



## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 61

[Docket No. FAA-2023-2083; Notice No. 24-1]

#### RIN 2120-AL89

Robinson Helicopter R-22 and R-44 Special Training and Experience Requirements

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

**ACTION:** Notice of proposed rulemaking (NPRM).

**SUMMARY:** This rulemaking would revise the Special Federal Aviation Regulation (SFAR), Robinson R-22/44 Special Training and Experience Requirements, to provide consistency with other FAA regulatory requirements, training, and testing publications. The rulemaking would remove the low gravity (low G) dual flight instruction requirement to align the SFAR with current aircraft placard requirements and the limitations section of the Rotorcraft Flight Manual/Pilot Operating Handbook (RFM/POH) set forth by Airworthiness Directives (ADs). This proposed revision would also update the SFAR so it mirrors the terminology currently used in the Helicopter Flying Handbook and Practical Test Standards (PTS). This rulemaking proposes to clarify the awareness training endorsement and flight review requirements for less experienced pilots, remove legacy dates, and update the applicability section to include ground and flight training, including flight reviews provided by authorized flight instructors. Additionally, the FAA proposes to add an expiration date to the SFAR to allow the FAA time to review and refine the R-22 and R-44 requirements for ground training, aeronautical experience, including flight training, and flight reviews, before moving them to a permanent location in a separate subchapter.

**DATES:** Send comments on or before *[INSERT DATE 60 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER]*.

**ADDRESSES:** Send comments identified by docket number FAA-2023-2083

using any of the following methods:

- Federal eRulemaking Portal: Go to <https://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, S.E., Room W12-140, West Building Ground Floor, Washington, D.C. 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, S.E., Washington, D.C., between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.
- Fax: Fax comments to Docket Operations at (202) 493-2251.

*Docket:* Background documents or comments received may be read at <https://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, S.E., Washington, D.C., between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

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## **I. Executive Summary**

### **A. Overview of Proposed Rule**

Special Federal Aviation Regulation (SFAR) No. 73, found in part 61 of Title 14 of the Code of Federal Regulations (14 CFR), currently requires the effects of low G maneuvers and proper recovery procedures to be accomplished during dual instruction flight training. However, because of the inherent danger in performing low G maneuvers, Airworthiness Directives (ADs) 95-11-09<sup>1</sup> and 95-11-10<sup>2</sup>, effective July 14, 1995, prohibit intentionally inducing low G flight in Robinson model R-22 and R-44 helicopters. The FAA proposes to remove the requirement to perform low G maneuvers during flight training due to safety concerns and to continue addressing these hazards in the ground training topic for low G hazards, which is established in the SFAR.

The FAA proposes additional amendments to SFAR No. 73 to update and align its terminology with other FAA regulations and publications. Certain terminology in SFAR No. 73 has not been defined or used in the same context as found in the Helicopter Flying Handbook, Practical Test Standards, and 14 CFR part 61. Changing this terminology would not impact the requirements of SFAR No. 73 but would update the terms “awareness,” “certified/certificated flight instructor,” and “blade stall” for consistency with part 61 terms and definitions. Throughout this NPRM, “awareness training” will be referred to as “ground training.” In addition, the FAA proposes to replace the term “enhanced” with more specific language outlining what is necessary to satisfy autorotation training in an R-22 and/or R-44 helicopter. The terminology changes would not require updates to endorsements, websites, or other publications.

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<sup>1</sup> See AD 95-11-09, Robinson Helicopter Company Model R22 Helicopters (Jul. 14, 1995), <https://drs.faa.gov/browse/excelExternalWindow/AB0E6D73A5A548F186256A4D006126BD.0001>.

<sup>2</sup> See AD 95-11-10, Robinson Helicopter Company Model R44 Helicopters (Jul. 14, 1995), <https://drs.faa.gov/browse/excelExternalWindow/FED1D31B434F466E86256A4D00613579.0001>.

The FAA proposes to memorialize current ground training general subject area requirements to simplify the model applicability endorsement. It also would improve formatting to focus on the requirements for flight reviews specific to SFAR No. 73. Finally, this rulemaking proposes to align the applicability section in the SFAR with its other sections by including applicability to flight instructors who conduct ground training, flight training, or a flight review.

The FAA also proposes to add a five-year expiration date to SFAR No. 73. The addition of an expiration date would allow the FAA time to review and refine the requirements for R-22 and R-44 helicopters and move them to a permanent location in Title 14 of the Code of Federal Regulations, chapter 1.

The changes proposed by this rule would not impose any additional requirements to the current regulations, nor would they render current requirements less restrictive. Rather, the proposed changes are intended to more clearly identify the current requirements for persons seeking to manipulate the flight controls, act as pilot in command, provide ground training or flight training, or conduct a flight review in a Robinson model R-22 or R-44 helicopter that are unique to SFAR No. 73, and not otherwise included in part 61.

#### B. Summary of the Costs and Benefits

The FAA expects the proposal to promote safety without imposing costs by memorializing existing requirements, eliminating inconsistencies, and updating language. Thus, the FAA has determined that the proposal would have minimal economic effects and pose no novel or legal policy issues. Therefore, the FAA has determined that this proposal is not “significant” as defined in section 3(f) of Executive Order 12866 and is not “significant” as defined by DOT’s Regulatory Policies and Procedures.

## **II. Authority for this Rulemaking**

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

The FAA is proposing this rulemaking under the authority described in Subtitle VII, Part A, Subpart iii, section 44701, General Requirements. Under these sections, the FAA prescribes regulations and minimum standards for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This rulemaking proposal is within the scope of that authority.

## **III. Background**

### **A. SFAR 73 Final Rule Background Information**

Title 14 CFR part 61 details the certification requirements for pilots, flight instructors, and ground instructors. Subparts C through G of part 61 contain training requirements for applicants seeking rotorcraft category helicopter class ratings. These requirements do not address specific types or models of rotorcraft. However, in 1995, the FAA determined that specific training and experience requirements were necessary for the safe operation of Robinson model R-22 and R-44 model helicopters.<sup>3, 4</sup>

The R-22 helicopter is a two-seat, reciprocating engine powered helicopter that is frequently used in initial student pilot training. The R-22 is one of the smallest helicopters in its class and incorporates a unique cyclic control and teetering rotor system. The R-44 is a four-seat helicopter with operating characteristics and design features that

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<sup>3</sup> See Robinson R-22/R-44 Special Training and Experience Requirements, 60 FR 11254 (March 27, 1995).

<sup>4</sup> The Mitsubishi MU-2B is another example of an instance where the FAA initially created an SFAR and later codified regulations specific to an aircraft to ensure safe operation. Similarly, the conflicts between SFAR No. 108 and FAA guidance prompted the FAA to codify regulations related to the Mitsubishi MU-2B. See 81 FR 61584.

are similar to the R-22. Certain aerodynamic and design features of these aircraft result in specific flight characteristics that require particular pilot knowledge and responsiveness in order to be operated safely.<sup>5</sup>

As explained in the 1995 final rule, the FAA found the R-22 met 14 CFR part 27 certification requirements and issued a type certificate to Robinson in 1979. However, the R-22 had a high number of fatal accidents due to main rotor/airframe contact when compared to other piston powered helicopters. Many of those accidents were attributed to pilot performance or inexperience, where low rotor revolutions per minute (RPM) or low “G” conditions caused mast bumping or main rotor-airframe contact accidents.

In its analysis of accident data, the FAA found that pilots rated to fly the helicopter were not properly prepared to safely operate the R-22 and R-44 helicopters in certain flight conditions. The FAA determined that additional specific pilot training was necessary for safe operation of these helicopters as part of a comprehensive program that responded to a high number of accidents. Other elements of this program included addressing design and operational issues, cited by the National Transportation Safety Board (NTSB), that may have been contributing factors in some of the accidents. Furthermore, at that time, the R-44 had been recently certified, and the FAA was concerned that the R-44 would experience the same frequency of accidents because of the similar design. Accordingly, the FAA issued SFAR No. 73, which, in addition to addressing pilot training, also included requirements for flight instructors and continued flight reviews in the specific model to be flown.<sup>6</sup>

In 2021, the FAA formed a Safety Risk Management (SRM) Team to perform a safety risk assessment of SFAR No. 73. The SRM Team included representatives from

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<sup>5</sup> See 60 FR 11254.

<sup>6</sup> See 60 FR 11254.

the FAA, Helicopter Association International (HAI), Robinson Helicopter Company, and two Designated Pilot Examiners (DPEs). Between November 16–18, 2021, and on January 19, 2022, the SRM Team met to analyze hazards associated with operating and training pursuant to SFAR No. 73 and determine whether the SFAR effectively controls risk or is no longer needed.

Subject matter experts from the FAA and industry were invited to provide their input. After the SRM Team meeting concluded, Robinson Helicopter Company provided specific opinions and background material. The SRM Team’s analysis resulted in recommended modifications of SFAR No. 73 that are reflected in this proposed rule. A copy of the full SRM Team Safety Risk Assessment Report for SFAR No. 73 is posted to the docket for this rulemaking.

Since SFAR No. 73 was published, Robinson model R-22 and R-44 helicopters have continued to operate throughout the world. Although other international civil aviation authorities have taken different approaches to implementing pilot certification standards, the manufacturer of these helicopters makes advisory material available to all operators worldwide.<sup>7</sup> Safety notices, available both in the Pilot’s Operating Handbook/Rotorcraft Flight Manual (POH/RFM)<sup>8</sup> and on the Robinson Helicopter Company website, emphasize subject matter found in SFAR No. 73. Although these notices are not regulatory in nature, they provide guidance and recommended practices to owners of all Robinson helicopters. In addition, the manufacturer produces publications, including safety alerts, which are also located on the Robinson Helicopter Company website. The FAA anticipates the international aviation community will be interested in the outcome of this rulemaking.

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<sup>7</sup> See Robinson Helicopter Company Safety Notices, <https://robinsonheli.com/robinson-safety-notice/>

<sup>8</sup> See Robinson Helicopter Company POH/RFM <https://robinsonheli.com/current-status/>

## B. AD 95-11-09 (R-22) and AD 95-11-10 (R-44) Low G Cyclic Pushover Prohibition

### Background

SFAR No. 73 consists of ground and flight training requirements, including low G flight training.<sup>9</sup> However, shortly after issuance of this SFAR, the FAA prohibited intentionally inducing low G flight in R-22 and R-44 helicopters. This prohibition was published on July 14, 1995, in ADs 95-11-09 (R-22)<sup>10</sup> and 95-11-10 (R-44)<sup>11</sup> because of the inherent risk in performing those maneuvers. That action was prompted by FAA analysis of the manufacturer's data that indicated a low G cyclic pushover maneuver may result in mast-bumping on the Robinson model R-22 helicopters. If uncorrected, this condition could result in an in-flight main rotor separation or contact between the main rotor blades and the airframe of the helicopter and subsequent loss of control of the helicopter. The ADs require installation of placards in the helicopter and insertion of a prohibition against low G cyclic pushover maneuvers into the limitations section of the RFM.

### C. Recommendation and Proposal

While accidents in the R-22 and R-44 helicopters have declined markedly since SFAR No. 73 was issued, the NTSB has recommended that the FAA should ensure that SFAR No. 73, the Flight Standards Board specifications, and the ADs applicable to the operation of the R-22 and R-44 are made permanent.<sup>12</sup> According to a special investigation report the NTSB issued on April 2, 1996, the special operating rules for

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<sup>9</sup> See 14 CFR part 61 Special Federal Aviation Regulation No. 73—Robinson R-22/R-44 Special Training and Experience Requirements

<sup>10</sup> See AD 95-11-09, Robinson Helicopter Company Model R22 Helicopters (Jul. 14, 1995), <https://drs.faa.gov/browse/excelExternalWindow/AB0E6D73A5A548F186256A4D006126BD.0001>.

<sup>11</sup> See AD 95-11-10, Robinson Helicopter Company Model R44 Helicopters (Jul. 14, 1995), <https://drs.faa.gov/browse/excelExternalWindow/FED1D31B434F466E86256A4D00613579.0001>

<sup>12</sup> See National Transportation Safety Board, Special Investigation Report, Robinson Helicopter Company R22 Loss of Main Rotor Control Accidents, Adopted April 2, 1996, <https://www.nts.gov/safety/safety-studies/Documents/SIR9603.pdf>

flight instructors and students and low-experience and non-proficient pilots must continue in order to ensure the safe operation of the helicopter.

The inconsistency between the low G flight training requirement in SFAR No. 73 and the ADs' prohibition on intentionally inducing low G flight has led to confusion regarding the actual requirements for flight training in R-22 and R-44 helicopters. The FAA proposes to resolve that discrepancy by removing the requirement in SFAR No. 73 to perform low G maneuvers during flight training. The FAA also proposes to revise certain language in this SFAR by updating terminology to make it consistent across FAA regulations and guidance.

#### **IV. Discussion of the Proposal**

##### **A. Removal of Required Flight Training on the Effects of Low G Maneuvers and Proper Recovery Procedures**

Shortly after issuance of SFAR No. 73 in 1995, the FAA issued priority letters AD 95-11-09<sup>13</sup> and AD 95-11-10<sup>14</sup> in response to FAA analysis of the manufacturer's data that indicated a low G cyclic pushover maneuver may result in mast-bumping on the Robinson model R-22 and R-44 helicopters.<sup>15</sup> These ADs prohibited intentionally induced low G flight in R-22 (AD 95-11-09) and R-44 (AD 95-11-10) helicopters in an effort to prevent in-flight main rotor separation or contact between the main rotor blades and the airframe of the helicopter and subsequent loss of control of the helicopter. To provide immediate corrective action, the FAA issued these ADs by priority letters to all known U.S. owners and operators of Robinson model R-22 and R-44 helicopters on

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<sup>13</sup> See AD 95-11-09, Robinson Helicopter Company Model R22 Helicopters (Jul. 14, 1995), <https://drs.faa.gov/browse/excelExternalWindow/AB0E6D73A5A548F186256A4D006126BD.0001>

<sup>14</sup> See AD 95-11-10, Robinson Helicopter Company Model R44 Helicopters (Jul. 14, 1995), <https://drs.faa.gov/browse/excelExternalWindow/FED1D31B434F466E86256A4D00613579.0001>

<sup>15</sup> [Title] 60 FR 33686, (Jun. 29, 1995), Docket No. 95-SW-24-AD

May 25, 1995, and then published them in the *Federal Register* as an amendment to 14 CFR 39.13 to make the mandate applicable to all persons.<sup>16</sup>

Since their publication, these ADs have conflicted with SFAR No. 73, which requires dual instruction (flight training) on the effects of low G maneuvers and proper recovery procedures.<sup>17</sup> To resolve this conflict, the FAA proposes to remove the requirements for flight training on the effects of low G maneuvers and proper recovery procedures from paragraph 2(b) of SFAR No. 73. Specifically, the FAA proposes to remove paragraphs 2(b)(1)(ii)(D), 2(b)(2)(ii)(D), 2(b)(3)(iv), 2(b)(4)(iv), and 2(b)(5)(iii)(D) from the current regulation.

#### B. Moving Flight Training Topic of Low G Hazards to Ground Training Requirements

Although the FAA is proposing to remove the requirement for flight training on the effects of low G maneuvers and proper recovery procedures under paragraph 2(b) of SFAR No. 73, the FAA will continue to require knowledge-based training on low G as a general subject area under paragraph 2(a)(3). To enhance the quality of low G ground training provided under paragraph (a)(3)(iv) and emphasize the importance of understanding the risks, the FAA proposes to reconfigure the current flight training requirement on low G maneuvers and proper recovery procedures as a ground training requirement in paragraph 2(a)(3)(iv). Specifically, the FAA proposes to replace the term “Low G hazards” in the ground training requirements in paragraph 2(a)(3)(iv) with the term “Low G conditions, effects, and proper recovery procedures.” This proposal would resolve the conflict with the airworthiness requirements for the aircraft while continuing to underscore the importance of a pilot’s understanding of low G-related hazards when

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<sup>16</sup> See R-22 Docket No. 95–SW–24–AD; Amendment 39–9299; AD 95–11–09 and R-44 Docket No. 95–SW–25–AD; Amendment 39–9300; AD 95–11–10, <https://www.govinfo.gov/content/pkg/FR-1995-06-29/pdf/FR-1995-06-29.pdf>.

<sup>17</sup> In essence, the ADs and RFM contradict the requirements in the SFAR, creating confusion and an inability to comply with both requirements. Flight instructors and flight schools adhere to the AD and RFM limitations and do not conduct SFAR 73 low-G flight training.

operating an R-22 or R-44 helicopter. This more specific and comprehensive classroom coverage of the subject would educate pilots about the situations and conditions that lead to low G, the aerodynamic impact it has on the aircraft, and the proper way to recover to prevent an accident.

The FAA proposes changes to the existing ground training requirements, which would align SFAR No. 73 with existing FAA publications that address low G hazards. For example, the Helicopter Flying Handbook (HFH) highlights the importance of low G recognition and recovery procedures but also discusses the risk of low G flight operations, stating that low G mast bumping has been the cause of numerous military and civilian fatal accidents.<sup>18</sup> The HFH details the safety consequences of low G conditions, which further emphasizes the hazards of low G in flight and the importance of addressing these topics through ground training.

Furthermore, the helicopter testing standard for airman certificates and ratings addresses knowledge elements related to low G, understanding and recognizing those conditions, and explaining the proper recovery procedure.<sup>19</sup> This change to the regulations would ensure consistency with those testing standards.

### C. Awareness Training Renamed as Ground Training

SFAR No. 73 distinguishes ground training requirements from aeronautical experience<sup>20</sup> requirements. This ground training, currently titled "awareness training," is

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<sup>18</sup> See FAA-H-8083-21B, Helicopter Flying Handbook, published 2019;

[https://www.faa.gov/regulations\\_policies/handbooks\\_manuals/aviation/helicopter\\_flying\\_handbook](https://www.faa.gov/regulations_policies/handbooks_manuals/aviation/helicopter_flying_handbook).

<sup>19</sup> Some PTSs may transition to Airman Certification Standards (ACS) to be utilized as practical test testing standard for airman certificates and ratings. The FAA published a Notice of Proposed Rulemaking (NPRM) which proposes to incorporate these Airman Certification Standards and Practical Test Standards by reference into the certification requirements for pilots, flight instructors, flight engineers, aircraft dispatchers, and parachute riggers. See Airman Certification Standards and Practical Test Standards for Airmen; Incorporation by Reference, 87 FR 75955 (Monday, Dec. 12).

<sup>20</sup> Section 61.1 defines aeronautical experience as "pilot time obtained in an aircraft, flight simulator, or flight training device for meeting the appropriate training and flight time requirements for an airman certificate, rating, flight review, or recency of flight experience requirements of this part." As such, aeronautical experience includes flight training.

provided by an authorized instructor as part of the comprehensive program to help prevent accidents in Robinson R-22 and R-44 helicopters. The FAA has found that there is a need for all pilots operating these helicopters to be aware of certain characteristics associated with Robinson R-22 and R-44 helicopters. Awareness training requirements and the associated ground topics are detailed in SFAR No. 73, paragraph 2(a).<sup>21</sup> Ground training, as defined by 14 CFR 61.1(b), “means that training, other than flight training, received from an authorized instructor.” On the other hand, the term “awareness training” does not have a corresponding definition. Therefore, the FAA proposes to change the title “Awareness Training” to “Ground Training.” This proposed change would align the regulatory language throughout part 61 and provide clarity in differentiating the ground training section from the aeronautical experience requirements of SFAR No. 73. The FAA thereafter would interpret endorsements, websites, or other publications and documents that currently use the term “awareness training” as synonymous with the term “ground training,” as defined in 14 CFR 61.1(b). Adopting this interpretation would eliminate any requirement to amend previously issued endorsements or make immediate changes to current industry and FAA publications and documents. The FAA recommends that, if the rule change becomes final, the terminology used in industry documents or websites that utilize SFAR No. 73 (effective on June 29, 2009) be updated during a normally scheduled revision process or a planned revision rather than as an unscheduled change immediately following the adoption of any final rule associated with this notice of proposed rulemaking.

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<sup>21</sup> Currently, SFAR No. 73 awareness training requires instruction in the general subject areas of energy management, mast bumping, low rotor RPM (blade stall), low G hazards; and rotor RPM decay.

#### D. Flight Review Requirements for Pilots with Less Experience in R-22/R-44

Under § 61.56, no person may act as PIC of an aircraft unless, within the preceding 24 months, the person has completed a flight review in an aircraft for which that pilot is rated.<sup>22</sup> Under 2(c)(1) of SFAR No. 73, to continue acting as PIC of an R-22 after initially completing the SFAR training requirements, a person must complete the flight review in an R-22.<sup>23</sup> A separate flight review is required for the R-44 under 2(c)(2). The flight review must include the awareness training and the flight training in SFAR No. 73 as set forth in paragraph 2(c)(3). Pilots who do not meet a threshold experience level in the R-22 or R-44 (i.e., those with less than 200 flight hours in helicopters and at least 50 hours in the model of Robinson helicopters) are required to complete an annual flight review to continue to act as PIC of the respective model of helicopter. The purpose of these provisions is to ensure persons operating Robinson R-22 and R-44 maintain proficiency and competency over time.

The flight review requirements for less experienced pilots are identified in paragraphs 2(b)(1)(ii) and 2(b)(2)(ii) and grouped together in the same paragraph that describes the general pilot-in-command flight training. This annual flight review requirement is not set forth as an individual condition in a way that calls attention to its necessity. Furthermore, these flight review requirements do not specify within the paragraphs what subjects this group of pilots must accomplish to satisfy the ground training portion of the flight review. To resolve these issues, the FAA proposes moving the annual flight review requirements located in 2(b)(1)(ii) and 2(b)(2)(ii) for that

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<sup>22</sup> A flight review consists of one hour of ground training and one hour of flight training on general operating and flight rules of part 91 and those maneuvers and procedures that, at the discretion of the person giving the flight review, are necessary for the pilot to demonstrate the safe exercise of the privileges of the pilot certificate. 14 CFR 61.56(a).

<sup>23</sup> By completing a flight review in an R-22, a person would be current to act as PIC of an R-22 and would satisfy the flight review requirements for any other helicopter (except for the R-44). By contrast, a pilot who completes a flight review in a helicopter other than the R-22 would be ineligible to act as PIC of the R-22.

specified group of pilots to separate paragraphs – 2(b)(1)(iii) and 2(b)(2)(iii) – within the same section. This change will not impact the flight review requirements outlined in 2(c), as appropriate. This new paragraph would also identify the general subject areas from the awareness training as the required ground training and the associated abnormal and emergency procedures for the Robinson R-22 or R-44 helicopter, as appropriate. This proposed change would increase awareness of the annual flight review requirements and reduce the likelihood of pilots overlooking this requirement.

#### E. Enhanced Training in Autorotation Procedures

A pilot who seeks to manipulate the flight controls of a Robinson R-22 or R-44 helicopter must meet the applicable flight training requirements set forth in SFAR 73, paragraph 2(b), including enhanced training in autorotation procedures.<sup>24</sup> The term “enhanced” is not defined in part 61. In the context of the SFAR, the FAA interprets the term “enhanced” to mean different autorotation iterations. On its face, however, the term lacks sufficient specificity to adequately inform the regulated community what autorotation maneuvers are expected to be performed. As such, the proposed change would remove the term “enhanced” in SFAR No. 73, paragraphs 2(b)(1)(ii), 2(b)(2)(ii), 2(b)(3), 2(b)(4), and 2(b)(5)(iii) and replace it with language specifying that the training must include autorotation procedures and energy management, including utilizing a combination of flight control inputs and maneuvering to prevent overshooting or undershooting the selected landing area from an entry altitude that permits safe recovery. Revising the terminology would provide a better understanding of the necessary flight

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<sup>24</sup> Subsequent to issuance of SFAR 73, industry-standard training has emphasized autorotation training to maneuver the aircraft that avoids overshooting or undershooting the selected landing area that is consistent with the specificity proposed in this rule. See Safety Risk Assessment Report for SFAR 73: Robinson R-22/R-44 Special Training and Experience Requirements (2022).

control inputs to achieve the desired airspeed, rotor RPM, and autorotation performance and improve pilot proficiency with the Robinson R-22 and R-44 helicopter.

In addition, the FAA also proposes to add specificity in 2(b)(1)(ii)(B) and 2(b)(2)(ii)(B) in place of the term “enhanced” training in autorotation procedures to include autorotation training in the maximum glide configuration for the R-22 and both the minimum rate of descent and maximum glide configuration for the R-44.<sup>25</sup> The R-22 training would differ slightly because the RFM/POH does not provide information for airspeed and main rotor revolutions per minute to perform an autorotation minimum rate of descent configuration, whereas the R-44 flight manual establishes those flight parameters.

The proposed changes would more clearly establish the expectations for the autorotation portion of the flight training requirements to receive an endorsement to act as pilot in command, solo, conduct a flight review, or provide flight instruction in a Robinson R-22 and R-44. These autorotation procedures would align with the Helicopter Flying Handbook (HFH) and RFM/POH.

#### F. Removal of Legacy Dates

SFAR No. 73 contains three long-expired compliance dates for ground training in paragraphs 2(a)(1), 2(a)(2), and 2(a)(4). Since the ground training requirements outlined in these paragraphs now apply to all pilots and operators of R-22 and R-44 helicopters, the FAA proposes to remove those expired dates that are no longer applicable.

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<sup>25</sup> See Safety Risk Assessment Report for SFAR 73: Robinson R-22/R-44 Special Training and Experience Requirements (2022).

#### G. Add Persons Who Seek to Provide Ground Training or Flight Training or Conduct a Flight Review to Applicability Section

The FAA also proposes to amend the applicability section of SFAR No. 73 (Section 1) to include persons who provide ground or flight training or conduct a flight review in R-22 or R-44 helicopters. While paragraph 2(b)(5) contains requirements for persons who provide flight training or conduct a flight review, the Applicability section of SFAR No. 73 does not identify authorized flight instructors as persons to whom the rule applies. For the purposes of clarity and consistency, the FAA, therefore, proposes to modify Section 1 by adding persons who seek to provide ground training or flight training or conduct a flight review in a Robinson model R-22 or R-44 helicopter.

#### H. Revise Term Blade Stall

Low rotor RPM (blade stall) is identified as a ground training topic in SFAR No. 73, paragraph 2(a)(3)(iii). This ground training topic places blade stall in parentheses. This formatting leads the reader to believe that low rotor RPM and blade stall are synonymous. However, they are different topics; low RPM is the onset of the emergency, and stall is the state at which the aircraft becomes unrecoverable. Low rotor RPM is recoverable if identified early and immediately corrected. If this flight condition is not rectified and the rotor RPM continues to trend lower, blade stall may occur. Blade stall is a fatal condition where the rotor RPM is not recoverable.

Furthermore, the term blade stall can be confused with retreating blade stall, which occurs at high forward speeds and has its own unique emergency/hazard situation. Rotor stall can occur at any airspeed, and the rotor quickly stops producing enough lift to support the helicopter, causing it to lose lift and descend rapidly.

Changing the term blade stall to rotor stall would more accurately capture a consequence of low rotor RPM. Removing the parentheses and labeling this ground

topic as low rotor RPM and rotor stall would also better align SFAR No. 73 terminology with the HFH. As the terms are not synonymous and ground training currently must cover each independent topic, this proposed change is not substantive and would not expand the requirements set forth in SFAR No. 73.

#### I. Revise Term Certified and Certificated for Flight Instructors

This NPRM proposes to remove “certified” and “certificated” from areas in this SFAR that reference flight instructors to align with part 61 definition of flight instructor and provide consistency. This SFAR would instead use the term “flight instructor” and identify the authorization requirement established in SFAR No. 73, paragraph 2(b)(5)(iv) where appropriate throughout the SFAR. The flight instructor requirements outlined in SFAR No. 73, paragraph 2(b)(5) establish the aeronautical experience, training requirements, and demonstration of skills to receive authorization to perform ground and flight training identified in this rule. This authorization is documented by the issuance of an endorsement from an FAA aviation safety inspector or authorized designated pilot examiner.

#### J. R-22/R-44 Awareness Training Endorsement

Flight instructors and pilots have misinterpreted the ground training endorsement identified in SFAR No. 73, paragraphs 2(a)(1) and 2(a)(2) to be aircraft make and model specific.<sup>26</sup> However, the ground training on the general subject areas listed in paragraph 2(a)(3) is given to increase awareness for the operation of both R-22 and R-44 models and is not unique to either model. They have the same subject content, technical detail, and recovery techniques for both the Robinson model R-22 and R-44 helicopters. A

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<sup>26</sup> The FAA has received inquiries requesting clarification regarding SFAR No. 73 ground training endorsement and if it pertains to a specific Robinson model for training on general subject areas for the R-22 and R-44.

person would receive model specific training during the flight training listed in SFAR No. 73, paragraph 2(b), Aeronautical Experience. Because the ground training covers general subject areas, the endorsement may be written to cover both aircraft. The FAA proposes to add a new paragraph to paragraph (a) clarifying that the ground training endorsement is intended to cover both Robinson model R-22 and R-44 helicopters.<sup>27</sup>

#### K. Add Expiration Date to SFAR No. 73

SFAR No. 73 became effective on June 29, 2009, and does not have an expiration date. The proposed revision would add a five-year expiration date that starts on the effective date of a final rule adopting this notice of proposed rulemaking. Adding an expiration date to this SFAR would provide a timeframe for an assessment of how to move its R-22 and R-44 requirements for ground training, aeronautical experience, flight training, and flight reviews to a permanent location in a subchapter of 14 CFR, chapter 1.

#### V. **Regulatory Notices and Analyses**

Federal agencies consider impacts of regulatory actions under a variety of executive orders and other requirements. 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 the costs. Second, the Regulatory Flexibility Act of 1980 (Pub. L. 96-354) requires agencies to analyze the economic impact of regulatory changes on small entities. Third, the Trade Agreements Act (Pub. L. 96-39) prohibits agencies from setting standards that create unnecessary obstacles to the foreign commerce of the United States. Fourth, the Unfunded Mandates Reform Act of 1995 (Pub. L. 104-4) requires agencies to prepare a written assessment of the costs, benefits, and other effects of proposed or final rules that

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<sup>27</sup> The proposed addition would become new paragraph (a)(4), and existing (a)(4) governing endorsements for completing the manufacturer's safety course will be redesignated as paragraph (a)(5).

include a Federal mandate 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. The current threshold after adjustment for inflation is \$177 million using the most current (2022) Implicit Price Deflator for the Gross Domestic Product.

In conducting these analyses, the FAA has determined that this proposed rule: (1) will result in benefits that justify costs; (2) is not a “significant regulatory action” as defined in section 3(f) of Executive Order 12866; (3) is not “significant” as defined in DOT’s Regulatory Policy and Procedures; (4) will not have a significant economic impact on a substantial number of small entities; (5) will not create unnecessary obstacles to the foreign commerce of the United States; and (6) will not impose an unfunded mandate on State, local, or tribal governments, or on the private sector.

#### A. Regulatory Impact Analysis

This proposal would remove a flight training requirement from SFAR No. 73 that cannot be currently performed in the aircraft because it is inconsistent with Airworthiness Directives (ADs) related to Robinson R-22 and R-44. It is current practice not to perform the flight training maneuver notwithstanding the regulatory requirement in the SFAR; therefore, the proposed change imposes no new cost. The FAA expects the proposal to promote safety without imposing costs by clarifying requirements, eliminating inconsistencies, and updating language.

The proposal is needed to resolve a contradiction between SFAR No. 73, which requires low G maneuvers during flight training for Robinson R-22 and R-44 helicopters, and subsequent ADs that prohibit low G cyclic pushover maneuvers in these aircraft. The FAA originally promulgated SFAR No. 73 in 1995 in response to a series of fatal accidents attributed to pilot inexperience resulting in main rotor and airframe contact. To address these safety concerns, SFAR No. 73 established special awareness training,

aeronautical experience, endorsement, and flight review requirements for pilots operating Robinson R-22 and R-44 helicopters. However, within months, the FAA issued ADs requiring insertion of limitations in the rotorcraft flight manual and aircraft placards prohibiting low G cyclic pushover maneuvers. The proposal would remove the requirement for low G maneuvers during in-flight training from SFAR No. 73 while continuing ground training related to low G conditions and proper recovery procedures. The proposal would make other conforming changes to improve clarity and consistency without creating new information collections or requiring immediate changes to current industry or FAA publications and documents.

Based on this information, the FAA has determined that the proposal would have minimal economic effects and pose no novel or legal policy issues. Therefore, the FAA has determined that this proposal is not a “significant regulatory action” as defined in section 3(f) of Executive Order 12866 and is not “significant” as defined by DOT’s Regulatory Policies and Procedures.

#### B. Regulatory Flexibility Act

The Regulatory Flexibility Act (RFA) of 1980, (5 U.S.C. 601–612), as amended by the Small Business Regulatory Enforcement Fairness Act of 1996 (Pub. L. 104–121) and the Small Business Jobs Act of 2010 (Pub. L. 111–240,), requires Federal agencies to consider the effects of the regulatory action on small business and other small entities and to minimize any significant economic impact. The term “small entities” comprises small businesses and not-for-profit organizations that are independently owned and operated and are not dominant in their fields, and governmental jurisdictions with populations of less than 50,000.

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 with a reasoned explanation.

The FAA expects the proposal to have a minimal economic impact on small entities. The proposal applies most directly to providers of training for Robinson R22 and R44 helicopters. Some of these training providers are small entities. However, the proposal does not impose new burdens. The proposal would align SFAR No. 73 with current practice and Airworthiness Directives (ADs) related to Robinson R-22 and R-44 helicopter training requirements. Total training hours remain the same. The proposal would also update language and make other conforming changes to improve clarity and consistency regarding training for Robinson R-22 and R-44 helicopters without imposing new recordkeeping or other requirements.

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, the FAA proposes to certify that the rule will not have a significant economic impact on a substantial number of small entities. The FAA welcomes comments on the basis of this certification.

### C. International Trade Impact Assessment

The Trade Agreements Act of 1979 (Pub. L. 96-39), as amended by the Uruguay Round Agreements Act (Pub. L. 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 the proposal responds to a domestic safety objective. The FAA has determined that this proposed rule is not considered an unnecessary obstacle to trade.

#### D. Unfunded Mandates Assessment

The Unfunded Mandates Reform Act of 1995 (2 U.S.C. 1531-1538) governs the issuance of Federal regulations that require unfunded mandates. An unfunded mandate is a regulation that requires a State, local, or tribal government or the private sector to incur direct costs without the Federal government having first provided the funds to pay those costs. The FAA determined that the proposed rule will not result in the expenditure of \$177 million or more by State, local, or tribal governments, in the aggregate, or the private sector, in any one year. 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 would be no new requirement for information collection associated with this proposed rule.

#### F. International Compatibility

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 determined that there are no ICAO Standards and Recommended Practices that correspond to these proposed regulations.

## G. Environmental Analysis

FAA Order 1050.1F identifies FAA actions that are categorically excluded from preparation of an environmental assessment or environmental impact statement under the National Environmental Policy Act (NEPA) in the absence of extraordinary circumstances. The FAA has determined this rulemaking action qualifies for the categorical exclusion identified in paragraph 5-6.6f for regulations and involves no extraordinary circumstances.

## VI. **Executive Order Determinations**

### A. Executive Order 13132, Federalism

The FAA has analyzed this proposed rule under the principles and criteria of Executive Order 13132, Federalism. The FAA 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 13175, Consultation and Coordination with Indian Tribal Governments

Consistent with Executive Order 13175, Consultation and Coordination with Indian Tribal Governments,<sup>28</sup> and FAA Order 1210.20, American Indian and Alaska Native Tribal Consultation Policy and Procedures,<sup>29</sup> the FAA ensures that Federally Recognized Tribes (Tribes) are given the opportunity to provide meaningful and timely input regarding proposed Federal actions that have the potential to affect uniquely or significantly their respective Tribes. At this point, the FAA has not identified any unique

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<sup>28</sup> 65 FR 67249 (Nov. 6, 2000).

<sup>29</sup> FAA Order No. 1210.20 (Jan. 28, 2004), available at <http://www.faa.gov/documentLibrary/media/1210.pdf>.

or significant effects, environmental or otherwise, on tribes resulting from this proposed rule.

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

The FAA analyzed this proposed rule under Executive Order 13211, Actions Concerning Regulations that Significantly Affect Energy Supply, Distribution, or Use. The FAA 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.

D. Executive Order 13609, Promoting International Regulatory Cooperation

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

## **VII. Additional Information**

A. Comments Invited

The FAA invites interested persons to participate in this rulemaking by submitting written comments, data, or views. The FAA also invites comments relating to the economic, environmental, energy, or federalism impacts that might result from adopting the proposals in this document. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. To ensure the docket does not contain duplicate comments, commenters should

submit only one time if comments are filed electronically, or commenters should send only one copy of written comments if comments are filed in writing.

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 proposed rulemaking. Before acting on this proposal, the FAA will consider all comments it receives on or before the closing date for comments. The FAA will consider comments filed after the comment period has closed if it is possible to do so without incurring expense or delay. The FAA may change this proposal in light of the comments it receives.

*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 <https://www.regulations.gov>, as described in the system of records notice (DOT/ALL-14 FDMS), which can be reviewed at <https://www.dot.gov/privacy>.

#### B. Confidential Business Information

Confidential Business Information (CBI) is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this NPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this NPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this NPRM. Submissions containing CBI should be sent to the person in the **FOR FURTHER INFORMATION CONTACT**

section of this document. Any commentary that the FAA receives that is not specifically designated as CBI will be placed in the public docket for this rulemaking.

### C. Electronic Access and Filing

A copy of this NPRM, all comments received, any final rule, and all background material may be viewed online at <https://www.regulations.gov> using the docket number listed above. A copy of this proposed rule will be placed in the docket. Electronic retrieval help and guidelines are available on the website. It is available 24 hours each day, 365 days each year. An electronic copy of this document may also be downloaded from the Office of the Federal Register's website at <https://www.federalregister.gov> and the Government Publishing Office's website at <https://www.govinfo.gov>. A copy may also be found on the FAA's Regulations and Policies website at [https://www.faa.gov/regulations\\_policies](https://www.faa.gov/regulations_policies).

Copies may also be obtained by sending a request to the Federal Aviation Administration, Office of Rulemaking, ARM-1, 800 Independence Avenue S.W., Washington, D.C. 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 in the electronic docket for this rulemaking.

### D. Small Business Regulatory Enforcement Fairness Act

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

the preamble. To find out more about SBREFA on the Internet, visit

[https://www.faa.gov/regulations\\_policies/rulemaking/sbre\\_act/](https://www.faa.gov/regulations_policies/rulemaking/sbre_act/).

### **List of Subjects in 14 CFR Part 61**

Aircraft, Airmen, Aviation safety, Reporting and recordkeeping requirements.

### **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, 44729, 44903, 45102-45103, 45301-45302.

2. Revise Special Federal Aviation Regulation No. 73 to read as follows:

Special Federal Aviation Regulation No. 73 – Robinson Helicopter Company, Robinson R-22/R-44 Special Training and Experience Requirements

Sections

1. Applicability.
2. Required training, aeronautical experience, endorsements, and flight review.
3. Expiration date.

1. *Applicability.* Under the procedures prescribed herein, this SFAR applies to all persons who seek to manipulate the controls, act as pilot in command, provide ground training or flight training, or conduct a flight review in a Robinson model R-22 or R-44 helicopter. The requirements stated in this SFAR are in addition to the current requirements of part 61.

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

(a) *Ground Training:*

(1) Except as provided in paragraph 2(a)(2) of this SFAR, no person may manipulate the controls of a Robinson model R-22 or R-44 helicopter-for the purpose of flight unless the ground training specified in paragraph 2(a)(3) of this SFAR is completed and the person's logbook has been endorsed by a flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR.

(2) A person who holds a rotorcraft category and helicopter class rating on that person's pilot certificate and meets the experience requirements of paragraph (b)(1) or paragraph 2(b)(2) of this SFAR may not manipulate the controls of a Robinson model R-22 or R-44 helicopter for the purpose of flight unless the ground training specified in paragraph 2(a)(3) of this SFAR is completed and the person's logbook has been endorsed by a flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR.

(3) Ground training must be conducted by a flight instructor who has been authorized under paragraph 2(b)(5)(iv) of this SFAR and consists of ~~instruction in~~ the following general subject areas:

- (i) Energy management;
- (ii) Mast bumping;
- (iii) Low rotor RPM and rotor stall;
- (iv) Low G conditions, effects, and proper recovery procedures; and
- (v) Rotor RPM decay.

(4) The general subject areas identified in paragraph 2(a)(3) of this SFAR are intended to cover both Robinson model R-22 and R-44 helicopters.

(5) A person who can show satisfactory completion of the manufacturer's safety course may obtain an endorsement from an FAA aviation safety inspector in lieu of completing the ground training required by paragraphs 2(a)(1) and 2(a)(2) of this SFAR.

(b) *Aeronautical Experience.*

(1) No person may act as pilot in command of a Robinson model R-22 unless that person:

(i) Has logged at least 200 flight hours in helicopters, at least 50 flight hours of which were in the Robinson R-22; or

(ii) Has logged at least 10 hours of flight training in the Robinson R-22 and has received an endorsement from a flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR that the individual has been given the training required by this paragraph and is proficient to act as pilot in command of an R-22. The flight training must include at least the following abnormal and emergency procedures:

(A) Training in autorotation procedures and energy management, including utilizing a combination of flight control inputs and maneuvering to prevent overshooting or undershooting the selected landing area from an entry altitude that permits safe recovery;

(B) Autorotations at an entry altitude that permits safe maneuvering and recovery utilizing maximum glide configuration;

(C) Engine rotor RPM control without the use of the governor; and

(D) Low rotor RPM recognition and recovery.

(iii) Pilots who do not meet the experience requirement of paragraph 2(b)(1)(i) of this SFAR may not act as pilot in command of a Robinson R-22 beginning 12 calendar months after the date of the endorsement identified in paragraph 2(b)(1)(ii) of this SFAR until those pilots have:

(A) Completed a flight review of the ground training subject areas identified by paragraph 2(a)(3) of this SFAR and the flight training identified in paragraph 2(b)(1)(ii) of this SFAR in an R-22; and

(B) Obtained an endorsement for that flight review from a flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR.

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

(i) Has logged 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 logged at least 10 hours of flight training 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 flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR, that the individual has been given the training required by this paragraph 2(b)(2)(ii) and is proficient to act as pilot in command of an R-44. The flight training must include at least the following abnormal and emergency procedures—

(A) Training in autorotation procedures and energy management, including utilizing a combination of flight control inputs and maneuvering to prevent overshooting or undershooting the selected landing area from an entry altitude that permits safe recovery;

(B) Autorotations at an entry altitude that permits safe maneuvering and recovery utilizing minimum rate of descent configuration and maximum glide configuration;

(C) Engine rotor RPM control without the use of the governor; and

(D) Low rotor RPM recognition and recovery.

(iii) Pilots who do not meet the experience requirement of paragraph 2(b)(2)(i) of this SFAR may not act as pilot in command of a Robinson R-44 beginning 12 calendar months after the date of the endorsement identified in paragraph 2(b)(2)(ii) of this SFAR until those pilots have:

(A) Completed a flight review of the ground training subject areas identified by paragraph 2(a)(3) and the flight training identified in paragraph 2(b)(2)(ii) of this SFAR in an R-44; and

(B) Obtained an endorsement for that flight review from a flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR.

(3) A person who does not hold a rotorcraft category and helicopter class rating must have logged at least 20 hours of flight training in a Robinson R-22 helicopter from a flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR prior to operating it in solo flight. In addition, the person must obtain an endorsement, from a flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR, that training has been given in those maneuvers and procedures, and the instructor has found the applicant proficient to solo a Robinson R-22. This endorsement is valid for a period of 90 days. The flight training must include at least the following abnormal and emergency procedures:

(i) Training in autorotation procedures and energy management, including utilizing a combination of flight control inputs and maneuvering to prevent overshooting or undershooting the selected landing area from an entry altitude that permits safe recovery;

(ii) Autorotations at an entry altitude that permits safe maneuvering and recovery utilizing maximum glide configuration;

(iii) Engine rotor RPM control without the use of the governor; and

(iv) Low rotor RPM recognition and recovery.

(4) A person who does not hold a rotorcraft category and helicopter class rating must have logged at least 20 hours of flight training in a Robinson R-44 helicopter from a flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR prior to operating it in solo flight. In addition, the person must obtain an endorsement, from a flight instructor authorized under paragraph 2(b)(5)(iv) of this SFAR, that training has been given in those maneuvers and procedures, and the instructor has found the applicant proficient to solo a Robinson R-44. This endorsement is valid for a period of 90 days. The flight training must include at least the following abnormal and emergency procedures:

(i) Training in autorotation procedures and energy management, including utilizing a combination of flight control inputs and maneuvering to prevent overshooting or undershooting the selected landing area from an entry altitude that permits safe recovery;

(ii) Autorotations at an entry altitude that permits safe maneuvering and recovery utilizing minimum rate of descent configuration and maximum glide configuration;

(iii) Engine rotor RPM control without the use of the governor; and

(iv) Low rotor RPM recognition and recovery.

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

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

(ii) For the Robinson R-22, has logged 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, logged 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) Training in autorotation procedures and energy management, including utilizing a combination of flight control inputs and maneuvering to prevent overshooting or undershooting the selected landing area from an entry altitude that permits safe recovery;

(B) For the Robinson R-22, autorotations at an entry altitude that permits safe maneuvering and recovery utilizing maximum glide configuration. For the Robinson R-44, autorotations at an entry altitude that permits safe maneuvering and recovery utilizing maximum glide configuration and minimum rate of descent configuration;

(C) Engine rotor RPM control without the use of the governor; and

(D) Low rotor RPM recognition and recovery.

(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 training 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.

(c) *Flight Review:*

(1) No flight review completed to satisfy § 61.56 by an individual after becoming eligible to function as pilot in command in a Robinson R-22 helicopter shall be valid for the operation of an R-22 helicopter unless that flight review was taken in an R-22.

(2) No flight review completed to satisfy § 61.56 by an individual after becoming eligible to function as pilot in command in a Robinson R-44 helicopter shall be valid for the operation of an R-44 helicopter unless that flight review was taken in the R-44.

(3) The flight review will include a review of the ground training subject areas of paragraph 2(a)(3) of this SFAR and flight training in abnormal and emergency procedures, in the Robinson R-22 or R-44 helicopter, as appropriate, identified in paragraph 2(b) of this SFAR.

(d) *Currency Requirements:* No person may act as pilot in command of a Robinson model R-22 or R-44 helicopter carrying passengers unless the pilot in command has met the recency of flight experience requirements of § 61.57 in an R-22 or R-44, as appropriate.

3. *Expiration date.* This SFAR No. 73 expires [DATE FIVE YEARS AFTER EFFECTIVE DATE OF THE FINAL RULE] unless sooner revised or rescinded.

Issued under authority provided by 49 U.S.C. 106(f), 44701(a), and 44703 in  
Washington, D.C.

Wesley L. Mooty,  
Acting Deputy Executive,  
Flight Standards Service.

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