

New drone rules could benefit Iowa farmers, businesses



Matthew Patane, mpatane@dmreg.com 8:55 a.m. CST February 17, 2015



(Photo: Associated press file photo)

Newly proposed commercial rules for the use of unmanned aircraft open doors for Iowa farmers, Realtors and businesses to be more productive, experts said Monday.

"On one side we have this great economic development opportunity. (Unmanned aircraft) can have a huge impact on the productivity of farmland, so we don't want to miss that," said Richard Wlezien, chair of Iowa State University's Aerospace Engineering department.

Even so, the federal agency tasked with regulating the unmanned vehicles, commonly called drones, has to balance that potential productivity with safety and privacy concerns.

"On the other hand, some of these things have been flying where they shouldn't be," Wlezien said.

The business sector has been clamoring for more than year for the Federal Aviation Administration to set rules for using drones, which are now illegal to use for commercial ventures. Several other countries, including Canada, the United Kingdom and Denmark, already are using drones commercially.



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PEW SURVEY: [Personal, commercial drones a bad idea \(/story/tech/2014/04/17/pew-survey-asks-about-science-technology-future/7823681/\)](#)

The proposed rules the FAA released Sunday would limit drones to less than 55 pounds. They also would require drone operators to fly only during the day, maintain sight of their aircraft at all times and keep them under an altitude of 500 feet.

That's high enough to fly over the Ruan Center at 666 Grand Ave. in Des Moines, which is about 460 feet tall. Des Moines' tallest building, 801 Grand, is about 630 feet tall.

The FAA's proposals, which will now undergo a 60-day public-comment period, also require operators to be at least 17 years old, go through training and receive a certificate — a comfort for Wlezien.

"Where we are at today is the Wild West," Wlezien said. "People are flying these things everywhere."

It's expected to take two to three years for the draft rules to become final, the Associated Press reported.

Limited farm use

Chris Draper, the director of Simpson College's entrepreneur accelerator program, said the rules would help farmers and businesses get better images. But he doubts they would do much else to help farmers.

"What you're able to do is get great new angles without hiring a helicopter," said Draper, who previously worked for the FAA. "It will not enable crop dusting or chemical application of fields."

That imaging is important, however. The agriculture sector is looking to drones as a way to more effectively scout farmland.

"When you're doing manual scouting on the ground, unless you're walking down every row, it's very hard to get a comprehensive analysis of the field," said Kirk Demuth, chief operating officer for AgPixel.



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Based in Golden, Colo., AgPixel turns images of farmland into data for farmers and agronomists to analyze. The company's image-processing center is in Johnston.

Demuth said the use of drones would be more cost-effective for farmers trying to get precise information about their fields. For example, farmers can use the information to better manage pesticide and fertilizer placement.

"It's going to be good for farmers, good for the environment and overall good for people who like to eat," he said.

Helping buy and sell property

Realtors want to use drones to give customers more views of homes and offices.

"A lot of it is just being that company that is up to date with the latest technology," said Emily Whitmer, a spokeswoman for NAI Optimum. "It shows that we are ever evolving."

West Des Moines-based NAI has let the city of Waukee use its drone to monitor the progress of the city's Kettlestone project. The development will cover about 1,500 acres with housing, shops, offices, ponds, parks and trails.

Whitmer said NAI has not used its drone for business promotion purposes because of the federal rules prohibiting the commercial use of the unmanned vehicles.

"As soon as the laws are passed, we will certainly be all over that," she said.



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Steve Bruere, the president of Peoples Co., said he's pleased the FAA is providing some clarity.

Bruere's central Iowa brokerage firm started using a drone to appraise land last year, even though FAA rules prohibited commercial use.

"We've taken the stance that the risks of using it for our purposes have been pretty minimal. ... We're not flying over heavily populated areas; we're not invading anyone's privacy," he said.

Bruere added that Peoples' drone operator, Alan McNeil, looked at the FAA proposal and said the rules "are very lenient and agriculturally friendly."

Neither Bruere, Whitmer nor Demuth said they had problems with operators having to maintain a line-of-sight on the vehicles, even if it restricts how much land they can monitor in one shot.

"I don't think it's a problem, and it's definitely required for safety," Demuth said. "There's no way to maintain that critical collision avoidance" without line-of-sight.



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Dave Gosch, a spokesman for Rockwell Collins, said in an email that the company "commends the FAA for taking this important step."

The Cedar Rapids-based aviation technology firm has partnered with NASA to build technology for commercially used drones ([/story/money/business/2014/06/26/rockwell-collins-nasa-team-drone-project/11391793/](http://story.money.business/2014/06/26/rockwell-collins-nasa-team-drone-project/11391793/)) that would provide a data link between a drone in the air and its pilot on the ground.

"Integrating UAS (unmanned aircraft systems) into the national airspace is the next big thing in aviation, and we're excited to be a part of it," he said.

Getting involved

The FAA regulations could also boost innovation through startups and college students.

Jakob Steenhoek, a senior at Central College, said he's trying to turn a class project into a full-fledged business. The 22-year-old started working with drones as part of an entrepreneurial class, offering aerial photo and video services.

Steenhoek said the proposed rules will help direct his next steps for his potential company.

"This was really good news for me in a lot of ways," he said. "It's going to make it easier, from a business standpoint, to get involved."

Prices for drones vary, with some costing a few hundred dollars and others reaching above a thousand dollars.



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Vinveli, a startup that went through the Cedar Rapids-based Iowa Startup Accelerator program last year, built its company around drones.

Started in Texas, the company is developing software to manage and control unmanned aerial vehicles. Vinveli's team said one use would include monitoring wind turbines.

At its accelerator graduation in November, the Vinveli team said it would start doing business in India, since U.S. regulations forbid commercial use.

Wlezein said Iowa State has students studying new drone designs, but they can't operate them.

"Under the current rules, we can't fly them, but we can build them," he said.

Proposed rules

A rundown of some of the FAA's proposed drone rules.

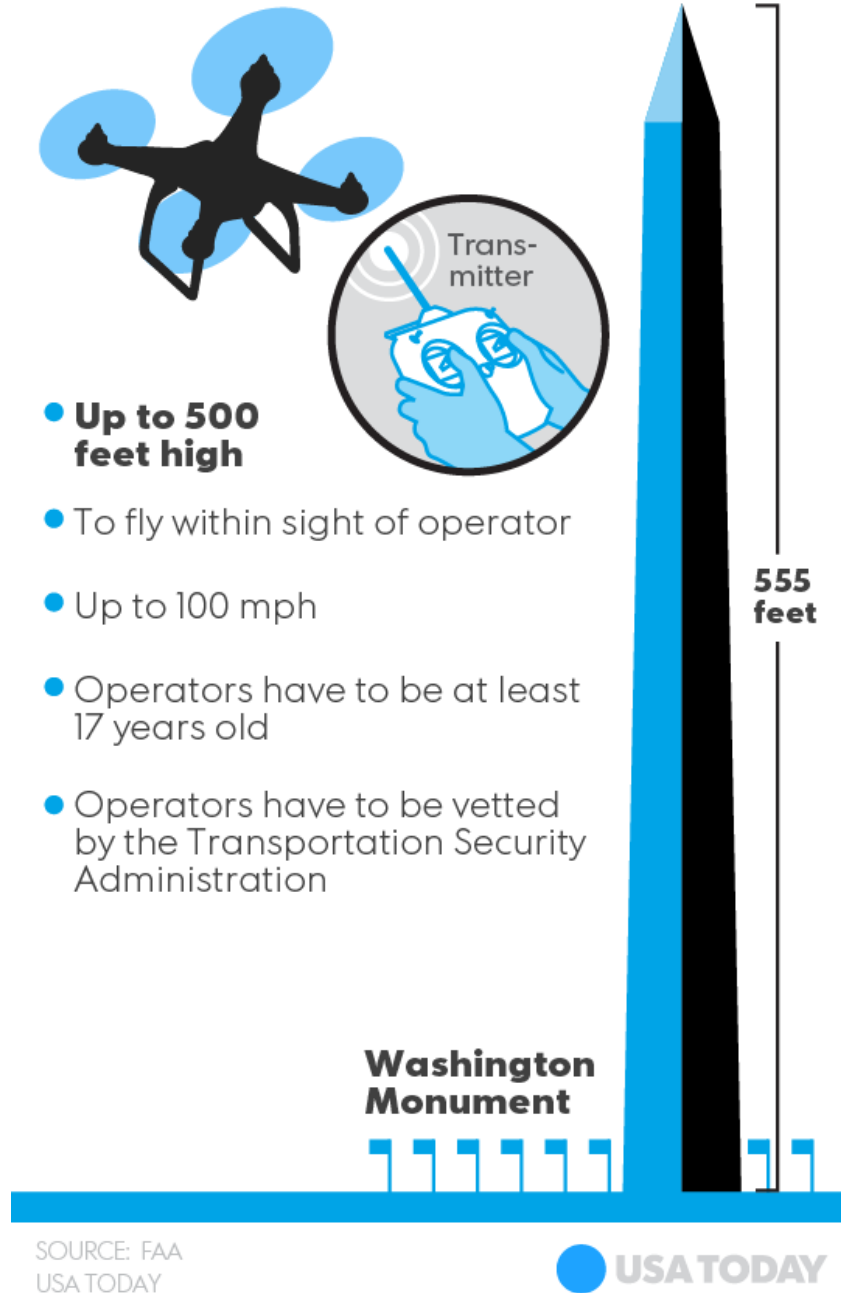
For drones

- Must weigh less than 55 pounds
- Must remain in visual line of sight of operator
- Must fly only in daylight
- Must not exceed airspeed of 100 mph
- Must not exceed altitude of 500 feet

For operators

- Must pass an aeronautical knowledge test
- Must pass a certification test every two years
- Must obtain an operator certificate
- Must be at least 17 years old
- Must be vetted by the Transportation Administration Authority

WHAT THE PROPOSAL WOULD ALLOW FOR COMMERCIAL DRONES



VIEW THE FULL REPORT: [Overview of Small UAS Notice of Proposed Rule](http://www.faa.gov/regulations_policies/rulemaking/media/021515_sUAS_Summary.pdf)
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Safety and privacy

The Federal Aviation Administration's proposals are just one step in how the U.S. deals with commercially used drones. They leave out a major concern for the future of drone use, however.

"They've punted on the big issues, which is how do we deal with unmanned vehicles operating in a space with manned vehicles," said Chris Draper, the director of Simpson College's entrepreneur accelerator program.

Richard Wlezien, chair of Iowa State University's Aerospace Engineering department, said the federal government has to find a middle ground that will allow new innovations with drone usage that still protects individuals and manned airplanes.

"It's a balancing issue. The FAA is in a tough place in that regard," Wlezien said.

Invasions of privacy and safety are two of the largest concerns.



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For privacy, Draper and Wlezien said unmanned aerial vehicles don't pose any different challenges than those prompted by satellite imagery, such as Google Maps, or traditional snooping.

"Looking from a practical standpoint, the only thing this thing can do is get 30 feet in the air and look in your office window," Draper said. "But I could have done that by going in the building next to you."

A more legitimate concern is safety, especially when it comes to untrained operators flying heavy drones near unaware pedestrians or near commercial airplanes.

"A common cause of major airplane accidents are birds being sucked into engines," Wlezien said. "Now imagine someone is flying a several-hundred-pound vehicle in the vicinity of the airport."



Alan McNeil flies drones over Iowa farmland for The Peoples Company, a land brokerage firm. Chris Gannon/The Register

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