

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 Transportation

BILL: CS/SB 832

INTRODUCER: Criminal Justice Committee and Senator Young

SUBJECT: Drones

DATE: April 3, 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>Pre-meeting</u>
3.	_____	_____	<u>CU</u>	_____
4.	_____	_____	<u>RC</u>	_____

Please see Section IX. for Additional Information:

PLEASE MAKE SELECTION

I. Summary:

CS/SB 832 creates s. 330.41, F.S., relating to the lawful use of unmanned aircraft systems (drones) around and over critical infrastructure facilities. The bill creates new misdemeanor crimes prohibiting a person from knowingly and willfully operating a drone over or around certain critical infrastructure facilities.

The bill provides an exception from the prohibition against a person operating a drone over a critical infrastructure facility to allow a drone in transit for commercial purposes to fly over the facility.

The bill requires adherence to Federal Aviation Authority (FAA) regulatory authority by a facility seeking designation as a critical infrastructure facility for purposes of flight pattern regulation. The bill appears to exempt governmental entities and law enforcement agencies, under certain circumstances, from the drone airspace prohibition created in the bill.

The bill defines a “critical infrastructure facility” as:

- 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; or

- A wireless communications facility, including tower, antennae, support structures, and all associated ground-based equipment.

The bill preempts local government authority to regulate the operation of unmanned aircraft systems but carves out exceptions for local government authority not specifically related to the use of drones.

The bill also amends s. 934.50, F.S., to add an exception to the prohibited uses of drones for communications service providers or their contractors for routing, siting, installation, maintenance, or inspection of facilities used to provide communications services.

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 Although "drone" has become almost a household word, the devices are also called Unmanned Aerial Vehicles (UAVs) and Unmanned Aerial Systems (UASs).

Some examples of non-military uses for drones have included 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 wild fires in Texas.³ At the University of Florida, the Unmanned Aerial Systems Research Group has developed an 11-pound drone having a 9-foot wingspan, which is called "Nova 2.1." According to researchers, it 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 has vested the FAA with authority to regulate the areas of airspace use, management and efficiency, air traffic control, safety, navigational facilities, and aircraft noise at its source.⁷

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.

In February 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.⁹ Many companies and individuals have applied for approval by the FAA to operate UASs 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 had been approved before the end of 2016, including 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 UASs.¹³ Small UASs 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 being no less than 500 feet below a cloud and no less than 2000 feet horizontally from the cloud.¹⁴

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).

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

Florida enacted legislation in 2012 and 2015 to regulate the use of drones.¹⁵ The focus of the legislation was law enforcement use of drones, general privacy issues, and the authorization of some commercial use.¹⁶

III. Effect of Proposed Changes:

The bill creates s. 330.41, F.S., relating to the lawful use of UASs around and over critical infrastructure facilities.

The bill also amends s. 934.50, F.S. to add an exception to the prohibited uses of drones for communications service providers or their contractors for routing, siting, installation, maintenance, or inspection of facilities used to provide communications services.

Protection of “Critical Infrastructure Facilities” from Interference by Drones (Section 1)

The bill creates new misdemeanor crimes prohibiting a person from knowingly and willfully operating a drone over or around certain critical infrastructure facilities.

The bill provides an exception from the prohibition that allows for operating a drone over a critical infrastructure facility if the drone is in transit for commercial purposes and complies with FAA requirements.

A “critical infrastructure facility” is defined in the bill as:

- 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; or
- A wireless communications facility, including tower, antennae, support structures, and all associated ground-based equipment.

The definition requires that the facility be completely enclosed by a fence or other physical barrier that is obviously designed to exclude intruders, or clearly marked with a sign or signs indicating that entry is forbidden which are posted on the property in a manner reasonably likely to come to the attention of intruders.

The definition of “drone” in s. 934.50(2), F.S., is adopted by the bill.¹⁷

¹⁵ Section 934.50, F.S.

¹⁶ Uses that are not prohibited by Florida law include: the use of drones by property appraisers to assess property for ad valorem taxation; to capture images by or for an electric, water, or natural gas utility for specified purposes; and to deliver cargo. s. 934.50(4)(e), (f), and (h), F.S.

¹⁷ “Drone” means 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. s. 934.50(2)(a), F.S.

“Unmanned aircraft system” is defined by the bill as 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.

The bill creates a second degree misdemeanor offense¹⁸ prohibiting a 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.

It is a first degree misdemeanor to commit a second or subsequent violation of the prohibition.¹⁹

The bill provides that s. 330.41(4), F.S., does not apply to these actions committed by the following:

- 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.

The bill provides that a person or governmental entity seeking to restrict or limit the operation of drones in close proximity to “infrastructure or facilities” that the person or entity owns or operates must apply to the Federal Aviation Administration (FAA) for such affirmative designation pursuant to Section 2209 of the FAA Extension, Safety, and Security Act of 2016 (the FAA Act).²⁰

The FAA Act states that only the following may be considered by the Secretary of Transportation to be “fixed site facilities”:

- 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.²¹

The FAA administrator may consider aviation safety, protection of persons and property on the ground, national security, or homeland security in determining whether to grant the application for designation as a fixed site facility.²²

¹⁸ A second degree misdemeanor is punishable by up to 60 days in jail and up to a \$500 fine. ss. 775.082 and 775.083, F.S.

¹⁹ A first degree misdemeanor is punishable by up to a year in jail and up to a \$1,000 fine. ss. 775.082 and 775.083, F.S.

²⁰ Although s. 330.41(3)(d), F.S., of Section 1 of the bill refers to “infrastructure or facilities,” presumably this part of the bill is referring to “critical infrastructure facilities” as defined in the bill.

²¹ Public Law 114-190, Section 2209(b)(1)(C) (Applications for Designation); 49 USC 40101 (UAS Safety, Sec. 2209).

²² Public Law 114-190, Section 2209(b)(2)(C) (Applications for Designation); 49 USC 40101 (UAS Safety, Sec. 2209).

An affirmative designation by 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.²³

Preemption

The bill vests in the state the authority to regulate the operation of UAS's.

The bill does not, however, limit local government authority to enact and enforce local ordinances that do not specifically relate to the use of a UAS. This type of ordinance includes acts addressing nuisances, voyeurism, harassment, reckless endangerment, property damage, or other illegal acts arising from the use of UAS's.

The bill provides that a county or municipality may not enact or enforce 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;
 - Purpose of operations; and
 - Pilot, operator, or observer qualifications, training, and certification.

The bill also requires that the new statute (s. 330.41, F.S.) be construed in accordance with standards imposed by federal statutes, regulations, and FAA guidance on UAS's.

Exception Created in s. 934.50, F.S. (Section 2)

The bill amends s. 934.50(4), F.S., to create a new exception to the statutory prohibitions on the use of drones.

The bill allows a drone to be used by a communication service provider or its contractor for routing, siting, installation, maintenance, or inspection of facilities used to provide communication services.

Effective Date (Section 3)

The bill is effective on July 1, 2017.

²³ Public Law 114-190, Section 2209(b)(2)(B) (Applications for Designation); 49 USC 40101 (UAS Safety, Sec. 2209).

IV. Constitutional Issues:

A. Municipality/County Mandates Restrictions:

None.

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:

Local governments that have adopted local ordinances regulating the use of UAS's that are determined to be in conflict with the provisions of the bill will need to be amended or repealed.

Examples of local ordinances include:

- Defuniak Springs has created second degree misdemeanor penalties for the violation of its ordinance which includes a requirement that commercial users of UAV's register with and notify the Defuniak Springs Police Department at least four hours prior to each commercial use.²⁴
- 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.²⁵

²⁴ Section 22-52, Defuniak Springs, Florida City Code (Ord. No. 866, May 23, 2016).

²⁵ Chapter 14, Article II, Section 14-35, Town of Palm Beach, Florida Code (Ord. No. 08-2016, June 14, 2016).

VIII. Statutes Affected:

This bill substantially amends section 934.50 of the Florida Statutes.

This 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.