

the October 2023 NOPR. *Id.* at 88 FR 70196, 70203.

DOE will accept comments, data, and information regarding this NODA no later than the date provided in the **DATES** section at the beginning of this document. Interested parties may submit comments, data, and other information using any of the methods described in the **ADDRESSES** section at the beginning of this document.

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*Campaign form letters.* Please submit campaign form letters by the originating organization in batches of between 50 to 500 form letters per PDF or as one form letter with a list of supporters’ names compiled into one or more PDFs. This reduces comment processing and posting time.

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It is DOE’s policy that all comments may be included in the public docket, without change and as received, including any personal information provided in the comments (except

information deemed to be exempt from public disclosure).

## V. Approval of the Office of the Secretary

The Secretary of Energy has approved publication of this notification of data availability and request for comment.

### Signing Authority

This document of the Department of Energy was signed on August 17, 2024, by Jeffrey Marootian, Principal Deputy Assistant Secretary for Energy Efficiency and Renewable Energy, pursuant to delegated authority from the Secretary of Energy. That document with the original signature and date is maintained by DOE. For administrative purposes only, and in compliance with requirements of the Office of the Federal Register, the undersigned DOE Federal Register Liaison Officer has been authorized to sign and submit the document in electronic format for publication, as an official document of the Department of Energy. This administrative process in no way alters the legal effect of this document upon publication in the **Federal Register**.

Signed in Washington, DC, on August 21, 2024.

**Treena V. Garrett,**

*Federal Register Liaison Officer, U.S. Department of Energy.*

[FR Doc. 2024–19072 Filed 8–27–24; 8:45 am]

**BILLING CODE 6450–01–P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 27

[Docket No. FAA–2024–0875; Notice No. 27–24–01–SC]

### Special Conditions: Skyrise, Robinson Helicopter Company Model R66 Helicopter; Interaction of Systems and Structures

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

**ACTION:** Notice of proposed special conditions.

**SUMMARY:** This action proposes special conditions for the Robinson Helicopter Company (Robinson) Model R66 helicopter. This helicopter, as modified by Skyrise, will have a novel or unusual design feature when compared to the state of technology envisioned in the airworthiness standards for normal category helicopters. This design feature is a novel control input and fly-by-wire (FBW) system. The applicable airworthiness regulations do not contain

adequate or appropriate safety standards for this design feature. These proposed special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

**DATES:** Send comments on or before October 15, 2024.

**ADDRESSES:** Send comments identified by Docket No. FAA–2024–0875 using any of the following methods:

*Federal eRegulations Portal:* Go to [www.regulations.gov](http://www.regulations.gov) and follow the online instructions for sending your comments electronically.

*Mail:* Send comments to Docket Operations, M–30, U.S. Department of Transportation (DOT), 1200 New Jersey Avenue SE, Room W12–140, West Building Ground Floor, Washington, DC, 20590–0001.

*Hand Delivery or Courier:* Take comments to Docket Operations in Room W12–140 of the West Building Ground Floor at 1200 New Jersey Avenue SE, Washington, DC, between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*Fax:* Fax comments to Docket Operations at 202–493–2251.

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

**FOR FURTHER INFORMATION CONTACT:** Daniel Moore, Airframe Section, AIR–622, Technical Policy Branch, Policy and Standards Division, Aircraft Certification Service, Federal Aviation Administration, 901 Locust, Kansas City, MO 64106; telephone (303) 342–1066; email [Daniel.E.Moore@faa.gov](mailto:Daniel.E.Moore@faa.gov).

**SUPPLEMENTARY INFORMATION:**

**Comments Invited**

The FAA invites interested people to take part in this rulemaking by sending written comments, data, or views. The most helpful comments reference a specific portion of the proposed special conditions, explain the reason for any recommended change, and include supporting data.

The FAA will consider all comments received by the closing date for comments, and will consider comments filed late if it is possible to do so without incurring delay. The FAA may change these special conditions based on the comments received.

**Privacy**

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in title 14, Code of Federal Regulations (14 CFR) 11.35, the FAA will post all comments received without change to [www.regulations.gov](http://www.regulations.gov), including any personal information you provide. The FAA will also post a report summarizing each substantive verbal contact received about these special conditions.

**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 these special conditions contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to these special conditions, 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 the indicated comments will not be placed in the public docket of these proposed special conditions. Send submissions containing CBI to the individual listed in the For Further Information Contact section above. Comments the FAA receives, which are not specifically designated as CBI, will be placed in the public docket for these proposed special conditions.

**Background**

On April 10, 2023, Skyryse applied for a supplemental type certificate for removal of the mechanical control system and installation of a computer controlled flight control system in the Model R66 helicopter. The Robinson Model R66 helicopter, currently approved under Type Certificate No. R00015LA, is a single engine normal category rotorcraft. The maximum take-off weight is 2,700 pounds, with a maximum seating capacity of five passengers.

**Type Certification Basis**

Under the provisions of 14 CFR 21.101, Skyryse must show that the Robinson Model R66 helicopter, as changed, continues to meet the applicable provisions of the regulations listed in Type Certificate No. R00015LA or the applicable regulations in effect on

the date of application for the change, except for earlier amendments as agreed upon by the FAA.

If the Administrator finds that the applicable airworthiness regulations do not contain adequate or appropriate safety standards for the Robinson Model R66 helicopter because of a novel or unusual design feature, special conditions are prescribed under the provisions of § 21.16.

Special conditions are initially applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, these special conditions would also apply to the other model under § 21.101.

In addition to the applicable airworthiness regulations and special conditions, the Robinson Model R66 helicopter must comply with the fuel-vent and exhaust-emission requirements of 14 CFR part 34, and the noise-certification requirements of 14 CFR part 36.

The FAA issues special conditions, as defined in 14 CFR 11.19, in accordance with § 11.38, and they become part of the type certification basis under § 21.101.

**Novel or Unusual Design Feature**

The Robinson Model R66 helicopter will incorporate the following novel or unusual design feature:

Novel control input and FBW system.

**Discussion**

Skyryse is proposing to install an FBW flight control system (FCS) intended to replace the current hydraulically boosted mechanical primary FCS, on a Robinson Model R66 helicopter. FBW systems are new to part 27 rotorcraft and as such, the rotorcraft FCS will now contain control functions that affect the static strength of rotorcraft structure.

These proposed special conditions would give the applicant an option to offset the structural factor of safety based on the probability of system failure. These proposed special conditions apply to systems that can induce loads on the airframe or change the response of the rotorcraft to maneuvers or to control inputs, as a result of failure. Some potential examples include part 27 rotorcraft equipped with FBW or fly-by-light FCSs, autopilots, stability augmentation systems, load alleviation systems, flutter control systems, fuel management systems, and other systems that either directly or as a result of failure or

malfunction affect structural performance.

The FAA has issued special conditions for the interaction of systems and structures to other aircraft in the past (parts 23, 25, and 29). Active flight control systems are capable of providing automatic responses to inputs from sources other than the pilots. These automatic systems may become inoperative or may operate in a degraded mode, which could impact the loads envelope and rotorcraft static strength.

Therefore, it is necessary to determine the structural factors of safety and operating margins such that the joint probability of structural failures due to application of loads during system malfunctions is not greater than that found in rotorcraft equipped with earlier technology control systems. To achieve this objective, it is necessary to define the failure conditions with their associated frequency of occurrence in order to determine the structural factors of safety and operating margins that will ensure an acceptable level of safety.

The proposed special conditions contain the additional safety standards that the Administrator considers necessary to establish a level of safety equivalent to that established by the existing airworthiness standards.

#### Applicability

As discussed above, these proposed special conditions are applicable to the model for which they are issued. Should the applicant apply for a supplemental type certificate to modify any other model included on the same type certificate to incorporate the same novel or unusual design feature, these special conditions would apply to the other model as well.

#### Conclusion

This action affects only a certain novel or unusual design feature on one model of helicopter. It is not a rule of general applicability and affects only the applicant who applied to the FAA for approval of these features on the helicopter.

#### List of Subjects in 14 CFR Part 27

Aircraft, Aviation safety, Reporting and recordkeeping requirements.

#### Authority Citation

The authority citation for these special conditions is as follows:

**Authority:** 49 U.S.C. 106(f), 106(g), 40113, 44701, 44702, and 44704.

#### The Proposed Special Conditions

Accordingly, the Federal Aviation Administration (FAA) proposes the

following special conditions as part of the type certification basis for Robinson Model R66 helicopters, as modified by Skyryse.

#### Interaction of Systems and Structures

For rotorcraft equipped with systems that affect structural performance, either directly or as a result of a failure or malfunction, the influence of these systems and their failure conditions must be taken into account when showing compliance with the requirements of subparts C and D of part 27 of title 14 of the Code of Federal Regulations (14 CFR).

The following criteria must be used for showing compliance with these special conditions:

(a) The criteria defined herein only address the direct structural consequences of the system responses and performance. They cannot be considered in isolation but should be included in the overall safety evaluation of the rotorcraft. These criteria may, in some instances, duplicate standards already established for this evaluation. These criteria are only applicable to structures whose failure could prevent continued safe flight and landing. Specific criteria that define acceptable limits on handling characteristics or stability requirements, when operating in the system degraded or inoperative mode, are not provided in these special conditions.

(b) Depending upon the specific characteristics of the rotorcraft, additional studies may be required that go beyond the criteria provided in these special conditions in order to demonstrate the capability of the rotorcraft to meet other realistic conditions such as alternative gust or maneuver descriptions for a rotorcraft equipped with a load alleviation system.

(c) The following definitions are applicable to these special conditions.

(1) *Structural performance:* Capability of the rotorcraft to meet the structural requirements of 14 CFR part 27.

(2) *Flight limitations:* Limitations that can be applied to the rotorcraft flight conditions following an in-flight occurrence and that are included in the flight manual (e.g., speed limitations, avoidance of severe weather conditions, etc.).

(3) *Operational limitations:* Limitations, including flight limitations that can be applied to the rotorcraft operating conditions before dispatch (e.g., fuel, payload, and master minimum equipment list limitations).

(4) *Failure condition:* The term failure condition is the same as that used in § 27.1309; however, these special

conditions apply only to system failure conditions that affect the structural performance of the rotorcraft (e.g., system failure conditions that induce loads, change the response of the rotorcraft to inputs such as gusts or pilot actions, or lower flutter margins).

#### Effects of Systems on Structures

(a) *General.* The following criteria will be used in determining the influence of a system and its failure conditions on the rotorcraft structure.

(b) *System fully operative.* With the system fully operative, the following apply:

(1) Limit loads must be derived in all normal operating configurations of the system from all the limit conditions specified in subpart C (or used in lieu of those specified in subpart C), taking into account any special behavior of such a system or associated functions or any effect on the structural performance of the rotorcraft that may occur up to the limit loads. In particular, any significant nonlinearity (rate of displacement of control surface, thresholds, or any other system nonlinearities) must be accounted for in a realistic or conservative way when deriving limit loads from limit conditions.

(2) The rotorcraft must meet the strength requirements of part 27 (static strength, residual strength), using the specified factors to derive ultimate loads from the limit loads defined above. The effect of nonlinearities must be investigated beyond limit conditions to ensure the behavior of the system presents no anomaly compared to the behavior below limit conditions. However, conditions beyond limit conditions need not be considered when it can be shown that the rotorcraft has design features that will not allow it to exceed those limit conditions.

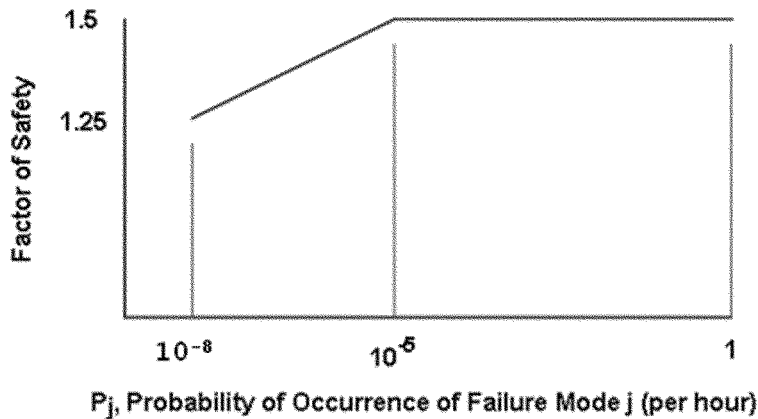
(3) The rotorcraft must meet the flutter requirements of § 27.629.

(c) *System in the failure condition.* For any system failure condition not shown to be extremely improbable, the following apply:

(1) At the time of occurrence. Starting from 1-g level flight conditions, a realistic scenario, including pilot corrective actions, must be established to determine the loads occurring at the time of failure and immediately after the failure.

(i) For static strength substantiation, these loads multiplied by an appropriate factor of safety that is related to the probability of occurrence of the failure, are ultimate loads to be considered for design. The factor of safety is defined in Figure 1.

Figure 1. Factor of safety at the time of occurrence.



(ii) For residual strength substantiation, the rotorcraft must be able to withstand two thirds of the ultimate loads defined in paragraph (c)(1)(i) of these special conditions.

(iii) Freedom from flutter and divergence must be shown under any condition of operation including:

(A) Airspeeds up to  $1.11 V_{NE}$  (power on and power off).

(B) Main rotor speeds from  $0.95 \times$  the minimum permitted speed up to  $1.05 \times$  the maximum permitted speed (power on and power off).

(C) The critical combinations of weight, center of gravity position, load factor, altitude, speed, and power condition.

(iv) For failure conditions that result in excursions beyond operating limitations, freedom from flutter and

divergence must be shown to increased speeds, so that the margins intended by paragraph (c)(1)(iii) of these special conditions are maintained.

(v) Failures of the system that result in forced structural vibrations (oscillatory failures) must not produce loads that could result in detrimental deformation of primary structure.

(2) For the continuation of the flight. For the rotorcraft in the system failed state, and considering any appropriate reconfiguration and flight limitations, the following apply:

(i) The loads derived from the following conditions (or used in lieu of the following conditions) at speeds up to  $V_{NE}$  (power on and power off) (or the speed limitation prescribed for the remainder of the flight) and at the minimum and maximum main rotor

speeds (if applicable) must be determined:

(A) the limit symmetrical maneuvering conditions specified in §§ 27.337 and § 27.339;

(B) the limit gust conditions specified in § 27.341;

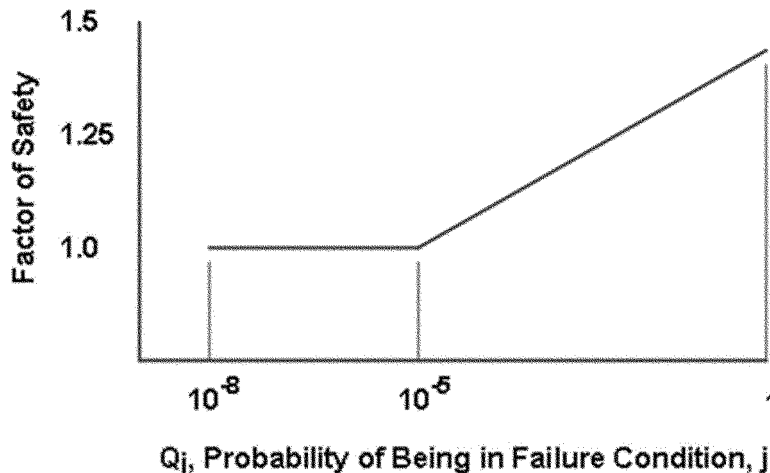
(C) the limit yaw maneuvering conditions specified in § 27.351;

(D) the limit unsymmetrical conditions specified in § 27.427; and

(E) the limit ground loading conditions specified in § 27.473.

(ii) For static strength substantiation, each part of the structure must be able to withstand the loads in paragraph (c)(2)(i) of these special conditions multiplied by a factor of safety depending on the probability of being in this failure state. The factor of safety is defined in Figure 2.

Figure 2. Factor of safety for continuation of flight.



$$Q_j = (T_j)(P_j)$$

Where:

$Q_j$  = Probability of being in failure condition  $j$

$T_j$  = Average time spent in failure condition  $j$  (in hours)

$P_j$  = Probability of occurrence of failure mode  $j$  (per hour)

**Note:** If  $P_j$  is greater than  $10^{-3}$  per flight hour, then a 1.5 factor of safety must be applied to all limit load conditions specified in subpart C.

(iii) For residual strength substantiation, the rotorcraft must be able to withstand two thirds of the ultimate loads defined in paragraph (c)(2)(ii) of these special conditions.

(iv) If the loads induced by the failure condition have a significant effect on fatigue or damage tolerance, then their effects must be taken into account.

(v) Freedom from flutter and divergence must also be shown up to 1.11  $V_{NE}$  (power on and power off), including any probable system failure condition combined with any damage required or selected for investigation by either § 27.571(e) or § 27.573(d).

(3) Consideration of certain failure conditions may be required by other sections of 14 CFR part 27 regardless of calculated system reliability. Where analysis shows the probability of these failure conditions to be extremely improbable, criteria other than those specified in this paragraph may be used for structural substantiation to show continued safe flight and landing.

(d) *Failure indications.* For system failure detection and indication, the following apply:

(1) The system must be checked for failure conditions, not shown to be extremely improbable, that degrade the structural capability below the level required by part 27 or that significantly reduce the reliability of the remaining operational portion of the system. As far as reasonably practicable, the flight crew must be made aware of these failures before flight. Certain elements of the control system, such as mechanical and hydraulic components, may use special periodic inspections, and electronic components may use daily checks, in lieu of detection and indication systems to achieve the objective of this requirement. These other means of detecting failures before flight are considered certification maintenance requirements and must be limited to components that are not readily detectable by normal detection and indication systems, and where service history shows that inspections will provide an adequate level of safety.

(2) The existence of any failure condition, not shown to be extremely

improbable, during flight that could significantly affect the structural capability of the rotorcraft and for which the associated reduction in airworthiness can be minimized by suitable flight limitations, must be signaled to the flight crew. For example, failure conditions that result in a factor of safety between the rotorcraft strength and the loads of subpart C below 1.25, or flutter and divergence margins below 1.11  $V_{NE}$  (power on and power off), must be signaled to the crew during flight.

(e) *Dispatch with known failure conditions.* If the rotorcraft is to be dispatched in a known system failure condition that affects structural performance, or that affects the reliability of the remaining operational portion of the system to maintain structural performance, then the provisions of these special conditions must be met, including the provisions of paragraph (b) for the dispatched condition and paragraph (c) for subsequent failures. Expected operational limitations may be taken into account in establishing  $P_j$  as the probability of failure occurrence for determining the safety margin in Figure 1. Flight limitations and expected operational limitations may be taken into account in establishing  $Q_j$  as the combined probability of being in the dispatched failure condition and the subsequent failure condition for the safety margins in Figure 2. These limitations must be such that the probability of being in this combined failure state and then subsequently encountering limit load conditions is extremely improbable. No reduction in these safety margins is allowed if the subsequent system failure rate is greater than  $10^{-3}$  per flight hour.

Issued in Kansas City, Missouri, on August 22, 2024.

**Patrick R. Mullen,**

*Manager, Technical Policy Branch, Policy and Standards Division, Aircraft Certification Service.*

[FR Doc. 2024–19329 Filed 8–27–24; 8:45 am]

**BILLING CODE 4910–13–P**

## DEPARTMENT OF TRANSPORTATION

### Federal Aviation Administration

#### 14 CFR Part 39

[Docket No. FAA–2024–2009; Project Identifier AD–2023–01286–R]

RIN 2120–AA64

#### Airworthiness Directives; MD Helicopters, LLC, Helicopters

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

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

**SUMMARY:** The FAA proposes to adopt a new airworthiness directive (AD) for certain MD Helicopters, LLC, Model 369 (Army YO–6A), 369A (Army OH–6A), 369D, 369E, 369F, 369FF, 369H, 369HE, 369HM, 369HS, 500N, and 600N helicopters. This proposed AD was prompted by multiple reports of cracked tail rotor (T/R) pedal support brackets. This proposed AD would require repetitively inspecting certain part-numbered T/R pedal support brackets and depending on the results, replacing the T/R pedal support bracket or refinishing any exposed areas. This proposed AD would also prohibit installing certain part-numbered T/R pedal support brackets. The FAA is proposing this AD to address the unsafe condition on these products.

**DATES:** The FAA must receive comments on this proposed AD by October 15, 2024.

**ADDRESSES:** You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- *Federal eRulemaking Portal:* Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.

- *Fax:* (202) 493–2251.

- *Mail:* U.S. Department of Transportation, Docket Operations, M–30, West Building Ground Floor, Room W12–140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- *Hand Delivery:* Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

*AD Docket:* You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA–2024–2009; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains this NPRM, any comments received, and other information. The street address for Docket Operations is listed above.

*Material Incorporated by Reference:*