft.

Between the years 1985 and 1994 there were a total of 43 fatal accidents involving Robinson helicopters, resulting in 63 fatalities. Accidents due to main rotor contact with the airframe accounted for 16 of the 43, or approximately 37 percent of the total accidents. There were 26 fatalities (41 percent of all fatalities on Robinson helicopters) that resulted from those 16 accidents prior to the issuance of SFAR 73. Since the SFAR was issued in 1995, however, there have been no accidents or fatalities involving R-22 or R-44 aircraft associated with low "G" operations or main rotor contact with the airframe. Although there is not yet sufficient historical data to statistically demonstrate that the almost three year period of no fatal accidents of this type is a result of SFAR 73, it is the judgment of the FAA after reviewing all available information that this is the case.

Assuming that SFAR 73 is effective at preventing the above types of rotorcraft accidents, the FAA has estimated the benefit associated with preventing these accidents. A value of \$2.7 million was applied to each statistical fatality avoided. This computation resulted in an estimate of approximately \$35.1 million in five year casualty costs. Also, the estimated value of the 16 destroyed aircraft was \$587,000. If this rulemaking helps prevent the recurrence of the 26 fatalities associated with low "G" maneuvers,

then expected safety benefits will be approximately \$35.7 million (present value, \$29.3 million) over five years, in 1996 dollars.

Costs

In this analysis, the FAA has estimated the cost of the final rule over the five year period from 1998 through 2002. All of the costs incurred as a result of changes to existing training procedures will begin when the final rule becomes effective. Costs are computed in 1996 dollars and are discounted by seven percent.

The groups that incur costs from the final rule are rated pilots who aspire to be flight instructors or newly certificated flight instructors who desire to conduct student instruction or flight reviews in the Robinson model R-22 or R-44 helicopter. In addition, students that receive their instruction in the R-22 or R-44, such as pilots adding a rotorcraft rating and new rotorcraft students, will also incur costs from the final rule. All the cost estimates pertaining to the acquisition of a rotorcraft category rating are based on the minimum times required to receive the category rating, as published in 14 CFR Part 61.

Flight Instructor Costs

Theoretically a flight instructor can acquire his or her certificate with as little as 50 hours of actual rotorcraft time and little more than 150 hours of total flight time. However, the SFAR established additional requirements for flight instructors who wish to continue to instruct or conduct flight reviews in a Robinson helicopter. These requirements were based on a combination of experience and training, which requires more than the minimum amount necessary for certification as an instructor. Further, additional flight evaluation criteria were established to ensure that the

instructors are knowledgeable and competent to conduct the awareness and flight training that the FAA believes are necessary for Robinson helicopters. Therefore, no grandfathering was permitted for evaluators or flight instructors.

While it is still possible for an individual to obtain a flight instructor certificate for aircraft other than Robinson helicopters in the minimum time required, those aspiring a flight instructor certificate in the Robinson model helicopters will be required to have an additional 50 hours of flight time. However, because some flight experience requirements in the model R-22 also apply to flight experience requirements in the R-44, a credit of up to 25 flight hours acquired in the model R-22 helicopter can apply to the 50 flight hour experience requirement for the R-44.

For a rated pilot to become certificated as a flight instructor in the R-22, the pilot will need an additional 50 flight hours in the R-22. The cost of the additional flight hours in the R-22 at \$150 a flight hour, equals \$7,500 per person (\$150 times 50 hours). Likewise, for a rated pilot to become certificated as a flight instructor in the R-44, the pilot will need an additional 50 flight hours in the R-44 (25 hours may be done in a R-22). The cost for flight hours in the R-44 is \$300 a flight hour. The additional cost of \$300 per flight hour for 25 hours in a R-44 and \$150 per flight hour for 25 hours in a R-22, equals a total of \$11,250 per person. However, for a person to become certificated as a flight instructor on both models of Robinson helicopters, the pilot will need 75 additional flight hours, 50 hours in the R-22 and 25 hours in the R-44. The added cost for 75 additional flight hours to become certificated in both the R-22 and the R-44 is \$15,000 per person. The FAA assumes that a rated pilot seeking to become a flight instructor will want to be certificated on both models of Robinson helicopters; therefore, the

FAA has based the cost estimate to become a flight instructor on the 75 additional flight hours.

The FAA believes that the number of individuals seeking a new flight instructor certificate for a specific Robinson model helicopter is small relative to the total of new flight instructor certificates issued. To estimate the number of people seeking a flight instructor certificate for the Robinson model helicopters, the FAA determined the ratio of rotorcraft-only certificates held to the total airmen certificates held (less student and glider-only certificates). The ratio was then applied to the change in flight instructor certificates between 1995 and 1996.

The FAA estimates that in 1996 there was the potential for 13 individuals seeking a rotorcraft a flight instructor certificate in a Robinson model helicopter, based on the minimum requirements for a helicopter only rating. The FAA assumes in this evaluation that all 13 of these individuals would want to qualify as flight instructors in Robinson model helicopters. Based on the addition of 75 flight hours at an added cost of \$15,000 per individual, the total cost for 13 people seeking a rotorcraft only flight instructor certificate in a Robinson helicopter is approximately \$189,000 annually. The estimated cost over the next five years is approximately \$900,000 (present value, \$800,000), in 1996 dollars.

Student Costs

The costs encompass two classes of students: (1) pilots that currently have a class certificate who wish to add a rotorcraft rating, and (2) new students receiving rotorcraft-only training. However, to be included in the cost estimate, students (new students or those adding a rotorcraft rating) must be receiving instruction in the Robinson model R-22 or R-44 helicopter.

New students receiving instruction in the Robinson helicopters will be required to receive an additional five hours of dual instruction. Because the small size, low purchase price, and low maintenance costs make the R-22 attractive to flight schools, the FAA assumes that new students will receive their instruction in the Robinson model R-22 helicopter. The added cost per student, assuming \$165 an hour for instruction in the R-22, will amount to \$825 (5 hours times \$165 an hour).

Estimation of the total added cost for all students receiving instruction in the Robinson helicopter was calculated in several steps. First, the FAA estimated the ratio of original rotorcraft certificates issued to original student certificates issued. That ratio was applied to the total student pilot certificates held in 1996, which produced an estimate of the number of student rotorcraft certificates held. The estimated student rotorcraft certificates held was multiplied by an estimate of the portion of new students receiving instruction on Robinson helicopters (about 2/3rds). That estimate was then applied to the added cost per student to derive the total added cost for all students.

The FAA estimates that approximately 3,300 new students will receive instruction in the Robinson R-22 model helicopter at an estimated cost of approximately \$2.7 million annually. Total new student costs are approximately \$13.5 million (\$11.1 million, present value) over the next five years in 1996 dollars.

Although the FAA used a higher per hour estimate for dual instruction, the costs reflected above are still approximately \$1.3 million less than reported in the NPRM, because more accurate data was supplied to the FAA regarding original rotorcraft pilot certificates issued. The updated data presented fewer original rotorcraft pilot certificates issued than what was used in the NPRM. Because there are fewer original rotorcraft pilot

certificates issued, that lowers the ratio used as a component to calculate total added cost for all students, thereby lowering the cost estimate.

Pilots that have a current class certificate who wish to add a rotorcraft rating and receive instruction in the Robinson helicopters will be required to take an additional five hours of dual instruction the same as new students. However, unlike the new students, the FAA assumes that a portion of the pilots seeking to add a rotorcraft rating will receive instruction in the Robinson model R-44. Therefore, in addition to estimating the total number of pilots seeking to add a rotorcraft rating in Robinson helicopters in general, the FAA estimated the percentage of those seeking a rating only in the R-44.

Experienced pilots who wish to add a rotorcraft rating to a current class certificate could receive more advanced instruction, or instruction in more advanced equipment, than a new pilot. For example, they could receive instruction in a larger, more sophisticated turbine helicopter, or they could receive instruction to add the instrument rating to their class certificate. Therefore, the number of current pilots seeking to add a rotorcraft rating only in the Robinson models R-44 and R-22 was estimated by the FAA. First, to determine the number of rotorcraft ratings that apply only to the R-44, the FAA multiplied the ratio of R-44s to the helicopter fleet by the added rotorcraft ratings for 1996. To estimate the added cost of instruction in the R-44, the number of R-44 ratings was multiplied by the number of required added hours of instruction, and by the R-44 cost per hour.

Next, it was necessary to estimate the number of rotorcraft ratings that apply only to the R-22. As with the R-44, the added cost of the R-22 was estimated by applying the R-22 ratings to the added rotorcraft ratings for 1996. The number of R-22 ratings was multiplied by the number of added hours of instruction and by the R-22 cost per hour. Finally, the two products were

added together to estimate the annual cost for pilots to add a rotorcraft rating using a Robinson helicopter.

The total additional cost to receive instruction in a Robinson helicopter for the purpose of adding a rotorcraft rating to a pilot certificate is approximately \$90,000 annually. The estimated cost over the next five years is approximately \$450,000 (present value, \$369,000) in 1996 dollars.

Although the FAA used a higher per hour estimate for dual instruction, the costs reflected above are still approximately \$1.8 million less than reported in the NPRM, because updated data, which presented fewer added rotorcraft ratings than what was used in the NPRM, was supplied to the FAA regarding added rotorcraft ratings. Because of the lower number of added rotorcraft ratings, ratios applied to the added rotorcraft ratings produced a lower cost estimate.

Cost Summary

The final rule will impose costs to the those receiving instruction in Robinson model R-22 and R-44 helicopters. Before they can be certificated, affected individuals will be required to receive additional model-specific training and experience for each model of Robinson helicopter. Individuals affected by the rule are rated pilots who aspire to be flight instructors or newly certificated flight instructors who desire to conduct student instruction or flight reviews in the Robinson model R-22 or R-44 helicopter, new rotorcraft students, and certificated pilots seeking to add a rotorcraft rating. Both the new student and the pilot seeking to add a rotorcraft rating must be receiving instruction in a Robinson helicopter to incur the added cost. The final rule will impose total estimated costs of approximately \$14.9 million (present value, \$12.2 million) over the next five years, in 1996 dollars.

All of the costs described in this analysis will be incurred voluntarily. These added costs are not being forced on any individual that wishes to receive rotorcraft training. If an individual wishes to avoid the addition costs of rotorcraft instruction delineated above, they can receive their instruction in a rotorcraft other than a Robinson model, and not incur any of the costs that are described in this analysis. However, they will not be certificated for Robinson model helicopters.

Comparison Of Costs And Benefits

The rule will require those who receive or provide instruction in a Robinson helicopter to incur additional costs related to specific flight training and awareness training. The addition of these requirements will impose costs of approximately \$14.9 million (present value, \$12.2 million) over five years in 1996 dollars. Benefits from the final rule will be a reduction in the number of fatal accidents that occur in Robinson helicopters associated with low "G" maneuvers that may result in main rotor/airframe contact. The reduction in the number of accidents is due to the increased level of safety due to specific flight training and awareness training requirements for all individuals operating Robinson R-22 and R-44 aircraft. If the final action prevents a repeat of the 26 fatalities that occurred during the past 10-year period, the estimated benefits will be \$71.4 million (\$50.1 million, present value). Since this SFAR will be in effect for only 5 years, the estimated benefits will be \$35.7 million (\$29.3 million, present value) for this rulemaking, resulting in benefits substantially exceeding costs.

Final Regulatory Flexibility Determination

The Regulatory Flexibility Act of 1980 (RFA), as amended, was enacted by Congress to ensure that small entities are not unnecessarily and disproportionately burdened by Government regulations. The Act requires that, whenever an agency publishes a general notice of final rulemaking, a regulatory flexibility analysis be done identifying the economic impact on small entities, and considering alternatives that may lessen those impacts if the final rule will have a significant economic impact on a substantial number of small entities.

This rule is to extend SFAR 73 published on March 1, 1995, which was issued on an emergency basis without the usual public notice period, but the FAA sought comments after issuance. No comments were received from small entities indicating that they suffered any adverse economic impact. The FAA again sought comments from small entities in the NPRM published November 21, 1997 to extend SFAR 73 until 2002. Again the FAA did not receive any comments from small entities indicating any adverse economic impact. Further, the SFAR is limited to experience and training requirements to perform pilot-in-command and certified flight instructor duties, thereby impacting individuals rather than entities. In view of all of the above, the FAA certifies that this final rule will not have a significant economic impact on any small entities.

International Trade Impact Statement

This final rule will only impose additional costs on those receiving instruction on Robinson helicopters. This rule will have no effect on the sale of foreign aviation products or services in the United States, nor will it affect the sale of United States aviation products or services in foreign countries.

This final rule is not expected to impose a competitive disadvantage to either US air carriers doing business abroad or foreign air carriers doing

business in the United States. This final rule extends the SFAR and is not expected to impose any additional competitive disadvantage over what has already been imposed by the original SFAR requiring additional training in the Robinson. This assessment is based on the fact that several other foreign countries have adopted most provisions of the SFAR and that the production and sale of Robinson helicopters has increased over the last two years.

Unfunded Mandates Reform Act Assessment

Title II of the Unfunded Mandates Reform Act of 1995 (the Act), enacted as Pub. L. 104-4 on March 22, 1995, requires each Federal agency, to the extent permitted by law, to prepare a written assessment of the effects of any Federal mandate in a proposed or final agency rule that may result in the expenditure by State, local, and tribal governments, in the aggregate, or by the private sector, of \$100 million or more (adjusted annually for inflation) in any one year. Section 204(a) of the Act, 2 U.S.C. 1534(a), requires the Federal agency to develop an effective process to permit timely input by elected officers (or their designees) of State, local, and tribal governments on a proposed "significant intergovernmental mandate." A "significant intergovernmental mandate" under the Act is any provision in a Federal agency regulation that will impose an enforceable duty upon State, local, and tribal governments, in the aggregate, of \$100 million (adjusted annually for inflation) in any one year. Section 203 of the Act, 2 U.S.C. 1533, which supplements section 204(a), provides that before establishing any regulatory requirements that might significantly or uniquely affect small governments, the agency shall have developed a plan that, among other things, provides for notice to potentially affected small governments, if any, and for a meaningful

and timely opportunity to provide input in the development of regulatory proposals.

This rule does not contain any Federal intergovernmental mandates, but does contain a private sector mandate. However, because expenditures by the private sector will not exceed \$100 million annually, the requirements of Title II of the Unfunded Mandates Reform Act of 1995 do not apply.

Federalism Implications

The regulations herein will not have substantial direct effects on the States, on the relationship between the national government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, in accordance with Executive Order 12612, it is determined that this rule will not have sufficient federalism implications to warrant the preparation of a Federalism Assessment.

Significance

This rule is not significant under Executive Order 12866, nor is it considered significant under DOT Order 2100.5, Policies and Procedures for Simplification, Analysis, and Review of Regulations.

List of Subjects in 14 CFR Part 61

Aircraft, Aircraft pilots, Airmen, Airplanes, Air safety, Air transportation, Aviation safety, Balloons, Helicopters, Rotorcraft, Students.

The Amendment

In consideration of the foregoing, the Federal Aviation Administration amends part 61 of Title 14, Code of Federal Regulations (14 CFR part 61) as follows:

PART 61 - CERTIFICATION: PILOTS AND FLIGHT INSTRUCTORS

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

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

2. Paragraphs 2(b)(2), 2(b)(5), and 3 of Special Federal Aviation Regulation (SFAR) No. 73 to part 61 are revised to read as follows:

SPECIAL FEDERAL AVIATION REGULATIONS

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SFAR No. 73 - ROBINSON R-22/R-44 SPECIAL TRAINING AND EXPERIENCE REQUIREMENTS

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2. Required training, aeronautical experience, endorsements, and flight review.

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(b) * * *

(2) No person may act as pilot in command of a Robinson R-44 unless that person--

(i) Has had at least 200 flight hours in helicopters, at least 50 flight hours of which were in the Robinson R-44. The pilot in command may credit up to 25 flight hours in the Robinson R-22 toward the 50 hour requirement in the Robinson R-44; or

(ii) Has had at least 10 hours dual instruction in a Robinson helicopter, at least 5 hours of which must have been accomplished in the Robinson R-44 helicopter and has received an endorsement from a certified

flight instructor authorized under paragraph (b)(5) of this section that the individual has been given the training required by this paragraph and is proficient to act as pilot in command of an R-44. Beginning 12 calendar months after the date of the endorsement, the individual may not act as pilot in command unless the individual has completed a flight review in a Robinson R-44 within the preceding 12 calendar months and obtained an endorsement for that flight review. The dual instruction must include at least the following abnormal and emergency procedures flight training--

- (A) Enhanced training in autorotation procedures;
- (B) Engine rotor RPM control without the use of the governor;
- (C) Low rotor RPM recognition and recovery; and
- (D) Effects of low G maneuvers and proper recovery procedures.

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(5) No certificated flight instructor may provide instruction or conduct a flight review in a Robinson R-22 or R-44 unless that instructor--

(i) Completes the awareness training in paragraph 2(a) of this SFAR.

(ii) For the Robinson R-22, has had at least 200 flight hours in helicopters, at least 50 flight hours of which were in the Robinson R-22, or for the Robinson R-44, has had at least 200 flight hours in helicopters, 50 flight hours of which were in Robinson helicopters. Up to 25 flight hours of Robinson R-22 flight time may be credited toward the 50 hour requirement.

(iii) Has completed flight training in a Robinson R-22, R-44, or both, on the following abnormal and emergency procedures--

- (A) Enhanced training in autorotation procedures;
- (B) Engine rotor RPM control without the use of the governor;
- (C) Low rotor RPM recognition and recovery; and
- (D) Effects of low G maneuvers and proper recovery procedures.

(iv) Has been authorized by endorsement from an FAA aviation safety inspector or authorized designated examiner that the instructor has completed the appropriate training, meets the experience requirements and has satisfactorily demonstrated an ability to provide instruction on the general subject areas of paragraph 2(a)(3) of this SFAR, and the flight training identified in paragraph 2(b)(5)(iii) of this SFAR.

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3. Expiration date. This SFAR expires on December 31, 2002, unless sooner superceded or rescinded.

Issued in Washington, D.C. on December 31, 1997.

/s/ Jane F. Garvey
Administrator