

The Florida Senate
BILL ANALYSIS AND FISCAL IMPACT STATEMENT

(This document is based on the provisions contained in the legislation as of the latest date listed below.)

Prepared By: The Professional Staff of the Committee on Communications, Energy, and Public Utilities

BILL: CS/SB 832

INTRODUCER: Criminal Justice Committee and Senator Young

SUBJECT: Drones

DATE: April 18, 2017

REVISED: _____

	ANALYST	STAFF DIRECTOR	REFERENCE	ACTION
1.	<u>Cellon</u>	<u>Hrdlicka</u>	<u>CJ</u>	<u>Fav/CS</u>
2.	<u>Price</u>	<u>Miller</u>	<u>TR</u>	<u>Favorable</u>
3.	<u>Wiehle</u>	<u>Caldwell</u>	<u>CU</u>	<u>Pre-meeting</u>
4.	_____	_____	<u>RC</u>	_____

Please see Section IX. for Additional Information:

PLEASE MAKE SELECTION

I. Summary:

CS/SB 832 creates the “Unmanned Aircraft Systems Act.” It preempts local governments from regulating the operation of unmanned aircraft systems, but does allow them to enact or enforce local ordinances relating to illegal acts arising from the use of unmanned aircraft systems if the ordinances are not specifically related to the use of a drone to commit the illegal acts.

The bill protects critical infrastructure facilities by prohibiting any person from knowingly or willfully:

- operating a drone over a critical infrastructure facility;
- allowing a drone to make contact with a critical infrastructure facility, including any person or object on the premises of or within the facility; or
- allowing a drone to come within a distance of a critical infrastructure facility that is close enough to interfere with the operations of or cause a disturbance to the facility.

The bill creates exemptions to this prohibition. A first violation of the prohibition is a second degree misdemeanor and a second or subsequent is a first degree misdemeanor.

The bill also amends s. 934.50, F.S., to authorize the use of a drone by a communications service provider or a contractor for a communications service provider for routing, siting, installation, maintenance, or inspection of facilities used to provide communications services.

The bill takes effect July 1, 2017.

II. Present Situation:

Drones typically range in size from wingspans of 6 inches to 246 feet and can weigh from approximately 4 ounces to over 25,600 pounds.¹ They may be controlled manually or through an autopilot which uses a data link to connect the drone's pilot to the drone.² Other terms for "drones" are Unmanned Aerial Systems (UAS) and Unmanned Aerial Vehicles (UAV).

Examples of non-military uses for drones include earthquake damage assessment at Japan's Fukushima power plant, volcano activity assessment of Mount St. Helens in Washington for the U.S. Geological Survey, and surveying wildfires in Texas.³ The University of Florida's Unmanned Aerial Systems Research Group has developed an 11-pound drone having a 9-foot wingspan called "Nova 2.1" which it says can be used to safely and accurately gather data that will be helpful to wildlife biologists and many others.⁴

The drone industry is motivated to move into more civilian markets.⁵ It also appears that civilian markets are ready to adopt the drone industry. According to the Consumer Electronics Association, drone shipments will increase from 250,000 units in 2014 to nearly a million in 2018.⁶

Congress authorized the FAA to regulate the areas of airspace use, management and efficiency, air traffic control, safety, navigational facilities, and aircraft noise at its source.⁷ In February of 2012, Congress passed the FAA Modernization and Reform Act of 2012, which required the FAA to safely open the nation's airspace to drones by September 2015.⁸ The FAA authorized the testing of UAS at six sites around the country as part of its efforts to safely open airspaces.⁹ Many companies and individuals have applied for approval by the FAA to operate UAS in national airspace. These included airworthiness certificates to film for motion pictures, precision agriculture, and real estate, and to inspect distribution towers, wiring, and infrastructure. Over 5,000 such grants of operation had been approved before the end of 2016, including to

¹ 14 CFR Part 91, Docket No. FAA-2006-25714, 72 FR 6689, Department of Transportation, Federal Aviation Administration, *Unmanned Aircraft Operations in the National Airspace System*, February 13, 2007.

² *Id.*

³ James Chiles, *Drones for Hire*, Air & Space Smithsonian, January 2013, <http://www.airspacemag.com/flight-today/drones-for-hire-125909361/?all>, (last visited March 17, 2017).

⁴ James Dean, *Florida Hopes to Fill Its Skies with Unmanned Aircraft*, Florida Today, June 23, 2012, <http://usatoday30.usatoday.com/news/nation/story/2012-06-23/increased-drone-use-privacy-concerns/55783066/1>, (last visited March 17, 2017). Mickie Anderson, *UF Team's Work Pays Off With Unmanned-flight System that Captures Valuable Data*, Phys Org, October 20, 2010, <http://phys.org/news/2010-10-uf-team-unmanned-flight-captures-valuable.html>. (last visited March 17, 2017).

⁵ James Chiles, *Drones for Hire*, Air & Space Smithsonian, January 2013, <http://www.airspacemag.com/flight-today/drones-for-hire-125909361/?all>, (last visited March 17, 2017).

⁶ Larry Downes, *What's Wrong with the FAA's New Drone Rules*, Harvard Business News, March 2, 2015.

⁷ 49 U.S.C. ss. 40103, 44502, and 44701-44735.

⁸ Public Law 112-95, February 14, 2012, The FAA Modernization and Reform Act of 2012; Richard Thompson, *Drones in Domestic Surveillance Operations: Fourth Amendment Implications and Legislative Responses*, Congressional Research Service, April 3, 2013, available at www.fas.org/sgp/crs/natsec/R42701.pdf (last visited March 17, 2017).

⁹ Federal Aviation Administration, *Fact Sheet – FAA UAS Test Site Program*, December 30, 2013, available at https://www.faa.gov/news/fact_sheets/news_story.cfm?newsId=15575 (last visited March 17, 2017).

companies such as Amazon Logistics, Inc., and Alphabet, Inc. (Google).¹⁰ Amazon is working on a package delivery system called “Prime Air.”¹¹ Alphabet’s Project Wing has been testing delivery of food and other perishables.¹²

In June of 2016, the FAA adopted rules for the operation of small UAS.¹³ Small UAS¹⁴ must be operated in accordance with the following limitations:

- cannot be flown faster than a groundspeed of 87 knots (100 miles per hour);
- cannot be flown higher than 400 feet above ground level, unless flown within a 400-foot radius of a structure and does not fly higher than 400 feet above the structure’s immediate uppermost limit;
- minimum visibility, as observed from the location of the control station, may not be less than 3 statute miles; and
- minimum distance from clouds may be no less than 500 feet below a cloud and no less than 2000 feet horizontally from the cloud.¹⁵

The sole current Florida Statute on drones, s. 934.50, F.S., relates primarily to use by law enforcement.¹⁶ The statute defines a drone as a powered, aerial vehicle that: does not carry a human operator; uses aerodynamic forces to provide vehicle lift; can fly autonomously or be piloted remotely; can be expendable or recoverable; and can carry a lethal or nonlethal payload. The statute prohibits a person using a drone to record an image of either privately owned real property or a person lawfully on such property with the intent to thereby obtain information about the property or person, in violation of such person’s reasonable expectation of privacy, and without his or her written consent. The statute exempts from this prohibition the following uses of drones:

- use by a person or an entity engaged in a business or profession licensed by the state only to perform reasonable tasks within the scope of practice or activities permitted under such person’s or entity’s license;
- use by a property appraiser solely for the purpose of assessing property for ad valorem taxation;

¹⁰ Federal Aviation Administration, *It’s (a) Grand! FAA Passes 1,000 UAS Section 333 Exemptions*, August 4, 2015, available at <https://www.faa.gov/news/updates/?newsId=83395> (last visited March 17, 2017); *Section 333*, as of September 28, 2016, available at https://www.faa.gov/uas/beyond_the_basics/section_333/ (last visited March 17, 2017); *Amazon Gets Experimental Airworthiness Certificate*, March 19, 2015, available at <https://www.faa.gov/news/updates/?newsId=82225> (last visited March 17, 2017). Additionally, realtors and real estate-related drone operators in Texas, California, and Pennsylvania have been issued testing certificates by the FAA. Matt Carter, *FAA approves more real estate drone flights, but there’s a catch*, March 9, 2015, available at <http://www.inman.com/2015/03/09/faa-approves-more-real-estate-drone-flights> (last visited March 17, 2017).

¹¹ Matt McFarland, *Amazon’s delivery drones may drop packages via parachute*, CNN Tech, February 14, 2017, available at <http://money.cnn.com/2017/02/14/technology/amazon-drone-patent/>, (last visited March 17, 2017).

¹² Mark Bergen, *Alphabet Taps Breaks on Drone Project, Nixes Starbucks Partnership*, Bloomberg Technology, November 8, 2016, available at <https://www.bloomberg.com/news/articles/2016-11-08/alphabet-taps-brakes-on-drone-project-nixing-starbucks-partnership> (last visited March 17, 2017).

¹³ Title 14 CFR Part 107, Small Unmanned Aircraft Systems.

¹⁴ *Id.*, Drones weighing less than 55 pounds.

¹⁵ U.S. Department of Transportation, Federal Aviation Administration, Advisory Circular No. 107-2, June 21, 2016, pages 5-8 and 5-9.

¹⁶ Section 934.50, F.S.

- use to capture images by or for an electric, water, or natural gas utility: for operations, maintenance, and inspection of utility facilities including facilities used in the generation, transmission, or distribution of electricity, gas, or water, for the purpose of maintaining utility system reliability and integrity; for assessing vegetation growth for the purpose of maintaining clearances on utility rights-of-way; for utility routing, siting, and permitting for the purpose of constructing utility facilities or providing utility service; or for conducting environmental monitoring, as provided by federal, state, or local law, rule, or permit;
- use for aerial mapping if the person or entity using a drone for this purpose is operating in compliance with Federal Aviation Administration regulations;
- use to deliver cargo, if the person or entity using a drone for this purpose is operating in compliance with Federal Aviation Administration regulations; and
- use to capture images necessary for the safe operation or navigation of a drone that is being used for a purpose allowed under federal or Florida law.¹⁷

III. Effect of Proposed Changes:

CS/SB 832 creates the “Unmanned Aircraft Systems Act.” It preempts regulation of the operation of unmanned aircraft systems¹⁸ to the state except as provided in federal regulations, authorizations, or exemptions. The bill does allow a local government to enact or enforce local ordinances relating to nuisances, voyeurism, harassment, reckless endangerment, property damage, or other illegal acts arising from the use of unmanned aircraft systems if such laws or ordinances are not specifically related to the use of an unmanned aircraft system for those illegal acts. It prohibits a political subdivision from enacting or enforcing an ordinance or resolution relating to the design, manufacture, testing, maintenance, licensing, registration, certification, or operation of an unmanned aircraft system, including airspace, altitude, flight paths, equipment or technology requirements; the purpose of operations; and pilot, operator, or observer qualifications, training, and certification.

The bill requires any person or governmental entity seeking to restrict or limit the operation of drones in close proximity to infrastructure or facilities that the person or governmental entity owns or operates to apply to the Federal Aviation Administration for such designation pursuant to section 2209 of the FAA Extension, Safety, and Security Act of 2016.¹⁹

¹⁷ Section 934.50(4)(d), (e), (f), and (h), F.S.

¹⁸ “Unmanned aircraft system” means a drone and its associated elements, including communication links and the components used to control the drone which are required for the pilot in command to operate the drone safely and efficiently. “Drone” has the same meaning as s. 934.50(2), F.S., which is, a powered, aerial vehicle that: does not carry a human operator; uses aerodynamic forces to provide vehicle lift; can fly autonomously or be piloted remotely; can be expendable or recoverable; and can carry a lethal or nonlethal payload.

¹⁹ Public Law 114-190, Section 2209(b)(1)(C) (Applications for Designation); 49 USC 40101 (UAS Safety, Sec. 2209). This section provides for designation of “fixed site facilities.” Only the following can be so designated: critical infrastructure, such as energy production, transmission, and distribution facilities and equipment; oil refineries and chemical facilities; amusement parks; and other locations that warrant such restrictions. In determining whether to grant an application for designation, the FAA administrator may consider aviation safety, protection of persons and property on the ground, national security, or homeland security. In an affirmative designation, the FAA will outline the boundaries for UAS operation near the fixed site facility and such other limitations that the FAA administrator determines may be appropriate.

The bill protects critical infrastructure facilities²⁰ by prohibiting any person from knowingly or willfully:

- operating a drone over a critical infrastructure facility;
- allowing a drone to make contact with a critical infrastructure facility, including any person or object on the premises of or within the facility; or
- allowing a drone to come within a distance of a critical infrastructure facility that is close enough to interfere with the operations of or cause a disturbance to the facility.

A first violation of this prohibition is a second degree misdemeanor and a second or subsequent is a first degree misdemeanor.

The prohibition does not apply to prohibited actions which are committed by:

- a federal, state, or other governmental entity, or a person under contract or otherwise acting under the direction of a federal, state, or other governmental entity;
- a law enforcement agency that is in compliance with s. 934.50, F.S., or a person under contract with or otherwise acting under the direction of such law enforcement agency; or
- an owner, operator, or occupant of the critical infrastructure facility, or a person who has prior written consent of such owner, operator, or occupant.

Additionally, the prohibition against operating a drone over a critical infrastructure facility does not apply to a drone operating in transit for commercial purposes in compliance with Federal Aviation Administration regulations, authorizations, or exemptions.

The act is to be construed in accordance with standards imposed by federal statutes, regulations, and Federal Aviation Administration guidance on unmanned aircraft systems.

The bill also amends s. 934.50, F.S., to authorize the use of a drone by a communications service provider or a contractor for a communications service provider for routing, siting, installation, maintenance, or inspection of facilities used to provide communications services.

The bill takes effect July 1, 2017.

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

²⁰ “Critical infrastructure facility” means any of the following, *if* completely enclosed by a fence or other physical barrier that is obviously designed to exclude intruders, *or if* clearly marked with a sign or signs which indicate that entry is forbidden and which are posted on the property in a manner reasonably likely to come to the attention of intruders.

- An electrical power generation or transmission facility, substation, switching station, or electrical control center.
- A natural gas compressor station, storage facility, or natural gas pipeline.
- A liquid natural gas terminal or storage facility.
- Any portion of an aboveground oil or gas pipeline.
- A wireless communications facility, including tower, antennae, support structures, and all associated ground-based equipment.

B. Public Records/Open Meetings Issues:

None.

C. Trust Funds Restrictions:

None.

V. Fiscal Impact Statement:**A. Tax/Fee Issues:**

None.

B. Private Sector Impact:

None.

C. Government Sector Impact:

None.

VI. Technical Deficiencies:

None.

VII. Related Issues:

The bill protects listed critical infrastructure facility but only if the infrastructure is either: completely enclosed by a fence or other physical barrier obviously designed to exclude intruders; or clearly marked with a sign which indicates that entry is forbidden and which is posted on the property in a manner reasonably likely to come to the attention of intruders. This provision raises two problems. First, the signage requirements to meet a standard of “reasonably likely to come to the attention of intruders” are far more difficult to determine and to comply with for drone operators than for ground level intruders. The fact that some drones will not be equipped with cameras or other imaging devices compounds the problem. Second, some types of facilities, such as an electrical transmission line, may be difficult or impossible to fence or adequately post.

Local governments that have adopted local ordinances regulating the use of drones that conflict with the provisions of the bill will need to repeal or amend their ordinances. Examples of local ordinances include:

- Defuniak Springs adopted an ordinance that requires commercial users of drones to register with the Defuniak Springs Police Department and to notify the Department at least 4 hours prior to each commercial use, with second degree misdemeanor penalties for a violation.²¹
- The Town of Palm Beach requires a permit, permit fee, \$1 million of liability insurance, and approval of the Director of Public Safety to operate a drone.²²

²¹ Section 22-52, Defuniak Springs, Florida City Code (Ord. No. 866, May 23, 2016).

²² Chapter 14, Article II, Section 14-35, Town of Palm Beach, Florida Code (Ord. No. 08-2016, June 14, 2016).

VIII. Statutes Affected:

The bill substantially amends section 934.50 of the Florida Statutes.

The bill creates section 330.41 of the Florida Statutes.

IX. Additional Information:**A. Committee Substitute – Statement of Changes:**

(Summarizing differences between the Committee Substitute and the prior version of the bill.)

CS by Criminal Justice on March 21, 2017:

The CS:

- Deleted the definition of “person” used in the bill;
- Eliminated the provision wherein the state would preempt authority from local governments over unmanned aircraft systems (UAS) ownership;
- Recognized the federal government’s authority to regulate the “airspace” by including a reference to federal regulations, authorizations, or exemptions;
- Added an exception to the bill to allow for drones operating in transit for commercial purposes in compliance with federal requirements to operate a drone over a “critical infrastructure facility,” as defined in the bill; and
- Made technical changes.

B. Amendments:

None.