



Management Association for Private Photogrammetric Surveyors
An Association of Photogrammetry, Mapping, and Geospatial Firms®

Federal Aviation Administration
Rotorcraft Directorate
Rotorcraft Standards Staff, ASW-111
(Attn: Ted Jones)
2601 Meacham Blvd
Fort Worth, TX 76137-0111

Request for Public Comments - Certification of Airborne Surveillance and Searchlight Systems Using Lasers or Infrared Searchlights in 14 CFR parts 27 and 29 Rotorcraft.

Dear Sirs:

MAPPS (www.mapps.org) is a national association of private sector geospatial profession. Our member firms are engaged in the use of fixed wing and rotorcraft for the conduct of aerial surveys, including aerial imagery, Light Detection and Ranging (LiDAR), and other methods of geospatial data acquisition.

We are deeply concerned that the policy initiated by the Rotorcraft Directorate is confusing with regard to the Airborne LiDAR Systems employed as mapping and surveying systems. The Airborne LiDAR Systems used in airborne mapping are neither surveillance nor searchlight systems.

The design of the Policy Statement is meant to address Lasers and Aviation Safety. The uses of search lights, FLIRS, Laser Pointers are the typical items in this category. General statements such as "installations of fully enclosed laser device..." are used to sweep the surveying and mapping LiDAR systems into the same policy trying to include LiDAR with the Airborne Surveillance and Searchlight Systems is not relevant and creates too much confusion.

In Form 70.1 the determination of MPE (Maximum Permissible Exposure) of lasers is well known to the firms operating LiDAR and is the source for determining the nominal ocular hazard distance (NOHD) and extended nominal ocular hazard distance (eNOHD) of laser systems. This method basically determines the distance along the laser beam where the beam does not exceed the MPE. This means that beyond that point the laser power contains no harm for the human eye or in the case of eNOHD, the human eye aided with binoculars or telescopes. The use of this structure to determine eye safe

elevations tied into mechanical and software interlocks is well known to the I profession and very acceptable.

The Food and Drug Administration (FDA) is clear on its determinations of its classifications and ratings of systems. The attempt by this policy to create new elements and thereby making the FDA classification null and void by the presence of a component of the laser system is unnecessary and harmful to our member firms. The inclusion of language that states “or a system that includes such a laser (Class IIIa, IIIBb, or IV laser) that through some internal mechanism diffuses the laser energy down...” circumvents FDA process and protocol. The FDA has laser experts that review the submissions of these systems.

The MAPPS firms that are producers of Airborne Mapping LiDAR instrumentation all comply with 21 CFR 1040.10. These systems undergo review by the FDA and all of the producers comply with the standards. These LiDAR systems are designed to be used as airborne mapping systems with careful attention to design and manufacture for the airborne environment.

Furthermore, the FAA Office of General Counsel has opined that LIDAR is not a laser pointer.

The incorporation of Mapping LiDAR into this policy will create confusion within the FAA and problems for the airborne mapping profession. The policy is not consistent with the reality of such LiDAR systems or their design. The changes to the FDA classification upends decades of knowledge and experience and creates confusion as to which agency is responsible for the laser classification structure. The lack of clarity and the use of generalized language will only create more problems and misunderstanding in related FAA groups and other government agencies. We respectfully urge a specific exemption for Mapping LiDAR in 14 CFR parts 27 and 29 Rotorcraft.

We would be pleased to meet with the FAA and answer any questions.

Sincerely,

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