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January 15, 2016

U.S. Department of Transportation
Federal Aviation Administration
800 Independence Avenue, SW
Washington, D.C. 20591

RE: Comment on Federal Aviation Administration's Registration and Marking Requirements for Small Unmanned Aircraft: Final Rule – 14 CFR Parts 1, 45, 47, et. al.

This letter concerns the Final Rule issued by the Federal Aviation Administration (FAA) requiring registration for unmanned aircraft systems (UAS), or drones. The League of California Cities has tracked this issue for well over a year. We have noted with growing alarm the increasing frequency of incidents in which UAS have interfered with first responder aircraft attempting to battle wildfires in California, to the point that on multiple occasions, those aircraft have had to be grounded for safety reasons due to UAS illegally operating in what was at that time flight-restricted airspace. In 2015 alone, three especially troubling incidents highlight the nature and severity of the problem:

- 1) In July 2015, in San Bernardino County, fixed-wing firefighting aircraft deployed to make air drops to help stop a blaze near the Cajon Pass had to be grounded due to illegal UAS activity in the area. A 3,500-acre wildfire subsequently crossed Interstate Highway 15, destroying 20 motor vehicles in the process, and went on to destroy a number of residential homes;
- 2) In August 2015, a civilian drone nearly collided with an air ambulance helicopter over the City of Fresno;
- 3) In the evening of December 5, 2015, over Highway 4 near the City of Martinez, a California Highway Patrol helicopter avoided a collision with a drone only by taking evasive action.

According to the U.S. Forest Service, on at least 19 separate occasions in 2015 drones have interfered with aircraft attempting to battle wildfires, compared with only four such incidents during 2014. In addition to these incidents, which are increasingly common, there is mounting evidence that UAS represent a growing threat to commercial aviation.

A nationwide study conducted by the Center for the Study of the Drone at Bard College, New York, published last month and entitled *Drone Sightings and Close Encounters: An Analysis*, revealed that in the period from December 17, 2013 and September 12, 2015, over 90 percent of incidents involving drones and commercial aircraft occurred above 400 feet, the maximum allowable altitude at which drones are allowed to fly pursuant to FAA regulations. The study revealed that there were 51 incidents in which a drone was sited 50 feet or less from an airliner, and 28 incidents in which pilots had to take evasive maneuvers to avoid a collision. Often the

drones were large enough to cause significant, possibly catastrophic damage in the event of a collision; of 340 drones identified in the study, 246 were multi-rotor, 76 fixed-wing.

Bard's study also included reported incidents at Los Angeles International Airport over a one-year period beginning December 8, 2014. It found 17 incidents of drone sightings in proximity to the airport. Eleven of the incidents, or 64 percent, were within the federally prohibited 5-mile radius. Ten of them were above 400 feet, ranging from altitudes of 500 to 4000 feet.

On September 30, 2015, the Denver Post reported that since June 2015, unauthorized drones have been spotted near Denver International Airport seven times, flying within 500 feet of approaching aircraft at altitudes as high as 3,600 feet, again well above the maximum altitude of 400 feet the FAA has established for drones.

In light of these incidents across the nation, the new FAA regulations that would specifically apply to recreational UAS for the first time were eagerly anticipated. Many of the incidents of the abuse or illegal use of recreational UAS may be based on consumer ignorance of aviation safety rules. This is specifically true for FAA regulations pertaining to model aircraft, which prior to December 2015 were the primary federal regulations that applied to UAS. This is compounded by the fact that many of the courses on how to safely operate UAS are privately sponsored.

The new FAA regulations, requiring registration before first flight for newly purchased drones, registration by February 19, 2016 for drones acquired and operated prior to December 21, 2015, as well as the recently launched FAA website, <http://knowbeforeyoufly.org/>, are all progressive steps that will help close the gap between what the general public knows and what it needs to know to safely operate UAS.

However, all of the wayward UAS activity that poses a threat to public safety cannot be attributed to consumer ignorance. In light of the breadth and intensity of illegal activity involving this technology, and the continuing threat of harm to first responders, commercial aviation, and the general public that this activity represents, stronger federal regulations would seem to be in order.

The League urges the Federal Aviation Administration to adopt stronger registration requirements. **Specifically, registration should be required prior to purchase.**

While registration is now required under the FAA regulations before first flight, by its own terms it appears to rely mainly on voluntary compliance. An individual purchasing a drone with the intention of using it to engage in activity in violation of FAA regulations will not comply with these requirements. And under the new regulations, there will be no mechanism to subsequently identify that person.

There are more effective means to acquire registration available. For example, point-of-sale registration at retail locations will better ensure compliance. For online sales, there should be a requirement that an internet browser be directed to the FAA website for purposes of registration before a consumer can complete a purchase.

In the context of the incidents providing evidence of the mounting threat to commercial aviation that UAS represent, the fact that the registration requirement is not crafted in a way that ensures a high degree of compliance is especially troubling. It is yet more disturbing in light of the limitations of the enforcement resources available to both the FAA and local law enforcement that were considered and factored into the Unmanned Aircraft System Registration Task Force deliberations that contributed so heavily to the development of the new FAA regulations. The fact that there are significant penalties under federal law for failure to register would not seem to provide a significant deterrent, given the strong likelihood of willfully evading the federal registration requirement and never being identified under the newly announced registration protocol.

Respectfully, the potential application of UAS technology to achieve criminal or terrorist objectives demand a far more proactive approach by federal authorities than that represented by the December 2015 regulations. On July 21, 2015, CNN reported that an 18-year old student in Connecticut, Austin Haughwout, effectively mounted a firearm on a civilian drone and devised a method of firing it remotely. In this instance, the student apparently crafted his “drone gun” merely as a school project, with the supervision of his college professor. But the criminal and terrorist action capabilities represented by this achievement is clear.

Civilian drones as large as small aircraft are now commercially available. They can deploy nets, carry high-resolution cameras, and be mounted with firearms. Given advances in radio technology, they can be operated and controlled from significant distances. Finally, they have been documented as capable of achieving altitudes of up to 4,000 feet, posing a potentially lethal threat to commercial airliners and other aircraft legally operating in the national airspace.

We respectfully urge the Federal Aviation Administration to adopt stronger registration requirements. If you have any questions or need any additional information, please contact me or the League’s public safety advocate, Tim Cromartie, at (916) 658-8200.

Sincerely,

A handwritten signature in cursive script that reads "Chris McKenzie".

Christopher McKenzie
Executive Director

cc: California Congressional Delegation