

UNMANNED AIRCRAFT SYSTEMS - BACKGROUND MEMORANDUM

Section 14 of House Bill No. 1018 (2019) ([appendix](#)) directs the Legislative Management to study the future administration and regulation of the unmanned aircraft systems (UAS) industry in North Dakota, including beyond visual line of sight (BVLOS) UAS. The study must include a determination of the appropriate state agency or private entity to be assigned the responsibility of regulating UAS programs, including licensing, registration, appropriate fees, and other responsibilities. The study may include a review of the audited financial statements associated with the BVLOS UAS of an entity receiving funding from the appropriation for the BVLOS UAS program in Section 12 of the bill.

Section 12 of the bill provides a supplemental appropriation of \$28 million to the Department of Commerce for a BVLOS UAS program. Section 13 creates a new section to North Dakota Century Code Chapter 54-60 to establish a BVLOS UAS program for the design, purchase, implementation, and operating costs of BVLOS UAS. The department must require any entity receiving funding for this program which is operating the BVLOS UAS to provide quarterly payments to the State Treasurer equal to 3 percent of the entity's gross income associated with the operation of the BVLOS UAS as reported in the entity's prior year financial statements. Any funds received under this section are to be deposited in the state general fund.

The Commerce Committee is charged with receiving semiannual reports from the Department of Commerce regarding the development of the BVLOS UAS program and the total amount deposited in the general fund. The committee also is charged with receiving semiannual reports from the department regarding the status of the program to establish and administer a UAS test site.

BACKGROUND

House Bill No. 1018, the agency appropriation bill for the Department of Commerce, was amended by the House to include a Legislative Management study of the future administration and regulation of the UAS industry in North Dakota, including BVLOS UAS.

The Federal Aviation Administration (FAA) has adopted the name unmanned aircraft to describe aircraft systems without a flight crew on board. Other common names include unmanned aerial vehicles (UAV) or drones. An unmanned aircraft system can range in size from a toy that weighs a few ounces to military units capable of carrying loads of over 3,000 pounds.

While unmanned aircraft originated mostly in military applications, usage is quickly expanding to commercial, scientific, recreational, and other applications. Various public and private entities are utilizing UAS in numerous areas and industries such as agriculture and farming; oil, gas, and mineral exploration; law enforcement; search and research operations; commercial and motion picture filmmaking; real estate photography; news and journalism; aerial product delivery and shipping; and weather forecasting and monitoring. Individuals also are using UAS for recreational use and hobbies.

NORTH DAKOTA'S UNMANNED AIRCRAFT SYSTEMS INDUSTRY

Since 2013, North Dakota has invested more than \$40 million to advance UAS research and development. The 2013 Legislative Assembly established the UAS program and UAS program fund in Senate Bill No. 2018, provided a one-time appropriation of \$5 million, and provided a continuing appropriation to defray the expenses of the UAS program. The legislation required the Department of Commerce to establish the UAS program in collaboration with the University of North Dakota, the Aeronautics Commission, the Adjutant General, and private parties; to administer the UAS test site upon receiving FAA approval; and to provide semiannual reports to the Legislative Management. Funding is provided to the Northern Plains UAS Test Site located in Grand Forks.

The Northern Plains UAS Test Site is one of seven FAA UAS test sites in the United States and was the first test site to conduct flights, launching its first research flight in May 2014. The Northern Plains Unmanned Systems Authority oversees the Northern Plains UAS Test Site. The authority is chaired by the Lieutenant Governor and includes representatives from the University of North Dakota, North Dakota State University, the Aeronautics Commission, the Department of Commerce, the Adjutant General, and the North Dakota Aviation Council.

Over \$2.7 million was appropriated for the UAS program for the 2015-17 biennium, with \$1.2 million designated for a business incentive match fund to incentivize private sector business development related to the test site. The 2017 Legislative Assembly appropriated \$30 million for the UAS program. The 2019 Legislative Assembly provided a supplemental appropriation of \$28 million to the Department of Commerce for a BVLOS UAS program for the 2017-19 biennium. As opposed to visual line of sight flights which are performed within the UAS pilot's line of sight,

BVLOS flights are performed out of visual range. The 2019 Legislative Assembly also appropriated \$4.25 million to the department for the UAS program for the 2019-21 biennium.

Senate Bill No. 2018 (2013) also established the enhanced use lease grant program and provided a one-time appropriation of \$2.5 million to the Department of Commerce to develop the program and award grants. The department was directed to award grants for constructing infrastructure required for an enhanced use lease private sector business development project located on or adjacent to the Grand Forks Air Force Base. In February 2015, Grand Sky Development Company entered an agreement on behalf of Grand Forks County with the Grand Forks Air Force Base to form the Grand Forks Business Park. Grand Sky provides Grand Forks Air Force Base lease tenants the ability to test UAS and BVLOS UAS flights in partnership with the Northern Plains UAS Test Site. During the 2015-17 biennium, \$7.5 million was appropriated for the enhanced use lease grant program. During both the 2017-19 and 2019-21 bienniums, \$3 million was appropriated for the program.

FEDERAL REGULATION

The FAA is authorized by federal law to regulate the use of navigable airspace to ensure the safety of aircraft and the efficient use of airspace; however, states and local governments have begun promulgating drone regulations that may lead to issues of preemption.

In *Singer v. City of Newton*, 284 F. Supp. 3d 125, 131 (D. Mass. 2017), a certified small unmanned aircraft pilot challenged a local ordinance passed by Newton, Massachusetts which prohibited drone flights below 400 feet without the property owner's permission. The pilot argued the ordinance left no way to operate a drone in the national airspace as FAA regulations prohibit operating a drone more than 400 feet above the ground or the top of a building. The federal district court ruled in favor of the pilot, noting the ordinance was in direct conflict with existing federal regulations. However, the court did not rule the entire field of aviation was preempted, indicating there is some role for states and localities to potentially regulate drone operations.

The FAA previously issued a statement recognizing that laws traditionally related to state and local police power, including land use, zoning, privacy, and law enforcement operations, generally are not subject to federal regulation. The FAA listed examples of these types of laws, including requiring law enforcement to obtain a warrant before using UAS for surveillance; prohibiting the use of UAS for voyeurism; exclusions on using UAS for hunting or fishing or harassing individuals engaged in those activities; and prohibiting attaching firearms or other weapons to UAS. However, this continues to be an area of developing law and how much a state can regulate regarding the use or operation of UAS largely is undefined.

NORTH DAKOTA UNMANNED AERIAL VEHICLE LAWS

House Bill No. 1328 (2015) created Chapter 29-29.4. This chapter provides for limitations on the use of UAV for surveillance purposes and prohibiting arming a UAV with lethal weapons.

Section 29-29.4-01 outlines various definitions used in the chapter, including "unmanned aerial vehicle," which is defined as "any aerial vehicle that is operated without the possibility of direct human intervention within or on the aerial vehicle."

Section 29-29.4-02 provides information obtained from a UAV is not admissible in a court proceeding unless the information was obtained pursuant to a search warrant or in accordance with exceptions to the warrant requirement.

Section 29-29.4-03 details the information that must be included in a warrant for the use of a UAV, including the locations in which the UAV will operate, the maximum period the UAV will operate in each flight, whether the UAV will collect information or data on individuals or groups, and how such data, if collected, will be used, disclosed, or handled.

Section 29-29.4-04 provides Chapter 29-29.4 does not prohibit the use of a UAV for surveillance during the course of:

1. Patrol of national border. A UAV may patrol within 25 miles of a national border to police the border.
2. Exigent circumstances. As applied in this section, exigent circumstances exist when a law enforcement agency possesses reasonable suspicion that absent swift preventative action, there is an imminent danger to life or bodily harm.
3. An environmental or weather-related catastrophe.

4. Research, education, training, testing, or development efforts by or in conjunction with a school or institution of higher education within the state and its political subdivisions.

Section 29-29.4-05 prohibits certain uses of a UAV, including domestic use in private surveillance or surveillance of the lawful exercise of constitutional rights. This section also prohibits a law enforcement agency from authorizing the use of a UAV armed with lethal weapons.

Section 29-29.4-06 requires the person authorized to conduct surveillance under the chapter to document all use of a UAV for surveillance, including duration, flight path, and mission objectives. Flight information must be retained for 5 years. Any imaging or data which is not accompanied by a reasonable and articulable suspicion that it contains evidence of a crime or is relevant to an ongoing investigation or trial may not be retained for more than 90 days.

During the 2019 legislative session, two bills were introduced regulating the use of unmanned aircraft. House Bill No. 1231 would have prohibited a law enforcement agency from authorizing the use of a UAV armed with lethal, less lethal, or nonlethal weapons. House Bill No. 1493 would have created several criminal penalties for interference with privacy using a UAV. Both bills failed to pass the House.

OTHER STATES' LAWS REGARDING DRONE REGULATIONS

Since 2013, over 40 states have enacted drone-related laws or regulations, or both. States have addressed privacy issues and criminal penalties for drone misuse, commercial and government drone operations, and recreational drone use. At least 12 states have passed legislation preempting localities from enacting drone regulations.

Over one-half of the states have passed legislation that falls within the broad category of privacy. This includes legislation regarding warrant requirements for UAS use by law enforcement agencies as well as protection from privacy violations committed by nongovernment operators. At least 19 states, including North Dakota, require law enforcement agencies to obtain a search warrant to use UAS for surveillance or to conduct a search.

Twenty-three states have laws criminalizing certain uses of UAS. These laws include criminal penalties for UAS interference with police, firefighters, or first responders providing emergency services; UAS operation over or near critical infrastructure or correctional and military facilities; and unlawful weaponization of UAS. Several states also prohibit the use of UAS for hunting or fishing while some states prohibit using UAS to interfere with other individuals lawfully hunting or fishing.

REGISTRATION

North Dakota does not require a person to register a UAS with the state. Section 2-05-11 requires aircraft operating within the state to be registered annually with the Aeronautics Commission along with a fee based on the weight of the aircraft. However, the Aeronautics Commission has not interpreted that statute to require UAS be registered with the commission.

Federal Registration

Although North Dakota does not require a person to register a UAS with the state, the federal government, through the FAA, requires registration of certain unmanned aircraft. Unmanned aircraft weighing more than 0.55 pounds (250 grams) and less than 55 pounds (25 kilograms) must be registered with the FAA, and a registration fee must be submitted.

In 2015 the FAA promulgated a rule known as the Registration Rule, which requires owners of small unmanned aircraft operated for recreational purposes to register with the FAA. In *Taylor v. Huerta*, 856 F. 3d 1089 (D.C. Cir. 2017), a model aircraft hobbyist challenged the registration requirement, arguing the FAA did not have the authority to issue the Registration Rule because the FAA Modernization and Reform Act of 2012 stated the FAA "may not promulgate any rule or regulation regarding a model aircraft." The federal court agreed with the hobbyist and found the Registration Rule directly violated the 2012 law. Congress included a provision in the National Defense Authorization Act for Fiscal Year 2018, undoing the prohibition specifically as it relates to a registration requirement. The FAA subsequently reinstated the registration requirement for unmanned aircraft used for recreational purposes.

Upon completion of the registration process with the FAA, a Certificate of Aircraft Registration/Proof of Ownership is generated, including a unique identification number that must be marked on the exterior of the aircraft.

Owners using the model aircraft for a hobby or recreational use may use the same identification number for all of the owner's model UAS. Owners who choose to register with the FAA online must be at least 13 years old.

Commercial operators may operate drones under 14 CFR Part 107, also known as the Small UAS Rule, and commonly referred to as Part 107. Under this rule, the person operating the UAS either must hold a remote pilot airman certificate or be under the direct supervision of a person who holds a remote pilot certificate. To obtain a remote pilot certificate, the person must be at least 16 years old and pass an initial aeronautical knowledge test at an FAA-approved knowledge testing center or hold a Part 61 pilot certificate and complete an FAA small UAS online training course. Under Part 107, the remote pilot must maintain visual line-of-sight of the UAS at all times, give way to all manned aircraft, and may not operate over people.

Other States' Registration Requirements

The FAA previously issued a statement noting, "[b]ecause Federal registration is the exclusive means for registering UAS for purposes of operating an aircraft in navigable airspace, no state or local government may impose an additional registration requirement on the operation of UAS in navigable airspace without first obtaining FAA approval." Despite this stance by the FAA, some states require commercial or governmental UAS operators to be registered with their respective state, while other states have chosen to specifically exempt UAS from state aircraft registration requirements.

Minnesota law requires aircraft used in the airspace over the state to be registered with the state's Department of Transportation. Minnesota does not interpret those statutes to apply to recreational drones or model aircraft; however, the state requires registration of drones used commercially. In addition, some operators that use drones for a commercial purpose also are required to obtain a commercial operator's license. Minnesota law requires aircraft operators to have liability insurance that meets certain minimum coverage levels, and the insurance requirements also apply to drones.

Nevada and Oregon require UAS operated by public agencies in the state or public bodies to register with the respective state. Oregon also requires educational institutions to register as UAS users.

North Carolina does not require recreational drone operators to obtain a license or permit from the state; however, the state encourages those operators to take the Department of Transportation's Unmanned Aircraft System Operator's Knowledge Test. Commercial and government drone operators in North Carolina must obtain a permit. To obtain a permit, a commercial or government drone operator must be at least 16 years old, pass the Operator's Knowledge Test, and provide proof of the remote pilot certificate or other authorization to conduct UAS operations from the FAA.

In 2017, South Dakota specifically exempted UAS weighing less than 55 pounds from the state's aircraft registration requirements. That same year, Utah also specifically exempted unmanned aircraft from the state's aircraft registration requirements.

PROPOSED STUDY APPROACH

There are a variety of study approaches the committee may consider. The committee may wish to receive testimony from persons interested in the UAS industry and BVLOS UAS technology and infrastructure, including the Department of Commerce, Aeronautics Commission, Department of Transportation, Northern Plains UAS Test Site, North Dakota Aviation Council, Grand Sky, and others, to gain perspective on the current status of the industry, innovation in the state regarding this technology, and considerations regarding the future administration and regulation of the industry in the state. The committee has been assigned the responsibility of receiving reports from the Department of Commerce regarding the status of the Northern Plains UAS Test Site and developments in the BVLOS UAS program.

This information may assist the committee in evaluating whether the state should regulate UAS programs in the form of licensing, registration, fees, and other responsibilities. Additionally, the committee may wish to consider the positive and negative social and economic impacts such regulation may have on the state. If the committee determines it is the responsibility of the state to regulate UAS programs, the committee will need to determine the appropriate state agency or private entity to be assigned the regulatory responsibility. If the committee recommends legislative action, it may be helpful to evaluate actions and explore approaches taken in other states.

ATTACH:1