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**U.S. House of Representatives  
Committee on the Judiciary  
Subcommittee on Courts, Intellectual Property, and the Internet  
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Chairman Issa, Ranking Member Nadler and members of the subcommittee, thank you very much for the opportunity to participate in today's hearing on unmanned aircraft systems (UAS). I am speaking on behalf of the Association for Unmanned Vehicle Systems International (AUVSI), the world's largest non-profit organization devoted exclusively to advancing the unmanned systems and robotics community. AUVSI has been the voice of unmanned systems for more than 40 years, and currently we have more than 7,500 members, including over 600 corporate members, from around the world.

The unmanned aircraft industry is poised to be one of the fastest-growing in American history. Our economic impact study found that during the first decade following UAS integration into the National Airspace System (NAS), the industry will create more than 100,000 high-paying jobs and provide more than \$82 billion in positive impact to the nation's economy.

From inspecting utility infrastructure and surveying bridges to filming television shows and providing farmers with multispectral surveys of their crops, the applications of UAS are virtually limitless and they enable researchers, public entities and businesses to do things previously impossible.

As with any emerging technology, there are public policy issues that can either help or hinder the growth of the industry. Let me explain.

We are less than three weeks away from the congressionally mandated deadline of September 30, 2015 for the integration of UAS into the national airspace. The FAA has had more than three years to put a

small UAS rule in place. There is tremendous pent up demand for commercial UAS operations and yet the FAA is not expected to meet its deadline.

Until the small UAS rule is finalized, the primary way commercial operators may fly is through an exemption process. In May 2014, the FAA announced it would consider granting exemptions for certain low-risk commercial UAS applications under Section 333 of the FAA Modernization and Reform Act of 2012. Since then, the FAA has received more than 2,700 requests and granted more than 1,400 exemptions to businesses looking to use UAS for a number of end-user communities.

On July 23<sup>rd</sup> of this year, AUVSI moderated a panel on Capitol Hill with representatives from five industry associations who represent key commercial operators of UAS technology. Some of their members were granted FAA exemptions and are now flying UAS commercially. They included the Motion Picture Association of America, Associated General Contractors of America, the American Farm Bureau Federation, Edison Electric Institute and the National Association of Realtors. While these industries are among the largest for commercial applications, many more industries want to incorporate UAS into their daily operations.

According to AUVSI's report on the first 1,000 commercial UAS exemptions, which was released today, businesses in more than 25 industries representing more than 600,000 jobs now are using UAS technology. These companies contributed about \$500 billion to the U.S. economy in 2014 and provide essential services to citizens across the nation.

For example:

1. San Diego Gas & Electric (SDG&E) is a public utility that provides energy services to 3.4 million people in southern California. SDG&E, which inspects 26,000 miles of transmission and distribution power

lines, uses UAS to greatly improve safety and efficiency over manual inspections. UAS also allow SDG&E to restore power more quickly after outages, especially when lines may be difficult to access because of extreme weather conditions.

2. Likewise, the Associated General Contractors of America (AGC) has highlighted the areas in which UAS are starting to assist its 26,000 member companies in the construction industry. AGC members, which build everything from roadways and bridges to large-scale building complexes, are using UAS to improve project planning and design, safety, efficiency, quality, and environmental compliance. UAS are also documenting the progress of large construction projects, like the new Kings arena in Sacramento, to make sure each step is delivered properly and on time.
3. The insurance industry is also latching on to UAS as an essential tool for operations. According to the National Association of Mutual Insurance Companies, insurers are using UAS in risk assessments, especially in dangerous places like high-pitched roofs, and to speed up claims adjudication after disasters, when time is most important in helping victims recover from their losses. AIG, State Farm, and USAA are among several insurance companies that have been approved to fly UAS commercially.

These are only a few examples, but it is easy to see the far-reaching benefits UAS will add to the American workforce. Just as microprocessors and wireless telecommunications revolutionized our economy over the past decade, UAS are transforming the way industry operates, and are creating several new ones as well, from startups focused on developing new UAS platforms and components, to entrepreneurs creating new business models that offer specific UAS services.

At the same time, the absence of federal regulations means many businesses remain grounded until the rules are put in place. The current system of case-by-case approvals isn't a long-term solution for the many commercial operators wanting to fly.

The lack of regulations isn't just limiting the economic potential of this industry; it is also causing states and municipalities to fill the void, at times with laws that they may not have the authority to enact. The most recent example is California's Senate Bill (SB) 142, which, if signed into law, would restrict drones from flying below 350 feet over private property.

While my industry supports the safe, non-intrusive use of UAS technology, SB 142 would create inconsistencies with federal law. Only the FAA can regulate airspace; states and municipalities cannot. According to Title 49, Part A, Section 1 of the U.S. Code, "The United States Government has exclusive sovereignty of airspace of the United States."<sup>1</sup> It is critical for the federal government to assert its preemption authority over the National Airspace System. In the absence of FAA action, we may soon be facing a legal quagmire. Challenges to questionable state laws will tie up the courts and at a significant expense to U.S. taxpayers. The Judiciary Committee is positioned to deal with the issue of federal preemption. If the FAA feels that it needs clarification of its authority, I would urge Congress to provide such clarity and legislatively settle this issue

Putting the small UAS rules in place will also help increase the safety of the U.S. airspace. It will provide the necessary tools and training to create a culture of safety around the use of unmanned aircraft. Meanwhile, as more commercial UAS operators are certified, they will join the long-standing aviation community, which I have been part of for the last 20 years as an instrument-rated general aviation pilot. They will foster the aviation community's principles of airmanship and self-policing to promote safety and thwart careless and reckless operations.

Because safe operations are essential for all users of the national airspace, AUVSI, in partnership with the Academy of Model Aeronautics and the FAA, has developed a UAS safety campaign called "Know

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<sup>1</sup> <http://www.gpo.gov/fdsys/pkg/USCODE-2011-title49/html/USCODE-2011-title49-subtitleVII-partA-subpartI-chap401-sec40103.htm>

Before You Fly.” Launched last year, this effort educates newcomers to the technology about where they should and shouldn’t fly. Many groups representing the manned aviation community have signed on to the campaign as supporters, including Airlines for America, the Aircraft Owners and Pilots Association, National Air Traffic Controllers Association, National Business Aviation Association, and Helicopter Association International.

It is also vital that Congress passes — and the President signs into law — an FAA reauthorization measure before the current authorization expires on September 30, 2015. This policy measure is critical for accelerating and expanding the commercial use of UAS and the most immediate way to encourage collaboration between governmental and private sector stakeholders. AUVSI has been engaged with the committees and staff leading the FAA reauthorization efforts in both chambers of Congress to address specific recommendations on how this can be accomplished.

As an industry, we want to see the integration of UAS proceed without further delays. Once this happens, we will have an established framework for UAS operations that will allow anyone who follows the rules to fly. It will do away with the case-by-case system of approvals that currently exists, reducing the barriers to UAS operations.

Equally as important, government and industry need to work together to permit expanded uses of UAS technology that pose no additional risk to the airspace system. For example, whether within the context of the rule, through the FAA reauthorization measure or by other means, we need to allow for operations that are beyond-visual-line-of-sight, during the nighttime and over populated areas.

We need to make sure we are doing all we can to support the UAS industry’s growth and development; otherwise we risk stunting a still-nascent industry, and restricting the many beneficial uses of this technology. The longer we take, the more our nation risks losing its innovation edge, along with billions in economic impact.

UAS technology is at an exciting and pivotal stage. The technology is developing rapidly, with new applications being introduced nearly every day, and at a rate much faster than it takes to develop the necessary regulations. We need to ensure the FAA adopts the proper framework to keep up with the rapid development of UAS technology and is sufficiently resourced to work with industry and other stakeholders to perform essential research to maintain the safety of our airspace.

Thank you again for the opportunity to speak today. I look forward to answering any questions the subcommittee might have.