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US Department of Transportation
Docket Operations
1200 New Jersey Avenue, SE
Room W12-140
Washington, DC 20590

In accordance with 14 CFR §11.15 and §11.81, Helicopter Association International (HAI), petitions on behalf of its members who conduct Part 91 and Part 135 helicopter operations for an exemption for relief from §§91.205(h)(7), 91.9(a), 135.160, and 135.179(a).

The nature and extent of the requested regulatory relief and reasons for requesting the relief:

The relief sought is to allow for helicopter operations under 14 CFR Parts 91 and 135 with radar (radio) altimeters that are considered either inoperative or unreliable by FAA determination due to radio frequency interference caused by the Federal Communications Commission's (FCC) allocation of a portion of the 3.7–3.98 GHz frequency band available for flexible use including 5G cellular applications.

The relief sought would allow Part 91 and 135 helicopter operators to operate with inoperative or unreliable radar (radio) altimeters beyond the constraints of FAA MMEL Policy Letter (PL) 131 for inoperative radar altimeters and allow operations at night to and from off-airport or unimproved landing areas. The relief would also allow the use of night vision goggles (NVGs) in helicopters without a normally functioning radar altimeter in accordance with 91.205 (h) (7) and /or rotorcraft flight supplement limitations (§91.9(a)) including landings at off-airport or unimproved landing areas.

We support our request with the following information

The Radio Technical Commission for Aeronautics (RTCA) compiled a report (RTCA Paper No. 274-20/PMC-2073) that revealed a major risk that 5G telecommunications systems in the 3.7–3.98 GHz band (C-Band) will cause harmful interference to radar altimeters on all types of civil aircraft including commercial transport airplanes; business, regional, and general aviation airplanes; and both transport and general aviation helicopters. The results of the study performed clearly indicate that this risk is widespread and has the potential for broad impacts to aviation operations in the United States, including the possibility of catastrophic failures leading to multiple fatalities, in the absence of appropriate mitigations. Further, the impacts are not only limited to the intentional emissions from 5G systems in the 3.7–3.98 GHz band, but also the spurious emissions from such systems within the protected 4.2–4.4 GHz radar altimeter band.

Currently, no information is available pertaining to which areas will be affected by 5G C-Band emissions but the report indicates the interference will be widespread and could occur anywhere 5G antennas are present and will include most areas where helicopters operate.

14 CFR §135.160 requires an operable radio (radar) altimeter, or an FAA-approved device that incorporates a radio altimeter, unless otherwise authorized in the certificate holder's approved minimum equipment list. While relief is available for inoperative radar altimeters via an operator's approved Minimum Equipment List (MEL), the MEL prohibits landing at off-airport or unimproved sites and prohibits operations using NVGs. With appropriate mitigations to ensure safe operations, HAI believes such operations can be conducted with an equivalent level of safety.

HAI believes 14 CFR §135.160 is too restrictive and should be amended to include Performance Based Equipment that will provide altitude above the ground (AGL) reporting in lieu of legacy radio altimeters. Until such time as the rule can be amended, HAI is seeking relief from 14 CFR §135.160(a) for operators who incorporate celestial satellite-based geo referenced altitude data that is acceptable to the administrator for reporting altitude above the ground reference.

Use of NVGs requires a normally functioning radar altimeter in accordance with §91.205 (h)(7) and limitations set forth in rotorcraft flight manual supplements for operations using NVGs. NVGs are presently used by the Helicopter Air Ambulance industry to increase the level of safety while conducting vital life-saving operations. An exemption from 91.205(h)(7) already exists for HAA operators as granted in Exemption No. 18973. HAI is petitioning on behalf of its other member segments who conduct helicopter flight training, aerial firefighting, and oil and gas exploration. With effective mitigations, HAI believes safe operations can be conducted at night to off-airport and unimproved landing sites with an inoperative or unreliable radar altimeter.

The reasons why a grant of exemption would be in the public interest and would benefit the public as a whole:

HAI believes a Grant of this Petition is in the best interest of the public as a whole.

Part 91 helicopter operations are crucial to sustaining a vital infrastructure. Training facilities conduct helicopter training, including NVG training, for pilots who will occupy the aircraft of downstream companies providing critical services to our nation's fabric. Aerial Firefighting aircraft support communities which are in danger of losing lives and property due to forest fires that are often sparked by acts of nature. Part 135 Oil and Gas helicopters fly and estimated 200,000 hours each year providing vital transport of personnel and equipment to and from offshore platforms that influence our national energy needs. Each of these segments of the helicopter industry support and enhance our national interest by sustaining our economic and social architecture. Not having the ability to conduct helicopter operations at off-airport/unimproved areas at night is severely handicapping the utility of the helicopter. Those mission sets are what make the

helicopter unique. Unlike other forms of aviation, the helicopter is a tool that serves our national interest by doing jobs that otherwise would be too dangerous or not performed at all.

14 CFR §135.160 does allow for operations with an inoperative radar altimeter however Master Minimum Equipment List (MMEL) Policy Letter (PL) -131 prohibits night landings at off-airport/unimproved areas. HAI estimates restricting night landing operations at off-airport/unimproved areas would deny the nation of vital services necessary to maintain safe and thriving communities.

The reason(s) why a grant of exemption would not adversely affect public safety or how the exemption would provide a level of safety at least equal to that provided by the rule(s) from which the exemption is sought:

An equivalent level of safety can be maintained in operations conducted under Part 91 by the use of proper preflight planning, minimum altitudes, VFR ceiling and visibility requirements higher than those specified in §91.155 for helicopters, and by raising minimum altitude requirements required in §91.119. For Part 135 operators, an equivalent level of safety can be achieved by increasing the minimum visibility requirement of §135.205, and for both operations, the use of ground personnel or supplemental ground lighting to assist in hazard identification when landing at off-airport or unimproved landing areas.

The latest generations of NVGs allow for the use of searchlights to detect and avoid obstacles when landing at off-airport or unimproved areas at night whereas earlier generations did not. The latest generation of NVGs also has a much higher level of visual acuity than former generations. Coupled together, this allows for a much better means of detecting obstacles and determining the rate of closure to a landing areas at night than a radar altimeter.

HAI proposes that an equivalent level of safety will be maintained by users of this Exemption provided the following Conditions and Limitations are complied with.

Conditions and Limitations

1. Helicopters may be operated under Parts 91 and 135 with an inoperative or unreliable radar altimeter, including operations to and from unimproved areas at night provided:

a. The aircraft is equipped with a moveable searchlight which the pilot must use to assist in obstacle detection.

b. Prior to landing, the pilot or other crewmember must contact personnel on the ground at the landing site to receive and confirm obstacle information for the landing site, or have adequate supplemental artificial lighting to allow the pilot in command to see and avoid potential flight hazards.

c. For VFR flight at night, flight crew must evaluate terrain and obstacles along the route and fly at such an altitude so as to ensure all terrain and obstacles along the route of flight are cleared vertically by no less than 500 feet.

d. VFR flight at night is not conducted without adequate visual surface light reference.

e. Flight crew is aware of potential degraded Autopilot performance on ILS, glideslope, or LPV.

f. Category A operations which require the use of the radar (radio) altimeter are not performed.

g. Overwater operations conducted beyond the autorotational distance from shoreline as defined in §135.168, shall not be conducted with a flight visibility of less than 1 statute miles during the day and 2 statute miles at night.

h. Overwater operations conducted beyond the autorotational distance from shoreline as defined in §135.168, shall maintain an altitude of at least 500 feet using a barometric altimeter from a source not farther than 100 nautical miles.

i. Part 91 Operators raise the Basic VFR weather minimums specified in §91.155 3 miles visibility at night and basic cloud clearances, 500 below, 1000 above, and 2000 horizontal.

j. Part 91 Operators increase minimum safe altitude requirements of 91.119(d) to to be equal to 91.119(a)(b)(c).

Note: Inoperable radar altimeters will be deferred in accordance with the certificate holder's approved Minimum Equipment List procedures.

2. Night vision goggle operations with an unreliable or inoperative radar altimeter, or with one that is suspected of not functioning normally, including operations to and from off-airport and unimproved landing sites may be conducted in accordance with the provisions set forth below.

a. The aircraft is equipped with a moveable searchlight which the pilot must use to assist in obstacle detection.

b. Prior to landing, the pilot or other crewmember must contact personnel on the ground at the landing site to receive and confirm obstacle information for the landing site.

3. Part 91 Operators and Part 135 Air Carriers and Air Operators will train all pilots prior to the use of this Exemption on the following:

a. The provisions of this Exemption.
b. The possibility that radar altimeter indications may be unreliable.
c. The radar altimeter could fail due to 5G C-Band radio frequency interference.
d. That pilots must be alert for, and be able to recognize, erroneous indications from the radar altimeter.

Summary

Helicopter Association International (HAI), petitions, on behalf of its membership of Part 91 Operators and Part 135 Helicopter Air Carriers/Operators for an exemption for relief from §§91.205(h)(7), 91.9(a), 135.160, and 135.179(a) to allow for operations to be conducted under 14 CFR Parts 91 and 135, including operations with NVGs and night landings and takeoffs from unimproved or off-airport sites, with inoperative or unreliable radar (radio) altimeters.

HAI requests the petition be given the highest priority and be processed in a most expeditious manner to avert an interruption in helicopter flight training, lifesaving operations, disruptions in the oil and gas industry, and aerial firefighting operations.

Sincerely,

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