

**SENATE COMMITTEE ON COMMERCE, SCIENCE, AND TRANSPORTATION:  
QUESTIONS FOR THE RECORD**

**HEARING ON  
UNMANNED AIRCRAFT SYSTEMS: INNOVATION, INTEGRATION, SUCCESSES,  
AND CHALLENGES  
MARCH 15, 2017**

**Written Questions Submitted to Ms. Diana Marina Cooper, Vice President of Legal and  
Policy Affairs, Precision Hawk USA Inc.; President, sUAV Coalition**

*Submitted by Senator Sullivan*

*Question.* In August 2016, the FAA implemented the first regulatory framework for commercial UAS operations, commonly known as Part 107. Many businesses are operating within this framework. Several hundred, including Alaska Aerial Media, have obtained waivers to operate outside of it, especially to operate at night. However, like many rapidly evolving technologies that have the potential to have a tremendous impact on our economy, commercial UAS have outpaced nascent regulations. I understand that the FAA was scheduled to publish a notice of proposed rulemaking by the end of 2016 that would permit additional commercial UAS operations, but that it has been put on hold indefinitely amidst the interagency review process. While it is important for all stakeholders to weigh in, is there a way for this Committee to help facilitate and expedite the interagency review process so that future rulemakings that will enable innovation and industry growth can move forward?

*Answer.* Safety and security are of the utmost importance and PrecisionHawk participates in a number of advisory committees, including the FAA Drone Advisory Committee, NASA's UTM program, and the FAA Unmanned Aircraft Safety Team (UAST), that are working to ensure that UAS are integrated into the national airspace as safely and securely as possible. We also applaud the FAA for announcing on March 27 that it will establish a remote identification Aviation Rulemaking Committee (ARC) to develop standards for remotely identifying and tracking UAS and look forward to supporting this important effort. However, we firmly believe that efforts to ensure safe and secure integration can move in parallel to the development of a permissive regulatory framework that will enable routine operations that are critical to the success of the United States commercial UAS industry, including those over people (as contemplated by the stalled notice of proposed rulemaking scheduled to be published for comment by the end of 2016) and beyond the visual line of sight (BVLOS).

The UAS industry stands ready to engage in an open dialogue with appropriate agencies to discuss potential solutions to address any safety or security concerns. To that end, we respectfully ask that Congress engage the interagency UAS Executive Committee (ExCom) concurrent to the remote identification ARC to ensure dialogue with industry addresses all safety and security concerns with the goal of moving the operations over people proposed rulemaking – and subsequent rulemakings – forward expeditiously.

*Submitted by Senator Young*

*Question 1.* Ms. Cooper, one of the areas in which commercial UAS are already making an economic impact is agriculture, a vital sector to the Hoosier economy.

Can you elaborate on some of the use cases for UAS in agriculture and comment on any regulatory hurdles that are currently preventing farmers and others in the agriculture industry from fully embracing the benefits of UAS technology?

Answer. Agriculture is among the foremost sectors of the economy that is benefiting from the introduction of UAS. Farmers are using UAS throughout the season to monitor their crops and take critical decisions that affect crop health, yield, and in turn, the profitability of their operations. There are countless UAS applications within the agriculture industry, including plant counting, waterpooling, assessing vegetative health, and detecting nitrogen levels. Every day, UAS are delivering actionable data that directly impacts the livelihoods of farmers and fuels the American economy.

In order to realize the full economic potential that UAS can bring to the agriculture sector, we must act swiftly and implement permissive risk-based regulations that allow routine beyond visual line of sight operations over farms. PrecisionHawk has conducted extensive research on beyond visual line of sight operations under the Pathfinder Program to provide the FAA with a safety case to inform the proposed rule for expanded operations. Much of our research has been conducted in agriculture settings, which typically carry lower operational risk due to low population density and distance from airports. These unique characteristics of agriculture regions – and the resulting lower operational risk – warrant the application of less stringent requirements for beyond visual line of sight operation in comparison with operations taking place in areas that carry an increased risk. We look forward to continuing to work with the FAA and to provide data to assist with the development of regulations for BVLOS operations, which we believe will bring significant value to our economy.

*Question 2.* Can you also discuss your partnership with the Innovate Indiana Fund and the Indiana University and how it is helping fuel development of UAS technology that will benefit the agriculture sector?

Answer. PrecisionHawk has strong roots in Indiana, which is our state of incorporation. Some of our early key employees are graduates of Indiana University and Indiana State University. Innovate Indiana Fund is an early investor in PrecisionHawk, having led our \$1M Series A round, and having subsequently participated in our Series B and C financings. These investments have been instrumental in providing us with the necessary capital and resources to develop and commercialize a sophisticated end-to-end UAS platform that is ideal for the agriculture industry. In recent years, we have developed cooperative relationships with both Indiana University (through which we provided UAS equipment to their geology department) and Indiana State University (through which we conducted UAS training and demonstrations). PrecisionHawk provides UAS services and solutions to some of the largest agriculture companies in the state, and we recently opened a UAS training and flight servicing office in Lebanon, Indiana. Our UAS services and solutions are benefiting the agriculture sector by enabling farmers to manage their crops more effectively and efficiently while also reducing the environmental impact of their operations.