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AEROSPACE AND RELATED TECHNOLOGIES UPDATE – SPRING 2019

To Our Clients and Friends:

This March 2019 edition of Gibson Dunn’s Aerospace and Related Technologies Update discusses newsworthy developments, trends, and key decisions from 2018 and early 2019 that are of interest to aerospace and defense, satellite, and drone companies; and new market entrants in the commercial space and related technology sectors, including the private equity and other financial institutions that support and enable their growth.

Specifically, this update covers the following areas: (1) commercial unmanned aircraft systems (“UAS”), or drones; (2) the commercial space sector; (3) export control; and (4) government contracts litigation involving companies in the aerospace and defense industry. We discuss each of these areas in turn below.

I. Commercial Unmanned Aircraft Systems

Along with changes to the legal landscape affecting drones, which are discussed in detail below, there were a number of noteworthy drone accomplishments this past year. In 2018, a solar-powered drone maintained a high-altitude flight for nearly 26 days, breaking the world record for long-endurance drone flight.^[1] Companies exploring sustained drone flight hope to penetrate the satellite industry by providing a high-altitude, pseudo-satellite alternative to rocket-launched satellites.

Police forces have also continued to find innovative uses for drones. In the United Kingdom, police officers used drones to catch deer poachers.^[2] And in the United States, police officers used drones to create orthomosaic 3-D maps of the scenes of vehicle accidents,^[3] allowing officers to digitally revisit the scene of an accident, and more quickly dismantle the scene and reduce the disruption to traffic.

Drones have also continued to assist in natural disaster relief. In 2018, drones provided assistance and relief following Hurricane Florence, the eruption of Hawaii’s Kilauea volcano, and during the California wildfires.

To get you caught up on drone developments, we have provided brief updates on (A) The Federal Aviation Administration (“FAA”) Reauthorization Act, including its impact on the hobbyist exception, privacy, and enforcement, (B) the FAA’s Drone Integration Pilot Program, (C) the FAA’s Low Altitude Authorization and Notification Capability initiative, and (D) the Department of Transportation’s proposed modifications to drone rules.

A. FAA Reauthorization Act

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On October 3, 2018, the U.S. Congress voted to reauthorize the FAA for a period of five years by renewing the FAA Reauthorization Act (“FAARA”),^[4] and two days later President Donald Trump signed the Act into law.^[5] The House of Representatives and the Senate previously negotiated the bill’s provisions at length, and reached a final agreement in late September 2018.^[6] The final bill allocated approximately \$97 billion to the FAA and its related programming, and represents the longest funding authorization period for FAA programs since 1982.^[7]

FAARA provides funding for the Federal Aviation Administration through 2023,^[8] and includes numerous provisions affecting U.S. drone operations (notably, FAARA also includes numerous provisions affecting commercial space operations, which are discussed later). Specifically, FAARA affects drone hobbyists, national security, and privacy, while its enforcement may raise concerns regarding federalism.

i. Repeal of Hobbyist Exception

Section 336 of the FAA Modernization and Reform Act, enacted on February 14, 2017, previously shielded drones operated for recreational purposes (“model aircraft”) from FAA regulation. Section 336 provided that the FAA “may not promulgate any rule or regulation regarding a model aircraft.”^[9]

Nevertheless, in 2015 the FAA promulgated the “Registration Rule,” which required owners of model aircraft to register their drones with the FAA.^[10] A model aircraft hobbyist challenged the Registration Rule, arguing that the FAA lacked the statutory authority to require the registration of model aircraft.^[11] In May 2017, the hobbyist won his challenge and the D.C. Circuit held the Registration Rule was unlawful to the extent that it applied to model aircraft due to Section 336.^[12]

Roughly one year later, in April 2018, the Commercial Drone Alliance (the “CDA”) called for Section 336 to be replaced with new language that would allow the FAA to regulate recreational drones in “a common sense way.”^[13] The Academy of Model Aeronautics—that advocates for the model aircraft community—issued a response to the CDA, arguing that the repeal of Section 336 would overtax the FAA’s limited resources by bringing hundreds of thousands of new drones within its purview, and would slow innovation spurred on by recreational drone enthusiasts.^[14]

Congress acted in the fall of 2018 when it introduced and signed into law the 1,2017-page FAARA bill. FAARA incorporated a full repeal of Section 336,^[15] and also included Section 349, which gave the FAA the authority to regulate recreational drones.

Section 349 of FAARA creates a framework for the operation of model aircraft. To avoid the need for specific certification or operating authority from the FAA, model aircraft must now (1) be flown strictly for recreational purposes; (2) be operated in accordance with a community-based organization’s set of safety guidelines developed in coordination with the FAA; (3) be flown within the visual line of sight of the operator or a visual observer co-located and in direct communication with the operator;^[16] (4) be operated in a manner that does not interfere with manned aircraft; (5) not be flown in Class B, Class C, or Class D airspace or within the lateral boundaries of the surface area of Class E airspace designated for an airport without prior authorization; (6) be flown no higher than 400 feet above ground level; (7)

be flown by an operator who has passed an aeronautical knowledge and safety test which is to be developed no later than 180 days after the Act's passage; and (8) be registered and marked.[17]

On October 12, 2018, the FAA released a statement regarding the passage of FAARA.[18] The FAA acknowledged that, “[t]he Reauthorization Act cannot be fully implemented immediately,” and stated that operators should “follow all current policies and guidance with respect to recreational use of drones” while the FAA works to fully implement the new legislation.[19]

ii. Privacy

FAARA addresses privacy concerns raised by the unregulated usage of UAS. It legislates to protect privacy interests with respect to both public and private activity. On the public side, the law makes it the federal government's policy to operate UAS “in a manner that respects and protects personal privacy consistent with the United States Constitution and Federal, State, and local law.”[20] The section clarifies that the relative newness of drone regulation cannot justify unconstitutional and illegal searches.[21]

FAARA further prompts the Comptroller General to review “privacy issues and concerns” raised by UAS operation in American airspace.[22] The review will survey existing federal, state, and local laws protecting individual privacy against UAS intrusions, identify issues and deficiencies in these laws (including in their provision of civil and criminal remedies), and provide recommendations on how to address these issues and deficiencies.[23] The review will draw from the experience of the Department of Transportation and the National Telecommunications and Information Administration, which have been wrestling with UAS-related privacy concerns since a 2015 executive order issued by former President Obama.[24]

On the private side, FAARA suggests, but does not require, that private entities operating UAS for business purposes maintain a publicly available, written privacy policy that meets the federal government's policy of operating UAS in a manner that respects applicable federal, state, and local law.[25] FAARA clarifies that this suggestion does not extend to businesses operating for First Amendment purposes, and that the scope of the policy should correspond to the degree that data are collected, used, retained, and disseminated through UAS operations.[26]

FAARA further establishes a centralized online database for all data collected from commercial and governmental UAS operators, which will be available at the Department of Transportation's website no later than 270 days after FAARA's enactment.[27] The database will contain any waiver or authorization of UAS operations issued by governments at all levels. These will be displayed in the system no later than 30 days from issuance.[28] In addition, the database will contain a spreadsheet of UAS registrations, updated quarterly, which will “includ[e] the city, state, and zip code of each registered drone owner.”[29] It also will specify the locations, times, and purposes of public UAS operations, as well as public drones' technical capabilities.[30] Finally, the database will detail information about each public and private drone that will collect individuals' personally identifiable information. The database will describe the circumstances under which each drone will be used, the kinds of information to be

collected, and how that information will be used, disclosed, or otherwise handled.[31] Information related to operations protected by the First Amendment will not be published in the database.[32]

iii. Enforcement and Federalism

As discussed below, FAARA has codified the U.S. Department of Transportation’s Unmanned Aircraft Systems Integration Pilot Program, seeking to incorporate UAS into American airspace by fostering collaboration between the private sector and federal and local governments. FAARA, however, contains various other provisions that will mold the balance of state, tribal, and federal power in UAS regulation for years to come. For starters, FAARA has removed restrictions on tribes’ operation of drones for public purposes such as emergency responses.[33] In this way, the Act vests tribal authorities with the same rights as their state and local counterparts on matters involving search and rescue missions and the like.[34]

FAARA also establishes a pilot program connecting state and local authorities that is designed to “utilize available remote detection or identification technologies” for law enforcement and oversight.[35] The Act requires that the program establish a nationwide reporting and tracking system for illicit drone usage.[36] And the Act also requires the FAA Administrator to “establish and publicize a mechanism” allowing both the general public and law enforcement authorities at all levels to report UAS suspected of operating in violation of federal law.[37] This will likely involve the creation of a central database containing all such reports.[38] Additionally, the Act requires the Administrator to submit an annual report for each of the five years comprising the duration of the program.[39] The reports will detail the number of illicit UAS operations and enforcement cases brought by federal agencies, and will provide descriptions of the same.[40] The reports also will issue recommendations for changes in the law regarding increased safety, mitigation, detection, and identification of unauthorized UAS operations.

Finally, FAARA sets the stage for future policymaking through a comprehensive study and report “on the relative roles” of federal, state, local, and tribal governments in regulating low-altitude UAS operations.[41] The study and report, which shall be submitted to Congress within 180 days of FAARA’s enactment, will consider the current shape of federal, state, local, and tribal low-altitude UAS law, including potential gaps between authorities.[42] It will also assess the degree of regulatory consistency required for the industry’s safe and financially viable growth, the interests of governments at all levels affected by low-altitude UAS operations, and any infrastructure required for proper UAS monitoring and law enforcement.[43]

B. The FAA Commences Its Unmanned Aircraft Systems Drone Integration Pilot Program

On October 25, 2017, President Trump directed the U.S. Department of Transportation (“DOT”) to launch the Unmanned Aircraft Systems Integration Pilot Program (“IPP”), in order to test the “safe operation of drones in a variety of conditions” that the DOT currently prohibits, such as “operations over people, beyond line of sight, and at night.”[44] The goal of the project, which will last three years, is to gather data to “form the basis of a new regulatory framework to safely integrate drones” into the national airspace.[45] It also aims to balance the “benefits of innovation” against “the need to protect national security, public safety, critical infrastructure and the [National Airspace System].”[46]

The IPP operates through unique private/public partnerships at a local level. Under the IPP’s strictures, government localities partner with private sector businesses, develop concepts on how drones may be used to positively impact their communities, and apply to be one of 10 localities that the FAA selects for the pilot program.[47]

Approximately 150 communities (and their private sector partners) applied for consideration under the IPP, and in May 2018, the DOT named the winners, which include state departments of transportation, universities, cities, and a Native American tribe.[48] These localities partnered with major companies.[49] The winners received waivers to conduct currently prohibited UAS activities, and will refine their operational concepts, and provide feedback and data to the FAA on their programs pursuant to memoranda of agreement.[50] The projects include drone applications ranging from medical delivery, emergency management, urban and rural commercial delivery, pipeline inspection, border control, mosquito control, and other agricultural functions.[51]

In August 2018, the FAA provided updates on the first four successful IPP test flights, including flights delivering medical supplies, performing certain agricultural functions, and one flight delivering an ice cream cone over a long distance.[52]

C. Developments in Low Altitude Authorization and Notification Capability (“LAANC”) System

The LAANC system represents a collaboration between the FAA and private companies to facilitate the sharing of airspace data.[53] The LAANC “automates the application and approval process for airspace authorizations,” or, put simply, it allows for near real-time evaluation and approval of requests to fly drones in controlled airspaces.[54] The speed with which LAANC is able to review and approve these applications makes the system attractive for frequent drone pilots and operators. The FAA teams up with air traffic controllers and private companies, or service providers, who share airspace data to permit the speedy review and approval of airspace authorizations.[55]

In order to become a service provider under LAANC, private companies must meet certain technical and legal requirements. In 2018, the FAA approved nine new LAANC service providers, bringing the total number of service providers to 14.[56] In 2019, the FAA set two windows for service-provider applications. The first already closed, and was set between January 7 and February 9, and the second window will open on July 8 and close on August 9.[57]

D. The Department of Transportation’s Proposed Relaxation of Drone Flight Rules in 2019

On January 14, 2019, the U.S. Department of Transportation unveiled proposed rules that would allow drones to fly over people and at night without a waiver, as is currently required by Part 107, the small-drone rule.[58] If these rules are passed, certain drones meeting design specifications such as weight and non-exposed propellers, will be exempted from Part 107’s waiver requirements. The DOT is also proposing changes to the knowledge testing requirement: in lieu of recurrent knowledge *testing*, the proposed rules would require recurrent *training* every 24 months.[59] However, these proposed rules are contingent on the finalization of other rules and regulations that would allow for remote tracking and identification of drones.[60]

II. Commercial Space Sector

A. Creation of Space Force

On March 23, 1983, former [GDC1] President Ronald Reagan gave a speech in the Oval Office calling for the creation of the Strategic Defense Initiative system.[61] Nicknamed “Star Wars,” the Strategic Defense Initiative was intended to address any potential intercontinental ballistic missile attack. The program called for a “network of ground-based and space-based systems to shield the country.”[62] Over the course of the next decade, the initiative shifted focus and eventually became known as the Missile Defense Agency.[63]

On June 18, 2018, President Donald Trump announced that he was directing the Pentagon to establish a Space Force, which at the time was slated to become the sixth branch of the U.S. military.[64] While President Reagan’s Strategic Defense Initiative was focused on national defense, President Trump described the Space Force as focused on ensuring that the United States does not fall behind other global superpowers when it comes to its space program.[65] After President Trump’s announcement, it became clear that a Space Force would require congressional approval, which has not yet been given.[66] In fact, the Pentagon itself has historically opposed the creation of any space force.[67]

Vice President Mike Pence unveiled the four components of the Space Force on August 9, 2018, at the Pentagon. The first component—the U.S. Space Command—would be a new organization “led by a four-star general and will establish the space war-fighting doctrine, tactics, techniques and procedures.”[68] The second component, the joint agency, would be called the Space Development Agency, and would contribute to the breakdown of bureaucratic tape that stifles the United States’ ability to innovate.[69] The third component, the new war community, would be an elite group of “space officers” called “Space Operations Force,” and would provide crucial space-expertise support during “times of crisis and conflict.”[70] And the final component would require naming a civilian to the post of Assistant Secretary of Defense for Space, who would be charged with bringing the Space Force to fruition, managing the Space Force’s expansion, and helping the critical transition to a fully independent Secretary of the Space Force.[71] At the unveiling, Vice President Pence noted the need for such an independent space force due to competitors and potential adversaries such as Russia and China, who have developed weaponry and technology designed to destroy or interrupt existing U.S. satellites,[72] and indicated the need for a new service branch to be approved by Congress.

Following President Trump’s announcement, the Department of Defense (“DOD”) began taking the first steps toward creating the Space Force. Leaders at the DOD planned to “stand up three of the four components” of the Space Force, which included the first three components described above—a new combatant command, a joint agency for the purchasing of satellites, and a new war community that pulls space-centric operators from all of the service branches.[73] The fourth component, the creation of a separate branch of the U.S. military, is the one that requires congressional approval, but is unlikely to receive such approval for some time.[74]

As the Pentagon was preparing plans for the Space Force, the White House changed course: rather than focus on the creation of an independent, separate Space Force branch of the military, they would instead

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look at the varying ways in which the military's space operations could be reorganized.[75] The turnaround instruction from Scott Pace, the National Space Council's Executive Secretary, asked the Pentagon to consider four options: (1) Air Force-owned space corps including only Air Force assets; (2) Air Force-owned space corps that would include space-related troops and assets from the Army and Navy; (3) independent service that takes from the Air Force, Army, and Navy; and (4) an independent service that takes from the Air Force, Army, and Navy, and the intelligence community.[76]

On December 18, 2018, President Trump issued a memorandum[77] regarding the establishment of a United States Space Command. In addition, the memorandum called for the Secretary of Defense to recommend officers for nomination and confirmation as Commander and Deputy Commander of the Space Command.[78] After months of deliberating, the Pentagon decided to place the Space Force under the Department of the Air Force.[79] This new service would be overseen by a newly created undersecretary position, that would report to the Joint Chiefs.[80] And while this legislative proposal is still in draft form, it is believed that the alignment of the Space Force under the Department of the Air Force is consistently supported across the Defense Department.[81] Indeed, in the first month of 2019, acting Defense Secretary Patrick M. Shanahan reiterated the Pentagon's stance that the Space Force be under the umbrella of the Air Force and have a "footprint" that is "as small as possible."[82]

B. SpaceX Push for Fully and Rapidly Reusable Rockets

Private companies are also pushing ahead with a common goal of making space more accessible. SpaceX's Founder and visionary, Elon Musk, has said that the "fundamental breakthrough needed to revolutionize access to space" is reusability.[83] Consistent with this message, SpaceX has embarked on a mission to develop fully and rapidly reusable rockets that do not burn up on re-entry, but rather can withstand the forces of re-entry and successfully land back on Earth.

The company has made great strides since publicly announcing the program back in 2011. In March 2018, SpaceX President Gwynne Shotwell reiterated that the company intended to fly reused boosters on at least half of the launches in 2018.[84] Considering that the "technology" for reusable rockets truly emerged only a year ago, using reusable rockets on even half of 2018 flights was a remarkable achievement.[85] On May 11, 2018, SpaceX debuted its Falcon 9 Block 5 rocket, which was able to flawlessly launch and complete a first-stage landing. The end-goal, according to Mr. Musk, is to "demonstrate two orbital launches of the same Block 5 vehicle within 24 hours, no later than [2019]."[86] According to Mr. Musk, perfecting reusable rocket technology could slash costs of spaceflight to the point where goals such as Mars's colonization are economically feasible. Accordingly, the technology behind the reusable rockets will eventually become the backbone of the company's BFR spaceflight system.

On October 7, 2018, SpaceX successfully delivered a satellite into orbit using its Falcon 9 rocket with a pre-flown first stage.[87] And approximately eight minutes after liftoff, the first-stage booster made a successful return to Earth, only about a quarter-mile from its launch pad.[88] Then, in December 2018, SpaceX launched its SSO-A SmallSat Express, which marked the third reuse of the particular booster on the Falcon 9.[89]

In February 2019, SpaceX’s Falcon 9 launched three spacecrafts, including an Israeli moon-lander. In March, SpaceX took a step towards manned flight when it launched a successful unmanned test mission of its Crew Dragon capsule, which conducted a six-day flight, autonomously docked with the International Space Station, and included a sensor-laden dummy to simulate having an astronaut aboard. SpaceX plans to conduct another test flight of the capsule, and if also successful may use the capsule for a manned space flight later this year.

SpaceX is also pressing forward with its plans for commercialization of space travel,[90] with plans to launch its first private space flight in 2023.[91]

C. Updates on Space Law in the United Arab Emirates

In October 2018, the United Arab Emirates adopted a new space law intended to facilitate the country’s recent efforts to participate in the global space sector and space exploration, encourage investment and research, form the basis for multilateral affiliations with other nations, and regulate the rapidly developing regional industry.[92] While details of the new law are not yet publicly available, press reports note that NASA and the UAE space agency (“UAESA”) also signed an implementing agreement on October 2, 2018, in order to facilitate astronaut training and UAESA access to the International Space Station (“ISS”).[93] The new law follows on the heels of the cooperation agreement signed by NASA and UAESA in June 2016, which formalizes plans to collaborate with respect to aeronautics research and the use of airspace and outer space, including cooperation in the exploration of Mars.[94] UAE has been strategically expanding its space missions over the past several years: for example, international note has been taken of its 2021 Mars Hope mission,[95] and a UAE astronaut is currently set to fly to the ISS with Russian space agency Roscosmos in April 2019.[96]

D. Update on Outer Space Treaty

Amidst rapid technological developments and a shift in international rhetoric surrounding the commercialization and militarization of space, the 1967 Outer Space Treaty is looking increasingly out of date.[97] Recent moves by several countries to flex military muscle in space races have tested the boundaries of the 50-year-old treaty—developed under the auspices of the Cold War and the Space Race[98]—which bans the placement of weapons of mass destruction in space (although it provides less explicit guidance about other military uses of space), forbids any military action past the atmosphere, and declares the exploration of space a common good for the benefit of all countries.[99]

Against this backdrop, the UN Office for Outer Space Affairs (“UNOOSA”) hosted the UN Conference on the Exploration and Peaceful Uses of Outer Space in Vienna on June 18, 2018, during which international delegates passed a Resolution to strengthen global cooperation in space and the use of space for sustainable development.[100] However, current international efforts fall short of addressing what happens when space rights conflict or when it is lawful for nations to resort to hostilities in or through space.[101] In the absence of concrete shared norms regulating, for example, the use of conventional weaponry in space or the increased activity by private commercial actors, the gaps in the existing international legal regime loom large.

Key assumptions of long-standing space diplomacy are being destabilized, causing uncertainty about how some of the recent developments fit into the existing legal framework.^[102] For example, the EU's Galileo satellite proposes "more civil-military synergies in European space systems,"^[103] and, as noted above, plans for the U.S.'s Space Force are proceeding.^[104] In March 2018, the U.S. House of Representatives approved the American Space Commerce Free Enterprise Bill. Moreover, the proliferation of space debris and a growing interest in asteroid mining^[105] raises issues concerning the treaty's provision on the prevention of harmful contamination of celestial bodies, and highlights the fact that the treaty does not deal with the issue of mineral rights.^[106] And, constellations of satellites launched for commercial purposes pose a challenge to space traffic management.^[107]

Currently, the limits of regulatory authority appears to leave space open for the taking,^[108] raising inevitable conflict with the Outer Space Treaty's ideals of public ownership. Nor is there an internationally agreed-upon legal definition of space and its boundaries, posing an additional challenge to global governance and multilateral regulation and cooperation.^[109]

E. Overhaul in Commercial Space Licensing

i. Overview

The general trend of 2018 was toward a more streamlined commercial space licensing process. On May 24, 2018, President Trump ordered a sweeping regulatory overhaul to encourage commercial space innovation.^[110] The presidential memorandum, titled Space Policy Directive-2 (SPD-2) instructs the Department of Transportation to review the space launch and re-entry licensing process and, by February 2019, implement changes that would make the licensing process more efficient and less burdensome to private enterprise. The directive specified aspects of the licensing process that ought to receive special attention, including the possibility of requiring just one license for all forms of commercial space launch and re-entry.^[111] In addition, SPD-2 orders Transportation Secretary Elaine Chao to coordinate efforts with the National Space Council, which in February 2018 issued four recommendations regarding commercial space licensing:

- 1. The Secretary of Transportation should work to transform the launch and re-entry licensing regime.**
- 2. The Secretary of Commerce should consolidate its space commerce responsibilities, other than launch and re-entry, in the Office of the Secretary of Commerce.**
- 3. The National Telecommunication and Information Administration should coordinate with the Federal Communications Commission to ensure the protection and stewardship of radio frequency spectrum necessary for commercial space activities.**
- 4. The Executive Secretary of the National Space Council, in coordination with members of the National Space Council, should initiate a policy review of the current export licensing regulations affecting commercial space activity.^[112]**

This directive came on the heels of a bill passed by the House of Representatives in April 2018, titled the American Space Commerce Free Enterprise Act (“ASCFEA”), which aimed to streamline the commercial space licensing process by consolidating each step of the process under the authority of the Commerce Department’s Office of Space Commerce.^[113] To put the process as it currently stands into perspective, the FAA handles launch and re-entry licensing issues, the Federal Communications Commission (“FCC”) approves radio communications between the spacecraft and its handlers on the ground, and the National Oceanic and Atmospheric Administration (“NOAA”) oversees satellite operations.^[114]

Indeed, shortly after the White House unveiled SPD-2, the Department of Commerce announced that it planned to combine several existing offices into a new office called the Space Policy Advancing Commercial Enterprise (“SPACE”) Administration, thus effectuating much of what the ASCFEA sought to accomplish.^[115] Specifically, the SPACE Administration will incorporate the Commercial Remote Sensing Regulatory Affairs (“CRSRA”) office and the Office of Space Commerce, currently part of the NOAA, as well as require liaisons to be assigned to the office from the Bureau of Industry and Security, International Trade Administration, National Institute of Standards and Technology, NOAA, and National Telecommunications and Information Administration.

ii. Expedited Review

Officials at the CRSRA office, a subset of the NOAA, announced at an April 3, 2018 meeting of the Advisory Committee on Commercial Remote Sensing that they have substantially cut the average review time for commercial Earth imaging system license applications.^[116] In 2017, the CRSRA completed reviews of license applications in 91 days, on average, down from 140 days in 2016 and 210 days in 2015. Moreover, only two in 16 applications took more than 120 days to review, and those that did usually only took a few additional days. By contrast, over half of all applications took longer than 120 days to review in 2016, and only one in 15 applications was reviewed within 120 days in 2015.

CRSRA officials attributed the more streamlined review process in part to a memorandum of understanding between the Departments of Commerce, State, Defense, the Interior, and the Office of the Director of National Intelligence, which established procedures for interagency reviews of remote sensing license applications. The office also pointed to the fact that more and more organizations are contacting CRSRA in advance to inquire whether their proposed activities require a license. In 2017, 47 entities contacted the office (a 14% increase from 2016), 19 of which required a license.

On October 23, 2018, the Department of Commerce announced that it had submitted to the Office of Management and Budget (“OMB”) a draft rule that would revise the commercial remote licensing processes.^[117] Acting Deputy Secretary of Commerce Karen Dunn Kelley announced that the proposed rule “will revolutionize the way we regulate the use of cameras in space” by, among other things, creating categories that exempt certain pre-approved activities from the license application process. The impetus for the new draft rule came at least in part from the public attention the Department attracted earlier in the year, when SpaceX had its livestream of a Falcon 9 rocket launching 10 Iridium Next Satellites into orbit cut off nine minutes after liftoff, after finding out that such activity required a license from NOAA.^[118] Acting Deputy Secretary Kelley referenced the incident in her

remarks. “SpaceX’s GoPro camera, that is used for marketing and shows customers that the payloads have successfully been separated, should not be treated in the same way as the highly technical camera that can see your shoelaces from space,” she said.

iii. Developments in Department of Commerce, Including Export Control and Foreign Investment

Following the White House’s announcement of SPD-2, Commerce Secretary Wilbur Ross, along with other department officials, stated at the June 18, 2018 meeting of the National Space Council and related events over the following days that the administration is making progress on a number of SPD-2’s areas of focus.^[119] One development was the announcement that the Office of Space Commerce, which for years had gone without a permanent director, would be headed by Kevin O’Connell who is also slated to head the newly announced SPACE Administration once it is formally established.

Perhaps more significantly, Secretary Ross announced that interagency discussions were set to begin regarding how to implement space export control reform. Among the most important topics to be discussed is the issue of which items and technologies ought to remain on the United States Munitions List (“USML”)—which is subject to the jurisdiction of the International Traffic in Arms Regulations (“ITAR”)—and which technologies and items ought to be moved to the Commerce Control List, which is a less-restrictive export control system administered by the Department of Commerce. Executive Secretary of the National Space Council Scott Pace stated at the Users’ Advisory Group meeting that he believed, generally speaking, what is “on the USML right now probably belongs on the USML,” and hence that the interagency discussions will largely focus on removing from the USML process-related technologies such as outdated computer systems. In contrast, at the June 14 meeting of the Commercial Space Transportation Advisory Committee (“COMSTAC”), which advises the Federal Aviation Administration’s Office of Commercial Space Transportation, COMSTAC Chairman Mike Gold stated that “we should not rest on our laurels” when it comes to export control reform. In his view, the goal of interagency discussions would be the “elimination of export controls for technologies that are widely available on the international market.”

A second goal of the discussions was encouraging more international investment in, and business for, American space companies. Although Secretary Ross held a brief armchair discussion with executives from space companies at the SelectUSA Investment Summit, no foreign investment deals were announced. But in August 2018, Director O’Connell gave a speech at a space conference at Arizona State University, in which he stated that the Office of Space Commerce’s role in advocating for international investment was to ensure that American companies “have fair market access and are able to compete freely” as other countries develop their regulatory approach to space.^[120] We will be sure to discuss the extent to which the Office of Space Commerce succeeds in this advocacy effort in our next update.

F. Office of Commercial Space Transportation’s Increased Spending Budget

FAARA (previously discussed in Section __, *supra*) substantially increased the FAA Office of Commercial Space Transportation’s spending budget. The FAA allotted approximately \$22.6 million

to the Office in Fiscal Year (“FY”) 2018. Over the next five years, however, the budget will increase as follows:

- FY 2019: \$33,038,000
- FY 2020: \$43,500,000
- FY 2021: \$54,970,000
- FY 2022: \$64,449,000
- FY 2023: \$75,938,000^[121]

The funding is not without strings, however. For example, the bill created an “Office of Spaceports,” which is tasked with licensing commercial launch sites and developing procedures and policies to improve their facilities.^[122] The Office will need to report to Congress on or before October 3, 2019, with recommendations for federal actions to “support, encourage, promote, and facilitate greater investments in infrastructure at spaceports.”^[123] The bill also requires that the head of the Office work with a point-person at the FAA on issues related to national airspace and commercial launch activity.^[124]

III. Export control reform act and cfius update

The John S. McCain National Defense Authorization Act for Fiscal Year 2019 (“FY 2019 NDAA”), which became law on August 13, 2018, contained two pieces of legislation that will have significant impacts on investment and technology transfers in the aerospace and related sectors for decades to come. The FY 2019 omnibus bill contained the Foreign Investment Risk Review Modernization Act (“FIRRMA”), which amended the law that provides the Committee on Foreign Investment in the United States (“CFIUS” or “the Committee”) with its authority. It also included the Export Control Reform Act of 2018 (“ECRA”), and gives the President, acting through the Secretary of Commerce, a mandate and new authorities to restrict the outbound transfer of “emerging and foundational technologies” and requires the Secretary of Commerce to include the health of the U.S. national defense industrial base as a factor when evaluating export control license applications. Both are likely to have significant effects, including a rerouting of geography of investment flows and cross-border technology collaboration in aerospace and related technologies going forward.

A. Expanded Oversight of Inbound Investment Through CFIUS

CFIUS is an interagency committee authorized to review the national security implications of investments made by foreign companies and persons in U.S. businesses (“covered transactions”), and to either block or impose measures to mitigate any threats to U.S. national security.^[125] Established in 1975 and last reformed in 2007, the Committee’s ability to review the national security implications posed by an increasing number of Chinese investments targeting sensitive technologies in the United States was viewed by many as stymied by its statutory and regulatory framework.

Prior to FIRRMA, CFIUS was limited to reviewing transactions which resulted in the ownership or control of U.S. businesses by foreign persons. FIRRMA expands the scope of transactions subject to the Committee’s review by granting CFIUS the authority to examine *non-controlling* investments in U.S. businesses that deal with critical infrastructure, critical technology, or the personal data of U.S. citizens. These non-controlling investments include any investment by a foreign person in an unaffiliated U.S. business or a “change in the rights that a foreign person has” with regard to any U.S. business that:

- owns, operates, manufactures, supplies or services critical infrastructure;
- produces, designs, tests, manufactures, fabricates or develops one or more critical technologies; or
- maintains or collects sensitive personal data of United States citizens that may be exploited in a manner that threatens national security.

The term “critical technologies” is specially, and now more broadly, defined.^[126] It includes: the defense articles and services described on the International Traffic in Arms Regulations (“ITAR”) United States Munitions List (“USML”); certain technologies identified on the Export Administration Regulations (“EAR”) Commerce Control List (“CCL”); nuclear facilities and equipment identified in 10 C.F.R. Part 110; and select agents and toxins.^[127] While many aerospace and associated technologies are already identified on the USML and the CCL, FIRRMA expanded the critical technologies definition to include emerging and foundational technologies (hereinafter, “EFT”).^[128] The critical technologies concept thus includes many existing military and civil aerospace technologies and will now also include many technologies that many companies are relying on to develop the next generation of products in these and related sectors.

Indeed, in CFIUS’s recently launched pilot program^[129] to implement a new mandatory declaration filing requirement for non-controlling investments in companies involved in critical technologies, multiple sectors relevant to aerospace were targeted, including: Guided Missile and Space Vehicle Manufacturing; Guided Missile and Space Vehicle Propulsion Unit and Propulsion Unit Parts Manufacturing; Aircraft Manufacturing; Aircraft Engine and Engine Parts Manufacturing; Powder Metallurgy Part Manufacturing; Search, Detection, Navigation, Guidance, Aeronautical, and Nautical System and Instrument Manufacturing; Secondary Smelting and Alloying of Aluminum; and Turbine and Turbine Generator Set Units Manufacturing.

Although FIRRMA contains an express carve-out for completely passive investment structures found in the private equity space, the prospect of CFIUS review of even non-controlling investments is already causing some foreign investors, particularly those in Asia, to forgo attempts to make investments in these sectors.

B. Regulation of Outbound Technology Transfer Through Export Controls

Part of the impetus behind FIRRMA were studies which showed how non-U.S. companies, and especially Chinese companies, have been participating in a range of venture capital investments in early-

stage, innovative technology companies.^[130] Congress was particularly concerned that China was using national investment policies and private sector commercial arrangements to force U.S. companies to provide their Chinese counterparts with access to basic and advanced technologies that would enable China to leapfrog decades of technological development and pose an even larger economic and strategic threat to the United States and its allies. Indeed, these policies arrangements, such as technology transfer for market access arrangements, have been critical to the development of China's aerospace sector, among others.^[131]

Congress also heard from observers who sounded an alarm noting that, over time, certain foreign investors had modified their investment strategies in emerging technologies to venture capital and green field investments,^[132] which CFIUS lacked jurisdiction to review and block. The realization that foreign technology transfers involving critical technologies were being insufficiently monitored and regulated prompted Congress to give the U.S. government new authorities under ECRA to control outbound flows of technology.

To help regulate these transfers, ECRA requires the President to establish, in coordination with the Secretaries of Commerce, Defense, Energy, and State, a “regular, ongoing interagency process to identify [EFT]” that are essential to national security but not yet captured by any other critical technology list. As these EFT technologies are identified, the Secretary of Commerce is to establish controls on the export, re-export, or in-country transfer of such technology, including requirements for licenses or other authorizations.

To begin the process of identifying EFT, Commerce's Bureau of Industry and Security (“BIS”) issued an Advanced Notice of Proposed Rule Making in November 2018, seeking public comments on how to identify emerging technologies, which we discuss at greater length [here](#).^[133] In the notice, BIS broadly describes emerging technologies as “those technologies essential to the national security of the United States that are not already subject to export controls under the [EAR or ITAR].”^[134] The ANPRM suggests that technologies will be considered “essential to the national security of the United States” if they “have potential conventional weapons, intelligence collection, weapons of mass destruction, or terrorist applications or could provide the United States with a qualitative military or intelligence advantage.”^[135]

Although the ANPRM does not provide concrete examples of “emerging technologies,” BIS provided a list of broad areas of technology it viewed as subject to limited controls that could be considered “emerging” and therefore subject to new, broader controls under ECRA once specific technologies were identified. These include many that are critical to current day and next generation technologies such as AI and Machine Learning; Position, Navigation and Timing; Microprocessors; Logistics; Robotics; Hypersonics; Additive Manufacturing; and Advanced Materials. BIS has not yet issued an ANPRM that would show its hand on candidates for “foundational technology” controls.

Once specific EFT are identified, companies can expect that their proposed exports of these technologies will be subject to greater scrutiny, and at least for some countries, subject to a licensing policy of denial. This is because ECRA also obligates Commerce to gather and consider the kinds of information on foreign ownership that would normally be included in CFIUS submissions prior to its grant of an

export license for EFT. For example, if a proposed export transaction involves a joint venture, joint development agreement, or similar collaborative arrangement involving EFT, Commerce is to “require the applicant to identify, in addition to any foreign person participating in the arrangement, any foreign person with significant ownership interest in a foreign person participating in the arrangement.”^[136]

This requirement will significantly increase the diligence companies working with these technologies will need to conduct on their counterparties, and at least some counterparties are likely to walk away from proposed transactions in order to avoid having to provide sensitive information regarding their ownership. In addition, the new information gathered on foreign person participation and ownership is likely to lead Commerce to block transactions by denying license applications. The blocks are likely to impact not just direct transactions with companies in countries that are likely to be targeted with enhanced controls, such as China, but also exports to subsidiaries of Chinese companies located in Europe and elsewhere. They may also reach inside the United States insofar that Commerce could opt to deny export licenses filed by U.S.-based subsidiaries or affiliates of such companies to export technology back to their parent country or to share technology with their foreign national employees.

ECRA also introduced two new policy considerations for export license determinations that arguably shift U.S. export control policy from a more free trade to a protectionist stance. Historically, Commerce was required to restrict the export of goods or technology that would significantly contribute to the military potential of other countries but to limit export controls to only those items that were militarily critical goods and technologies.^[137] Through these and other express policy objectives, Congress sought to promote export activity and to restrict it only when necessary. Now under ECRA, Commerce is to regulate exports so as to help preserve the qualitative military superiority of the United States and to build and maintain the U.S. defense industrial base. In particular, when assessing export license applications, Commerce is to require applicants to provide information that would enable it to determine whether the purpose or effect of the export would be to allow for the production of items relevant to national defense outside of the United States.^[138] If the proposed export would have a “significant negative impact” on the U.S. defense industrial base, Commerce is to deny license applications. Proposed exports would have such “significant negative impacts” if they meet any one of three criteria:

- Whether the export would have the effect of reducing the availability or production of an item in the United States that is likely to be required by the DOD or other federal department or agency for the advancement of national security;
- Whether the export would lead to a reduction in the production of an item in the United States that is the result of research and development carried out, or funded by the DOD or other federal department or agency, or a federally funded research and development center; and
- Whether the export would lead to a reduction in the employment of U.S. persons whose knowledge and skills are necessary for the continued production in the United States of an item that is likely to be acquired by the DOD or other federal department or agency for the advancement of national security.^[139]

While it is unclear how Commerce will specifically implement these new policy and licensing directives, we predict that many companies seeking to export many aerospace and EFT will find it more difficult going forward. Not only will they be required to provide more information regarding their proposed counterparties in their export license applications, such as information on their counterparties' ultimate ownership and their role in the U.S. defense industrial base, but Commerce will likely deny applications when key strategic competitors of the United States are involved.

IV. GOVERNMENT CONTRACTS LITIGATION IN THE AEROSPACE AND DEFENSE INDUSTRY

Gibson Dunn's 2018 Year-End Government Contracts Litigation Update and 2018 Mid-Year Government Contracts Litigation Update cover the waterfront of the most important opinions issued by the U.S. Court of Appeals for the Federal Circuit, U.S. Court of Federal Claims, Armed Services Board of Contract Appeals ("ASBCA"), and Civilian Board of Contract Appeals among other tribunals. We invite you to review those publications for a full report on case law developments in the government contracts arena.

In this update, we summarize key court decisions related to government contracting from 2018 that involve players in the aerospace and defense industry. The cases discussed herein, and in the Government Contracts Litigation Updates referenced above, address a wide range of issues with which government contractors in the aerospace and defense industry are likely familiar.

A. Select Decisions Related to Government Contracts in the Aerospace and Defense Industry

***The Boeing Co.*, ASBCA No. 60373 (July 17, 2018)**

The ASBCA (D'Alessandris, A.J.) held that software developed with costs charged to technology investment agreements ("TIAs") pursuant to 10 U.S.C.A. § 2358 constitutes software developed "exclusively at private expense" as it is defined in Defense Federal Acquisition Regulation Supplement ("DFARS") clause 252.227-7014, Rights in Noncommercial Computer Software and Noncommercial Computer Software Documentation. The ASBCA also held that the TIAs at issue did not make a blanket grant of government purpose rights in nondeliverable software developed with costs charged to the TIAs. The dispute arose under a low-rate initial production ("LRIP") contract, after Boeing delivered software marked with restrictive rights and asserted that the software had been developed exclusively at private expense pursuant to the TIAs. The government challenged Boeing's assertion of restricted rights in the software, and asserted that it possessed government purpose rights because the software was developed with mixed funding. The ASBCA found that a TIA is a cooperative agreement, and not a "contract" as defined in FAR 2.101. Accordingly, to the extent that the software was funded by the TIAs, the costs were not allocated to a government contract and satisfy the definition of "developed exclusively at private expense" under DFARS 252.227-7014. For the same reason, the ASBCA found that the expenditures do not satisfy the definition of "developed with mixed funding" because the costs charged to the TIAs were not charged directly to a government contract.

***Aerospace Facilities Grp.*, ASBCA No. 61026 (July 19, 2018)**

The CDA mandates that an appeal of a contracting officer's final decision must be filed at the Boards of Contract Appeals within 90 days of the contractor's receipt of the decision, or must be filed at the Court of Federal Claims within 12 months. 41 U.S.C. § 7104.

The government terminated Aerospace Facilities Group ("AFG")'s contract for cause, and AFG filed its notice of appeal at the ASBCA 91 days after receipt of the termination decision by email. However, following its termination decision, the government engaged in numerous communications with AFG inviting the contractor to discuss proposals to resolve the termination, including the potential delivery of items under the contract that the government had purported to terminate. The ASBCA (Shackleford, A.J.) denied the government's motion to dismiss for lack of jurisdiction based on the alleged untimeliness of the notice of appeal (which the ASBCA also questioned *sua sponte*). The ASBCA held that the government's post-termination actions "created a cloud of uncertainty as to the status of the . . . termination." As such, the government led AFG to reasonably believe that it was reconsidering the termination decision, thereby vitiating the finality of the "final" decision.

***Hartchrom, Inc.*, ASBCA No. 59726 (July 26, 2018)**

A common issue arising before the tribunals that hear government contracts disputes is whether the contractor appealed a valid CDA claim. FAR 33.201 defines a "claim" as "a written demand or written assertion by one of the contracting parties seeking, as a matter of right, the payment of money in a sum certain, the adjustment or interpretation of contract terms, or other relief arising under or relating to this contract." Under the CDA, a claim for more than \$100,000 must be certified.

Hartchrom, Inc. had a lease with a private party allowing Hartchrom to use space at an Army manufacturing facility (the "Arsenal"). The government was not a party to the lease. Hartchrom later entered into a contract with the Army for chrome electroplating services, which Hartchrom performed at the Arsenal. The lessor directed Hartchrom to remove hazardous waste that Hartchrom had discharged into the industrial wastewater treatment plant while performing its Army contract. Hartchrom submitted a claim to the Army contracting officer for the hazardous waste removal costs, which the contracting officer denied in a final decision. The ASBCA (Osterhout, A.J.) held that it had jurisdiction over the appeal because the claim was made pursuant to the Army contract and appealing a valid final decision. However, the ASBCA dismissed the appeal for failure to state a claim upon which relief may be granted, because any relief to which Hartchrom could be entitled would have been under the terms of its lease with the private party. Indeed, the clause Hartchrom relied upon was a provision in the lease, not in the Army contract. Thus, the ASBCA had no way to grant Hartchrom any relief, even if it was so entitled under the lease.

***The Boeing Co.*, ASBCA Nos. 61387, 61388 (Nov. 28, 2018)**

The ASBCA (O'Connell, A.J.) denied Boeing's motion for summary judgment seeking the ASBCA's interpretation as to whether the contracts at issue allowed Boeing to place certain marking legends on technical data, or whether the only authorized legends for marking technical data under the contracts were those found in DFARS 252.227-7013(f). The Air Force contracting officer had concluded that because the legends used by Boeing to mark its data did not conform with DFARS 252.227-7013(f) that

Boeing must remove them at its own expense and resubmit the data. Boeing argued that the DFARS clauses, as interpreted by the Air Force, failed to protect its intellectual property rights, whereas the Air Force claimed it would be harmed by use of Boeing's non-DFARS proposed legends. In denying Boeing's motion, the ASBCA agreed with the government's interpretation of DFARS 252.227-7013(f), finding that the legends authorized by that clause were the only permissible legends for limiting data rights under the contract. However, the ASBCA also noted that the issue of whether those clauses adequately protect Boeing's property rights could not be resolved based on the record developed to date. Accordingly, the Board directed the parties to submit a joint status report proposing further proceedings.

Charles F. Day & Associates LLC, ASBCA Nos. 60211, 60212, 60213 (Nov. 29, 2018)

Charles F. Day & Associates LLC ("CFD") contracted to perform services for the Army in Iraq. The personnel supplied by CFD performed work outside the scope of the written requirements of CFD's contract in support of their customer, and later sought additional compensation for those efforts. CFD submitted a Request for Equitable Adjustment delineating three separate requests for payment, which the Board characterized as "claims," observing in a footnote that a request for equitable adjustment can be considered a claim under the CDA, regardless of its title, if it otherwise meets the requirements of a claim. The contracting officer denied CFD's claims, arguing that there had been no constructive change to the contract and that CFD thus had no entitlement to additional compensation.

The government argued that the Board lacked jurisdiction to consider a portion of the case presented by CFD at the hearing, alleging that the basis of that claim (essentially a superior knowledge claim) was so different from that presented to the contracting officer that it should be dismissed. The Board granted the government's request to dismiss the additional issue raised at the hearing, noting that while the board is "relatively liberal in permitting appellants to present additional evidence and arguments not presented to the contracting officer and to alter the legal bases for claims on the amount of damages," "a claim on one matter does not support jurisdiction over an appeal on another" and "a claim must be specific enough and provide enough detail to permit the contracting officer to enter into dialogue with the contractor." Although the Board agreed with CFD that the legal theory for the claim presented at trial was the same as in its claim—seeking recovery for out of scope work—the Board nevertheless found that the claim did not arise from the same underlying facts, and thus the factual basis for the claim presented at trial was not brought before the contracting officer in CFD's written claims.

Ballistic Recovery Systems, Inc., ASBCA No. 61333 (Dec. 13, 2018)

In 2016, Ballistic Recovery Systems, Inc. ("BRSI") entered into a fixed-price contract for the supply of parachute deployment sleeves. Pursuant to the contract, BRSI was supposed to deliver two test units for inspection, as part of the first article test ("FAT"). Prior to the award of the contract, BRSI sought an FAT waiver based on a prior contract for the same item, however, the waiver was denied because no inspections had been performed on BRSI's deployment sleeves for almost two years. After delivery of the two test units, the government found numerous major deficiencies and recommended disapproval. After BRSI submitted two subsequent test units, the government found further major deficiencies, and issued a show-cause notice for BRSI to state any excusable causes of defects. Rather

than address any of the major deficiencies in the test units, BRSI referred to its earlier contract and argued that its units were “production standard.” In 2017, the government terminated the contract for default as a result of the multiple FAT disapprovals.

Upon the government’s motion for summary judgment, the ASBCA (Paul, A.J.) determined that the government met its initial burden of proving that the termination was reasonable and justified, and evidence that the contractor did not attempt to correct major and critical defects constituted a reasonable basis for default termination. The ASBCA reasoned that the government had provided ample evidence of the major and critical failures of BRSI’s test units, and had submitted declarations in support thereof, thus, the lack of any substantive attempt by BRSI to address the faulty units constituted a reasonable basis for default termination. Accordingly, the ASBCA denied BRSI’s appeal.

V. Conclusion

We will continue to keep you informed on these and other related issues as they develop.

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[2] Malek Murison, *UK Police Use Drone to Catch Deer Poachers*, Drone Life (Oct. 23, 2018), available at <https://dronelife.com/2018/10/23/uk-police-drone-thermal-camera-deer-poachers/>.

[3] Transforming Accident Investigation with Drones, Drone Deploy (July 23, 2018), available at <https://blog.dronedeploy.com/transforming-accident-investigation-with-drones-edec7162d8ce>.

[4] Federal Aviation Administration Reauthorization Act (“FAAA”), H.R. 302, 115th Cong. § 2 (2018).

[5] Ben Mutzabaugh, *President Trump signs bill that will regulate airline seat sizes*, USA Today (Oct. 5, 2018), available at <https://www.usatoday.com/story/travel/flights/todayinthesky/2018/10/05/trump-signs-faa-reauthorization-bill-regulate-seat-sizes/1537513002/>.

[6] Jeff Foust, *Congress includes space provisions in FAA bill as industry seeks action on other regulatory issues*, Space News (Sept. 23, 2018), available at <https://spacenews.com/congress-includes-space-provisions-in-faa-bill-as-industry-seeks-action-on-other-regulatory-issues/>.

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[8] FAA, *FAA Reauthorization Bill Establishes New Conditions for Recreational Use of Drones* (Oct. 12, 2018), available at <https://www.faa.gov/news/updates/?newsId=91844>.

- [9] *See Taylor v. Huerta*, 856 F.3d 1089, 1090 (D.C. Cir. 2017).
- [10] Miriam McNabb, *Federal Appeals Court Finds Drone Registration Unlawful for Model Aircraft*, Drone Life (May 19, 2017), available at <https://dronelife.com/2017/05/19/federal-appeals-court-finds-model-aircraft-registration-unlawful/>.
- [11] *See Taylor*, 856 F.3d at 1090.
- [12] *Id.* at 1093.
- [13] Miriam McNabb, *The Argument Over Section 336: AMA Responds for Calls to Repeal*, Drone Life (Apr. 5, 2018), available at <https://dronelife.com/2018/04/05/argument-section-336-ama-responds-calls-repeal/>.
- [14] *Id.*
- [15] Miriam McNabb, *FAA Reauthorization Explained: Part 1, the Repeal of Section 336*, Drone Life (Sept. 25, 2018), available at <https://dronelife.com/2018/09/25/faa-reauthorization-explained-part-1-the-repeal-of-section-336/>.
- [16] Later in October, the FAA approved Avitas Systems’ request to forgo the “line of sight” requirement in order to conduct industrial inspections of oil fields, possibly “setting a new precedent for commercial drone operations.” Daniel Wilson, *FAA OKs Drone Operation With Radar Beyond Line Of Sight*, Law360 (Oct. 18, 2018), available at <https://www.law360.com/texas/articles/1093243/faa-oks-drone-operation-with-radar-beyond-line-of-sight>.
- [17] PL 115-254, 2018 HR 302, PL 115-254, October 5, 2018, 132 Stat 3186.
- [18] Federal Aviation Administration, *FAA Reauthorization Bill Establishes New Conditions for Recreational Use of Drones*, FAA (Oct. 12, 2018), available at <https://www.faa.gov/news/updates/?newsId=91844>.
- [19] *Id.*
- [20] FAA Reauthorization Act of 2018, H.R. 302, Division B, § 357 (2018).
- [21] Miriam McNabb, *FAA Reauthorization Explained: Part 3, Privacy*, DroneLife (Sept. 27, 2018), available at <https://dronelife.com/2018/09/27/faa-reauthorization-explained-part-3-privacy/>.
- [22] FAA Reauthorization Act of 2018, H.R. 302, Division B, § 358 (2018).
- [23] *Id.*
- [24] *Id.*
- [25] *Id.* § 378.

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[26] *Id.*

[27] *Id.* § 379.

[28] *Id.*

[29] *Id.*

[30] *Id.*

[31] *Id.*

[32] *Id.*

[33] *Id.*, § 355.

[34] Joel Roberson & Jennifer Nowak, *How the FAA Reauthorization Accelerates Drone Integration*, Law360 (Nov. 18, 2018), available at <https://www.law360.com/articles/1103065/how-the-faa-reauthorization-accelerates-drone-integration>.

[35] FAA Reauthorization Act of 2018, H.R. 302, Division B, § 372 (2018).

[36] Miriam McNabb, *FAA Reauthorization Explained: Part 2, Enforcement*, DroneLife, (Sept. 26, 2018), available at <https://dronelife.com/2018/09/26/faa-reauthorization-explained-part-2-enforcement/>.

[37] FAA Reauthorization Act of 2018, H.R. 302, Division B, § 372 (2018).

[38] McNabb, *supra*, note 6.

[39] FAA Reauthorization Act of 2018, H.R. 302, Division B, § 372 (2018).

[40] *Id.*

[41] *Id.* § 373.

[42] *Id.*

[43] *Id.*

[44] See Unmanned Aircraft Systems Integration Pilot Program, 82 FR 50301 (Oct. 25, 2017), available at <https://www.federalregister.gov/documents/2017/10/30/2017-23746/unmanned-aircraft-systems-integration-pilot-program>; *UAS Integration Pilot Program Overview*, U.S. Department of Transportation (May 7, 2018), available at https://www.faa.gov/uas/programs_partnerships/uas_integration_pilot_program/; *UAS Integration Pilot Program Selection Announcement*, U.S. Department of Transportation (May 9, 2018), available at <https://www.transportation.gov/briefing-room/uas-integration-pilot-program-selection->

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announcement. The Federal Aviation Administration Reauthorization Act of 2018 grants the FAA the legal authority to implement the IPP. See H.R. Rep. No. 302 Sec. 351 (2018), available at <https://bit.ly/2DLNW00>.

[45] See Miriam McNabb, *FAA: Drone Integration Pilot Program Off to an Exciting Start*, DroneLife (Aug. 30, 2018), available at <https://dronelife.com/2018/08/30/faa-ipp-off-to-an-exciting-start/>; see Matt Leonard, *Governments Dream of Drone-Based Development*, GCN (Feb. 8, 2018), available at <https://gcn.com/articles/2018/02/08/drone-ipp-applicants.aspx>. The FAA has also stated that it intends to use the IPP to test “package delivery, detect-and-avoid technologies, counter-UAS security operations, reliability and security of data links between pilot and aircraft, as well as local management of UAS operations subject to FAA oversight.” *Id.*

[46] See *Integration of Civil Unmanned Aircraft Systems (UAS) in the National Airspace System (NAS) Roadmap, Second Edition*, Federal Aviation Administration, at 32 (July 2018), available at https://www.faa.gov/uas/resources/uas_regulations_policy/media/Second_Edition_Integration_of_Civil_UAS_NAS_Roadmap_July%202018.pdf.

[47] See *UAS Integration Pilot Program Selection Announcement*, U.S. Department of Transportation (May 9, 2018), available at <https://www.transportation.gov/briefing-room/uas-integration-pilot-program-selection-announcement>; *Unmanned Aircraft Systems Integration Pilot Program (UASIPP)*, Federal Aviation Administration (Dec. 1, 2017), available at <https://faaco.faa.gov/index.cfm/announcement/view/28745>.

[48] McNabb, *supra* note 42.

[49] Marco Margaritoff, *Here Are the States Joining Trump’s Drone Integration Pilot Program*, TheDrive (May 10, 2018), available at <http://www.thedrive.com/tech/20750/here-are-the-states-joining-trumps-drone-integration-pilot-program>.

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[51] *Integration Pilot Program Awardees*, U.S. Department of Transportation (Sept. 25, 2018), available at https://www.faa.gov/uas/programs_partnerships/uas_integration_pilot_program/awardees/; McNabb, *supra* note 42 (contains description of each of the ten pilot programs); Miller, *supra* note 47.

[52] Keith Shaw, *FAA Gives Updates on Drone Integration Program*, Robotics Business Review (Aug. 31, 2018), available at <https://www.roboticsbusinessreview.com/unmanned/faa-gives-updates-on-drone-integration-program-flights/>; Marisa Garcia, *From Ice Cream To Wild Hogs: FAA Celebrates Successful Drone Trials*, Forbes (Aug. 31, 2018), available at <https://www.forbes.com/sites/marisagarcia/2018/08/31/from-ice-cream-to-wild-hogs-faa-celebrates-successful-drone-trials/#708645aa6517>; see also ND DOT, *UAS Partners Complete Test For Flights Over People*, UAS Magazine (Aug. 20, 2018), available

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at <http://www.uasmagazine.com/articles/1903/nd-dot-uas-partners-complete-test-for-flights-over-people>.

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[54] *Id.*

[55] Federal Aviation Administration, *FAA Approves Nine New LAANC Service Providers* (Oct. 1, 2018), available at <https://www.faa.gov/news/updates/?newsId=91744>.

[56] *Id.*

[57] *Id.*

[58] Linda Chiem, *DOT Proposal Would Loosen Rules On Some Drone Flights*, Law360 (Jan. 14, 2019), available at <https://www.law360.com/articles/1118477>; Linda Chiem, *Autonomous Car, Drone Cos. Navigate New Compliance Risks*, Law360 (Jan. 29, 2019), available at https://www.law360.com/transportation/articles/1110342/autonomous-car-drone-cos-navigate-new-compliance-risks?nl_pk=b316a0e5-d830-42d6-ae05-2ff4e3f4b647&utm_source=newsletter&utm_medium=email&utm_campaign=transportation.

[59] FOT UAS Initiatives, Federal Aviation Administration (Jan. 14, 2019), available at https://www.faa.gov/uas/programs_partnerships/DOT_initiatives/.

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[125] CFIUS operates pursuant to section 721 of the Defense Production Act of 1950, as amended by the Foreign Investment and National Security Act of 2007 (“FINSA”) (section 721) and as implemented by Executive Order 11858, as amended, and regulations at 31 C.F.R. Part 800.

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