

INSIDE THIS ISSUE

INCORPORATING DRONES INTO THE NATIONAL AIRSPACE SYSTEM – A STUDY IN CHAOS BY ALAN ARMSTRONG.......1

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INCORPORATING DRONES INTO THE NATIONAL AIRSPACE SYSTEM – A STUDY IN CHAOS by Alan Armstrong

An Exploding Volume of UAVs

merican government, both state and federal, is in chaos as it seeks to contain the explosion of unmanned aerial vehicles (UAVs/drones) being flown by inexperienced and untrained operators.¹ Over the course of the first half of 2015, there were 650 reports of drone encounters by pilots, nearly three times the amount in 2014. These encounters occurred at altitudes of up to 10,000 feet. An investigative report by the Washington Post published on August 20, 2015, revealed there were twelve near collision incidents reported by pilots on August 16 alone. In August 2015, the Transportation Department's Office of Inspector General said it would launch an audit to scrutinize the FAA's procedures for allowing UAV operations in the National Airspace System. On Aug. 27, 2015, a PA-23 was cruising at 2,500 feet near a Lewis University Airport and suffered damage to its horizontal stabilizer, including the rubber de-icing boot. The signatures of the impact were consistent with a small plastic propeller, the kind of propeller used on quadcopters.

On Sept. 30, 2015, the Georgia House of Representatives House Study Committee on the Use of Drones conducted hearings at the Georgia Tech Research Institute. Among those giving presentations at the Georgia Tech venue was Michael Wilson, the FAA Unmanned Aircraft Manager. Wilson noted there was an explosion in the drone population in America. For example, he indicated that 750,000 drones had been shipped to customers in the United States in 2015. Moreover, the forecast is for 1,000,000 drones to be sold during the Christmas season this year. Wal-Mart is currently offering 19 drones on its website, and Amazon is offering at least eight printed pages of drones showing 12 drones per page. Apparently, there will be a lot of fulfillment this Holiday Season. And how is the FAA responding to this surge in the drone population?

The FAA's Response – Educate Wal-Mart Sales Personnel

Rich Swayze, the FAA Assistant Administrator for Policy, International Affairs and the Environment indicated during the recent Airlines for America Commercial Aviation Industry Summit in Washington, D.C. that the FAA plans to send representatives to pre-Christmas staff meetings at the U.S. retail giant Wal-Mart to educate sales personnel about how to inform customers regarding safely operating UAVs. Respectfully, giving educational instruction to Wal-Mart sales personnel does not appear to be a meaningful response to the hazards the travelling public will encounter in the event a manned aircraft collides with a drone. The comments of Congressman Peter DeFazio (D-OR) seem to make more sense: "A lot of what pilots are seeing is irresponsible use of toys. The toys, in my opinion, should be set up so they can't be sold unless they're geo-fenced for altitude and perimeters."

Drone Law 101

Normally, in order for an aircraft to be operated in United States airspace, the aircraft must meet certification standards to satisfy the requirements for the issuance of an airworthiness certificate, it must be registered with the FAA, it must be operated by an airman who meets the training and experience requirements imposed by the Federal Aviation Regulations, and the airman must hold a medical certificate, either Class 1, Class 2 or Class 3. Because UAVs have not been certified to meet the requirements for the issuance of an airworthiness certificate, if they are to be flown in public operations (e.g., law enforcement) or civil (commercial) operations, the



operator must obtain from the FAA a Certificate of Authorization (COA). Public operations require the issuance of a COA, rules for operations detailed in the COA, and a self-certifying crew to operate the device. Civil operators may operate for commercial purposes as authorized in the FAA Modernization and Reform Act of 2012.² Commercial operators must obtain a grant of exemption before they can operate UAVs for profit. Most operators under section 333 are engaged in film or television or in aerial data collection. Seventeen hundred section 333 exemptions have been granted to civil (commercial) operators. The operator of the aircraft is required to have at least a recreational or sport pilot's certificate, and the operator's driver's license can serve as his medical certificate. While there are regulations governing public operations and civil (commercial) operations, section 336 of the FAA Modernization and Reform Act of 2012 governs hobby or recreational users. Hobby or recreational users are governed by FAA Advisory Circular 91-57A.³ There is no requirement for registration, training, or certification in any respect for hobby or recreational users of UAVs.

The Infrastructure Does Not Exist to Accommodate an Exploding Volume of Drones

It is true that in 2003, Congress directed that the next generation of air transportation would "accommodate a wide range of aircraft operations, including... unmanned aerial vehicles."⁴ The simple truth is that America, at this time, lacks the infrastructure to absorb millions of drones into the National Airspace System. Even FAA Assistant Administrator Rich Swayze has admitted: "A lot of people who don't have a pilot background are operating these things in the airspace."

While an aircraft may be flown over an uncongested area at 500 feet above ground level,⁵ and while the FAA maintains as part of its policy that UAVs should not be flown above 400 feet above ground level, this 100 foot buffer is of little reassurance to pilots and passengers in navigable airspace in light of pilot reports of drones being flown as high as 10,000 feet.

If one had a choice between the approach of Congressman DeFazio of technically limiting the altitudes and locations where UAVs may be flown in contrast to the plan of Assistant Administrator Swayze to educate sales personnel at Wal-Mart about UAV operations, the author would put his money on the DeFazio plan. It is no secret that UAVs do not have transponders that can be tracked by air traffic control. They do not have ADS-B (Automatic Dependent Surveillance – Broadcast) In or Out. That means pilots operating ADS-B equipped aircraft cannot electronically detect the presence of a UAV to avoid a collision. In all likelihood, due to their relatively small size, the average pilot of a powered aircraft will impact a UAV before he sees it. Furthermore, a UAV, which can weigh up to fifty-five pounds, will have a devastating impact on any aircraft. One needs only to recall the loss of U.S. Airways Flight 1549, an Airbus 320, which collided with Canadian geese after departing LaGuardia Airport. A twelve pound goose striking an aircraft at 150 miles per hour generates the force of a one thousand pound weight dropped from a height of ten feet according to the Bird Strike Committee USA. Commercial jet aircraft are certified to continue flight after impacting a four pound bird. However, no one would seriously argue that a fifty-five pound UAV cannot cause serious (if not catastrophic) damage to an airliner. And what happens if a fifty-five pound UAV strikes a light aircraft? Be prepared to comb through a scattered wreckage path.

While the FAA Modernization and Reform Act of 2012 required the FAA to integrate unmanned aircraft vehicles into the National Airspace System, the simple fact is that presently America lacks the infrastructure to absorb the operations of over 1,000,000 drones. Conventional aircraft flown by pilots have navigational aids, airways, GPS systems, collision avoidance systems, approach lighting systems, transponders, air traffic control, air traffic control towers, and a whole host of safety features to ensure that aircraft do not collide with other aircraft while engaged in air transportation, air ambulance operations, search and rescue missions, flight training, and the host of activities that are performed by pilots flying conventional powered aircraft. On the other hand, unmanned aerial vehicles are not electronically visible to air traffic controllers or to the pilots of conventional powered aircraft. Since there is no infrastructure in place to ensure separation of UAVs from manned aircraft, this explosion in the population of UAVs can only portend collisions between powered aircraft and UAVs. It is that simple.

The UAV Business Lobby and the FAA's Lack of Focus

Proponents of UAVs such as the Association for Unmanned Vehicle Systems International maintain that businesses in the UAV industry will create more than 100,000 jobs and \$82 billion in economic impact during the first decade of their integration into the National Airspace System.⁶ The UAV industry is pressing the FAA to integrate UAVs into the National Airspace System even though the infrastructure does not presently exist to safely effect this integration. Again, we turn to the remarks of Richard Swayze, the FAA Assistant Administrator, who concedes the FAA's focus on this issue is diffuse, since he declared: "One day it's safety concerns, the next day it's we've got to get these incorporated into the airspace as soon as possible, the next day it's privacy concerns and the next day it's security – are these things going to be armed? So, it's really up and down." And there you have it. The remarks of Administrator Swayze illustrate the chaos in which America finds itself in dealing with this drone crisis. There is no clear focus to protect conventional powered aircraft from an exploding population of UAVs under the control of unskilled owners/operators.

A Candid Assessment of the Danger

Hawaiian Airlines President Mark Dunkerley is more candid in his assessment about the threat presented to conventional aircraft by an exploding UAV population, since he remarked: "From an operating perspective, [small UAVs are] a very serious issue and there's considerable concern that it's going to end in tears ... It's not just in and around airports where drones present a danger to the traveling public. There are many areas outside of five miles of an airport where a drone conflict could occur."

A summit of U.S. military, Department of Homeland Security and FAA personnel confirmed the obvious: UAVs can be weapon delivery systems. In an exercise that pitted \$5,200 worth of UAVs against a convoy of armored vehicles, the UAVs won. More to the point,



a DJI Phantom 2, a newer version of the same kind of UAV that landed at the White House, can carry three pounds of explosives.

In Japan, a quadcopter carrying a radioactive payload was found on the roof of Prime Minister Shinzo Abe's office. That prompted the Japanese government to set about drafting rules requiring people who purchase UAVs to register their names and addresses and ban overflights of the Imperial Palace, Diet, and Prime Minister's office. In Japan, rules are being developed which will not permit licensed UAV operators to fly in densely populated areas and near airports. UAV manufacturers will be encouraged to develop operational programs that use GPS to limit flights from restricted areas. Offenders could face a fine of 500,000 yen (\$4,000 US) and one year in prison.

Japan is not unique in the concept of considering criminal penalties against errant UAV operators. In the wake of operators flying UAVs that interfered with firefighting efforts in California, Senate Bill 142 was presented to Gov. Jerry Brown as a means of punishing such behavior with criminal sanctions. Governor Brown, citing burdens on hobbyists and commercial operators, vetoed the bill.

Abdication of Responsibility – The Origins of Chaos

The United States Government's approach to this looming crisis is reactive, not proactive. Under the present policies and regulations, the only devices for keeping errant UAV operators in line are education, liability considerations and the threat of FAA enforcement action. For example, on October 6, 2015, the FAA announced the assessment of a \$1,900,000.00 civil penalty against a section 333 commercial operator, Sky Pan International, Inc. of Chicago, that was responsible for 65 unauthorized flights between March of 2012 and December of 2014. The operations were in some of the nation's most congested airspace. Fortythree flights were in New York's heavily restricted Class B airspace without air traffic control authorization. The UAVs lacked two-way radio communication, a transponder and altitude-reporting equipment. According to FAA Administrator Huerta, the operations are "illegal and can be dangerous." The announcement came one day before an FAA official was to testify before the House Transportation and Infrastructure Committee about what the agency is doing to address safety hazards presented by UAVs flying too close to manned aircraft. The FAA has granted 1,700 exemptions to commercial operators that are supposed to know how to comply with the FAA airspace rules.

The Department of Homeland Security and state and local law enforcement are working on systems to track and repel UAV incursions including a microwave device that will corrupt the UAV's operating system and send the vehicle back to the operator. However, the operator may not be in visual line of sight (VLOS) but may be positioned in a vehicle guiding it via first person view (FPV). To be effective, the interdiction system must be able to identify the location of the operator. Apparently, the authorities are only able to identify operators in one out of ten sightings of illegal UAV activity reported in 2014. Only two percent of the violations actually led to enforcement action.

The ability to weaponize a UAV would provide evocative content for a Tom Clancy novel, were he still alive. The prospect of UAVs being employed to deliver explosive fissionable material as well as biological agents must be matters of great concern to the United States Government. Clearly, the security technology is lagging behind UAV technology and the explosive growth in the UAV population. Furthermore, since UAV control systems involve computer software, there is the potential for the control system to be hacked or infected with malware.

Show Me the Money!

According to Teal Group, UAVs of all sizes and categories "continue as the most dynamic growth sector of the world aerospace industry." Worldwide UAV production will total \$93 billion with an additional \$30 billion on drone spending by the military.

The market leader in small UAVs is Da-Jiang Innovations Science and Technology Company (DJI). DJI was founded in 2006 by Frank Wang. DJI reportedly has a worldwide workforce of 3,000 and its 2015 revenue is projected at \$1 billion. Wang has stated his goal is to sell more than one million drones a year. According to the April issue of Forbes Magazine, DJI is seeking to raise investment of \$10 billion which, if successful, will make Wang a billionaire. The impetus for the rapid increase in drone supply is driven by entrepreneurs like Wang and vendors, suppliers and maintenance facilities which will service, sell and maintain UAVs. This explains why the Association for Unmanned Vehicle Systems International and the Academy of Model Aeronautics dispatched a letter to FAA Administrator Huerta on September 30, 2015, alerting Administrator Huerta to the economic impact a burgeoning drone market can have on the American economy in the form of 100,000 jobs and \$82 billion in economic impact during the first decade. Based upon

the commercial and economic needs of UAV suppliers and distributors, the authors of the September 30, 2015, letter declared: "The FAA needs to assert its authority over the NAS (National Airspace System)." Absent from the letter to Administrator Huerta of Sept. 30, 2015 was any meaningful discussion about how and in what manner infrastructure will be created and implemented to prevent collisions between manned aircraft and UAVs. The driving force to rush the implementation of drones into the National Airspace System is money. Without a coordinated infrastructure to prevent collisions between UAVs and manned aircraft, public safety in navigable airspace will be increasingly compromised by the exploding population of UAVs in the National Airspace System.

Conclusion

While the advocates for the operators, vendors and manufacturers of UAV systems are focused on the \$82 billion UAV systems may inject into our moribund economy, the simple fact is that no one has put in place the necessary infrastructure to safely and in good conscience incorporate an exploding volume of unmanned aerial vehicles into the National Airspace System.

It is worth mentioning that the Federal Aviation Administration was created by an act of Congress following the collision of two airliners over the Grand Canyon. One can only hope that the absence of meaningful technological impediments to the operations of UAVs in navigable airspace will not result in a similar tragedy and then finally arouse Congress and the FAA to address the importance of **first creating an infrastructure for the operation of drones** before the floodgates are opened with an explosion in sales of drones at Wal-Mart and Amazon.

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(Endnotes)

- 1. For the purposes of this article, there is no significant difference between the terms UAV, drone, unmanned aircraft system (UAS), or remotely piloted aircraft (RPA).
- 2 Pub.L. 112-95 §333.
- 3 Issued September 2, 2015.
- Vision 100 Century of Aviation Reauthorization Act ("the 2003 Act), Pub.L. 108-176, 117 stat. 2582 (2003), 49 U.S.C. § 40101, Notes.
- 5 14 C.F.R. § 91.119(c).

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FORM OVER FUNCTION: NAVIGATING FEDERAL AND GEORGIA TORT CLAIMS NOTIFICATION by Jeffrey R. Higel

Background

he Federal Tort Claims Act (FTCA) was enacted following the crash of a B-25 bomber into the Empire State Building in 1945.¹ From the moment of its creation, the FTCA has been inextricably linked to aviation. Given the heavy regulation and government involvement in aviation, and the relationship between the Government and aerospace defense contractors, understanding the processes and procedures of the FTCA, and its state counterpart, is important knowledge.

Analogous to the FTCA, the Georgia Tort Claims Act is also a particular area of concern for aviation litigators. Public entities involved with aviation, as well as those inhabiting the area around aviation centers, are at a specific risk for aviation claims. Whether it is airports, utility companies with lines in high traffic areas, or other state and local actors, it is crucial to know the process and operation of the Georgia Tort Claims Act.

The FTCA has a more streamlined approach than the Georgia Ante Litem Notice. Whereas the Ante Litem Notice has different standards for state and local authorities, the FTCA has one set of bright line rules to follow. These rules are outlined in a document called "Form 95," which is the embodiment of the FTCA notification requirements.

Federal Tort Claims Act and Form 95

While there is no explicit requirement to use Form 95, the Form is a safe way to assure that all notice requirements to the federal government are met. For claims against the federal government, there is a two-year notification period in which the claimant must file their claims.² This time starts running when the cause of action occurred, and notice is deemed to be met when the government receives actual notice of the injury. If, however, the claimant sues an employee or agency, and the U.S. must be substituted as a defendant, then the claimant has 60 days from the time of filing to give the government notice.³

"[F]ederal law controls questions relating to accrual of federal causes of action," so state laws cannot expand the two-year notification period.⁴ "When the plaintiff proves a continuing violation," a plaintiff may file a claim for a cause of action that began more than two years prior; though "the plaintiff may 'recover for any violations for which the statute of limitations has not expired."⁵

Once the government receives notice, it has six months to respond. If the government admits liability and chooses to pay, then the claimant's claim cannot be further litigated. However, if the government decides not to settle, then the claimant must file their case within six months of being notified of the government's denial of the claim.⁶ Contrary to the normal rules regarding exhaustion of remedies, the statute also allows the claimant to file suit if the government has not responded to the claim within six months of receipt.

When a claim is brought against an individual employee of the United States, the Attorney General has discretion to substitute the U.S. as the defendant if the employee acted within the scope of their employment.⁷ If the Attorney General does not do so, the employee may petition the government to have his/her case reviewed to determine if the government should assume liability.

Similarly to the Georgia Ante Litem Notice discussed below, the claimant must put a specific dollar amount in his/her FTCA claim. That dollar amount cannot be changed, unless new facts appear, and the claimant will be bound by the dollar amount they list on the Form.⁸ All FTCA trials must be adjudicated via a bench trial, which must take place in federal court.⁹

Georgia Tort Claims Act and Ante Litem Notice

The GTCA is a two tiered system, with requirements for handling tort claims against state and local governments. First, the Georgia Code has specific requirements in section 50-21-26 for bringing claims against state government entities.¹⁰ Second, the Georgia Code contains provisions in section 36-33-5 for bringing claims against municipal corporations.¹¹

Governing agencies that are neither municipal, nor state or county, such as transit agencies covering multiple counties (MARTA for instance) do not enjoy traditional sovereign immunity, and neither of the statutory schemes listed above would apply.¹² To add to the confusion, some agencies, such as the Georgia Port Authority, qualify as state agencies while appearing at first to fall within the same category as transit agencies.¹³ Because the statute of limitations runs from the time the injury occurs until ante litem notice has been served (if required), it is may be risky to attempt to sue an agency without a case by case review of the jurisprudence to determine if the agency is covered by either Georgia Code section 36-33-5 or section 50-21-26.

Georgia courts have strictly construed the content requirements of the ante litem notices. While courts have recognized that "there is no precise standard for determining whether any given ante[] litem notice is substantively sufficient. . . . The information supplied will be deemed sufficient if it puts a municipality on notice of the general character of the complaint, and, in a general way, of the time, place, and extent of the injury."14 While the "general character of complaint" language appears to show a lenient approach to adjudication, "claimant[s] must strictly comply with the notice provisions as a prerequisite to filing suit under the GTCA, and substantial compliance is not sufficient."15 The decisions of the courts in Dorn and Cummings (endnote 15) certainly favor a strict adherence to the notice requirements when handling an ante litem notice.

Georgia Code section 50-21-26 establishes the requirements for notifying the state government. The statute sets the one-year limitations period for notifying the state of the loss resulting from the state's actions. The notification window begins at the time "the loss was discovered or should have been discovered."¹⁶ In the case of continuing nuisances, "a new cause of action rises daily;" thus, only the damages occurring more than one year prior are barred, but the action may continue for all damages arising in the preceding year.¹⁷

In addition to notifying the agency that was responsible for the loss, the claimant must also give notice to the Department of Administrative Services, and failing to do so will result in dismissal.¹⁸ Fortunately for the claimant, if the state raises this issue by motion, the claimant has thirty days to address the

The opinions expressed within The Aviation Law Section Newsletter are those of the authors and do not necessarily reflect the opinions of the State Bar of Georgia, the Aviation Law Section, the Section's executive committee or editor of the newsletter. notification issue. If the claimant fails to do so, the case will be dismissed without prejudice.¹⁹

The municipal timing notice in Georgia Code section 36-33-5 differs slightly from the GTCA notice requirements. For municipalities, the notice window is only six months long. Additionally, the statute lacks the clause stating that the six month limitation begins when "the loss was discovered or should have been discovered." Instead, the statute states the timing begins with "the happening of the event," appearing to indicate a more stringent standard.²⁰

The notification's content is fairly straightforward. For state entities, the notice must contain six pieces of information: (1) the name of the state entity; (2) the timing of the incident; (3) the location; (4) the nature of the claimant's loss; (5) the financial loss; and (6) the acts or omissions that caused the loss.

For municipal corporations, the notice must contain a similar set of information. Municipal notification must include: the timing of the accident, the place, the extent of the injury, the alleged negligence, and the monetary damages sought. In the case of municipal notification, the damages notification constitutes an offer to compromise, but it may be amended for trial if the municipality refuses to settle.²¹

Physical service of the notice differs between state and municipal entities. For the state, claimants must service the agency's designated representative via first class mail, and, as stated above, claimants must also serve the Department of Administrative Services.²² For municipal corporations, the claimant may serve either the mayor or chairperson of the council. Service may be either in person, via certified mail, or through statutory overnight delivery.²³

The notice requirements of the FTCA and GTCA are not to be treated lightly, and courts have routinely

The Aviation Law Section Newsletter is looking for authors.

If you would like to contribute an article or have an idea for content, please contact Arthur Park at APark@mfllaw.com dismissed cases due to untimely notice or notice that failed to meet the statutory guidelines.

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(Endnotes)

- The Day A Bomber Hit The Empire State Building, http:// www.npr.org/templates/story/story.php?storyId=92987873 (last visited July 6, 2016).
- 2 28 U.S.C. § 2401 (2015).
- 3 28 U.S.C. § 2679 (2015).
- Newcomb v. Ingle, 827 F.2d 675, 678 (10th Cir. 1987); see also Phillips v. United States, 260 F.3d 1316, 1319 (11th Cir. 2001) (Ga. statute extending filing window was contrary to Congressional intent and invalid).
- Eaton v. Keith, 154 F. App'x 844, 848 (11th Cir. 2005) (quoting Knight v. Columbus, Ga., 19 F.3d 579 580-81(11th Cir. 1994)).
- 6 28 U.S.C. § 2675 (2015).
- 7 28 U.S.C. § 2679 (2015).
- 8 28 U.S.C. § 2675 (2015); Blair v. I.R.S., 304 F.3d 861, 868 (9th Cir. 2002) (Claimant listed valid expenses for lost wages, but listed medical expenses as "still being incurred"; thus, the court limited recovery to only wages).
- 9 28 U.S.C. § 2402 (2015).

- $10 \quad O.C.G.A. \ \ 50\text{-}21\text{-}26 \ (2014).$
- 11 O.C.G.A. § 36-33-5 (2014).
- See Williams v. Metropolitan Atlanta Rapid Transit Authority, 542 S.E.2d 199, 200 (Ga. Ct. App. 2000) (MARTA is a local authority and is expressly excluded from sovereign immunity and governmental immunity).
- See Miller v. Georgia Ports Authority, 470 S.E.2d 426 (Ga. 1996).
- 14 City of Greensboro v. Rowland, 778 S.E.2d 409, 412 (Ga. Ct. App. 2015).
- 15 Dorn v. Georgia Dep't of Behavioral Health & Developmental Disabilities, 765 S.E.2d 385, 387 (Ga. Ct. App. 2014) (citing Cummings v. Ga. Dept. of Juvenile Justice, 653 S.E.2d 729,731 (Ga. App. 2007)).
- 16 O.C.G.A. § 50-21-26 (2014) (emphasis added).
- Savage v. E.R. Snell Contractor, Inc., 672 S.E.2d 1, 6 (Ga. Ct. App. 2008) (citing Chamblee v. City of Maxwell, 452 S.E.2d 488 (Ga. 1994)).
- 18 Welch v. Georgia Dept. of Transp., 624 S.E.2d 177, 178-79 (Ga. Ct. App. 2005).
- 19 O.C.G.A. § 50-21-26 (2014).
- 20 O.C.G.A. § 36-33-5 (2014).
- 21 O.C.G.A. § 36-33-5 (2014).
- 22 O.C.G.A. § 50-21-26 (2014).
- 23 O.C.G.A. § 36-33-5 (2014).



The Aviation Law Section co-hosted a CLE event at the State Bar Headquarters on April 1, 2016. Special thanks to speakers William D. NeSmith III (pictured above L), Donald R. Andersen (pictured above R), J. Arthur Mozley, E. Alan Armstrong, Charles R. Manning, PE, James S. Strawinski, and John D. McClune.

AVIATION 101: PROTECTING NAVIGABLE AIRSPACE *by Arthur J. Park*

he Federal Aviation Administration (FAA) has recognized that the airspace around an airport is subject to the utmost protection. The Federal Regulations concerning runway protection zones and obstructions to air navigation are rather complex, but the most basic provisions relating to obstructions to navigation are found in 14 C.F.R.¹ Part 77 entitled *Safe*, *Efficient Use, and Preservation of the Navigable Airspace*. Additional requirements are found in Grant Assurances contained within federal funding as well as easements with neighboring landowners.

Federal Regulations

Part 77 establishes (a) the requirements to provide notice to the FAA of certain proposed construction; (b) the standards used to determine obstructions to air navigation; (c) the process for aeronautical studies of obstructions to air navigation to determine the effect on the safe and efficient use of navigable airspace; and (d) the process to petition the FAA for discretionary review.²

First, section 77.9 establishes a number of situations in which a party is required to give notice to the FAA of a proposed construction within three nautical miles of a public use airport.³ For the purposes of this article, there are three important calculations that trigger the notice requirements. To wit, any proposed construction that would exceed an imaginary surface extending outward and upward at any of the following slopes: (a) 100 to 1 within 20,000 feet; (b) 50 to 1 within 10,000 feet; or (c) 25 to 1 within 5,000 feet.⁴ These protected slopes essentially allow for safe departures and landings at the airport.

If you are required to file notice under section 77.9, you must submit to the FAA a completed FAA Form 7460–1, Notice of Proposed Construction or Alteration.⁵ The form must be submitted at least 45 days before the start of the proposed construction.⁶ These notice requirements give the FAA the opportunity to review and approve proposed construction around public airports and ensure that the navigable airspace is protected. The failure to file a Form 7460 with the FAA can lead to the creation of unsafe, dangerous hazards to air navigation that threaten and risk the lives of pilots landing and taking off from the airport.

Second, an obstruction to air navigation can include "any object of natural growth, terrain, or permanent or temporary construction."⁷ "Objects that are considered obstructions under the standards described in this subpart are presumed hazards to air navigation unless further aeronautical study concludes that the object is not a hazard."⁸ Under the federal obstruction standards, the following types of object are deemed an obstruction to air navigation:

- 1. A height of 499 feet AGL⁹ at the site of the object.
- 2. A height that is 200 feet AGL, or above the established airport elevation, whichever is higher, within 3 nautical miles of the established reference point of an airport, excluding heliports, with its longest runway more than 3,200 feet in actual length, and that height increases in the proportion of 100 feet for each additional nautical mile from the airport up to a maximum of 499 feet.
- 3. A height within a terminal obstacle clearance area, including an initial approach segment, a departure area, and a circling approach area, which would result in the vertical distance between any point on the object and an established minimum instrument flight altitude within that area or segment to be less than the required obstacle clearance.
- 4. A height within an en route obstacle clearance area, including turn and termination areas, of a Federal Airway or approved off-airway route, that would increase the minimum obstacle clearance altitude.
- The surface of a takeoff and landing area of an airport or any imaginary surface established under § 77.19, 77.21, or 77.23. However, no part of the takeoff or landing area itself will be considered an obstruction.¹⁰

Section 77.19 then describes the civil airport imaginary surfaces: (a) horizontal surface, (b) conical surface, (c) primary surface, (d) approach surface, and (e) transitional surface.¹¹ For example, the approach surface extends for a horizontal distance of:

- i. 5,000 feet at a slope of 20 to 1 for all utility and visual runways;
- ii. 10,000 feet at a slope of 34 to 1 for all nonprecision instrument runways other than utility; and



iii. 10,000 feet at a slope of 50 to 1 with an additional 40,000 feet at a slope of 40 to 1 for all precision instrument runways.¹²

Similarly, Georgia regulations provide that an obstruction is "[a]ny penetration of an airport imaginary surface described in Federal Aviation Regulation Part 77 and FAA Advisory Circular 150/5300-13."¹³ In Georgia, an airport hazard is defined as "[a]ny structure, object of natural growth, or use of land which obstructs the defined runway primary surface, safety area, and approach/ departure paths surfaces applicable to that particular airport."¹⁴ Georgia regulations also require the following unobstructed approach and departure paths: (a) 15:1 slope for runways less than 4000 feet; and (b) 20:1 slope for runways greater than 4000 feet.¹⁵ "All penetrations of the approach and departure paths, whether natural or manmade, constitute an obstruction to navigation and a violation to licensing standards."¹⁶

Finally, under 14 C.F.R. sections 77.25 et seq., the FAA has discretion to undertake an aeronautical study and determine whether an obstruction to air navigation (as defined above) has such an effect on the safe and efficient use of navigable airspace to constitute a "hazard."¹⁷ To successfully challenge a FAA hazard/ no hazard determination in court, the petitioner must demonstrate that the FAA's action was arbitrary, capricious, an abuse of discretion, or otherwise not in accordance with law.¹⁸

Grant Assurances

When airport owners or operators (sponsors) accept funds from FAA-administered airport financial assistance programs, they must agree to certain obligations (assurances). These contractual obligations require the recipients to maintain and operate their facilities safely and efficiently and in accordance with specified conditions. The assurances are often attached to the application or the grant for federal assistance and become part of the final grant offer.¹⁹ In exchange for federal funds, the sponsor agrees to assume certain responsibilities pertaining to the safe conduct of flight operations at the airport and for the benefit and safety of the flying public.

The standard Grant Agreement includes the obligation to maintain the Runway Protection Zone free of obstructions to air navigation. These obligations and assurances currently included the following relevant terms:

19. Operation and Maintenance.

a. The airport and all facilities which are necessary to serve the aeronautical users of the airport, other than facilities owned or controlled by the United States, shall be operated at all times *in a safe and serviceable condition* and in accordance with the minimum standards as may be required or prescribed by applicable Federal, state and local agencies for maintenance and operation. It will not cause or permit any activity or action thereon which would interfere with its use of airport purposes...

In furtherance of this assurance, the sponsors will have in effect arrangements for –

- 1. Operating the airport's aeronautical facilities whenever required;
- 2. Promptly *marking and lighting hazards* resulting from airport conditions, including temporary conditions; and
- 3. Promptly notifying airmen of any condition affecting aeronautical use of the airport...

20. Hazard Removal and Mitigation.

It will take appropriate action to assure that such terminal airspace as is required to protect instrument and visual operations to the airport (including established minimum flight altitudes) will be adequately cleared and protected by removing, lowering, relocating, marking, or lighting or otherwise mitigating existing airport hazards and by preventing the establishment or creation of future airport hazards.

21. Compatible Land Use.

It will take appropriate action, to the extent reasonable, including the adoption of zoning laws, to restrict the use of land adjacent to or in the immediate vicinity of the airport to activities and purposes compatible with normal airport operations, including landing and takeoff of aircraft...²⁰

In short, "[f]ederally obligated airports are subject to Grant Assurances 20 and 21 which require the protection of the approach and departure surfaces... The airport operator has an ongoing obligation to review the surface(s) for obstructions."²¹ It is interesting to note that Grant Assurance 20 shifts the burden of "removing" hazards from the FAA to the airport sponsor; the FAA generally does not have authority to force a private landowner to remove, lower, or relocate an existing hazard to air navigation.

An obstruction survey at the airport should identify those objects that may affect aircraft operations.²² Furthermore, "any existing or proposed object, whether man-made or of natural growth that penetrates these surfaces [in Part 77] is classified as an 'obstruction' and is presumed to be a hazard to air navigation."²³ If an obstruction cannot be feasibly removed, the danger should be mitigated by lighting and marking it.²⁴

Easements

Airport sponsors often obtain a clear zone easement (sometimes referred to as an aviation easement) with adjacent landowners to protect the approach and departure surfaces existing within the Runway Protection Zone of the airport from obstructions. Under such an easement, the airport sponsor is generally vested with actual and constructive control over the property for purposes of preventing and removing obstacles to air navigation.

"The RPZ's function is to enhance the protection of people and property on the ground."²⁵ This is best achieved through airport owner control over RPZs, including the acquisition of sufficient property interest and clearing RPZ areas of incompatible objects and activities.²⁶

As the United States Supreme Court has recognized, "the Federal Aviation Administration (FAA) has been given broad authority to regulate the use of the navigable airspace, in order to insure the safety of aircraft and the efficient utilization of such airspace and for the protection of persons and property on the ground."²⁷ The importance of protecting navigable airspace is highlighted in the federal regulations, grant assurances, and local easements. Airports, consultants, and adjacent landowners must continue to vigilantly safeguard the navigable airspace for departures and landings.

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(Endnotes)

- 1 Code of Federal Regulations.
- 2 14 C.F.R. § 77.1.
- 3 14 C.F.R. § 77.9.
- 4 14 C.F.R. § 77.9(b). The measurements are taken "from the nearest point of the nearest runway of each airport described in paragraph (d) of this section with its longest runway more than 3,200 ft. in actual length."
- 5 14 C.F.R. § 77.7(a).
- 6 14 C.F.R. § 77.7(b). "(a) If you propose any construction or alteration described in § 77.9, you must provide adequate notice to the FAA of that construction or alteration." 14 C.F.R. § 77.5(a).
- 7 14 C.F.R. § 77.13.
- 8 14 C.F.R. § 77.15(b).
- 9 Above ground level.
- 10 14 C.F.R. § 77.17(a).
- 11 14 C.F.R. § 77.19.
- 12 14 C.F.R. § 77.19(d)(2).
- 13 Ga. Comp. R. & Regs. 672-9-.01(r).
- 14 Ga. Comp. R. & Regs. 672-9-.01(d).
- 15 Ga. Comp. R. & Regs. 672-9-.03(A).
- 16 Id.
- 17 See also 49 U.S.C. § 44718(b)(1).
- 18 Town of Barnstable, Mass. v. F.A.A., 740 F.3d 681, 687 (D.C. Cir. 2014).
- 19 http://www.faa.gov/airports/aip/grant_assurances/ (last visited July 6, 2016).
- 20 http://www.faa.gov/airports/aip/grant_assurances/media/ airport-sponsor-assurances-aip.pdf (Grant Assurances dated March 2014) (website last visited July 6, 2016) at pp. 9-10 (emphasis added).
- 21 FAA Advisory Circular 150/5300-13A (Sept. 28, 2012) at p. 12.
- 22 Id. at p. 44.
- 23 Id. at p. 58.
- 24 Id. at p. 73. See also FAA Advisory Circular 70/7460-1K (Obstruction Marking and Lighting).
- 25 FAA Advisory Circular 150/5300-13A (Sept. 28, 2012) at p. 71.
- Id. The Runway Protection Zone is further defined and calculated in FAA Advisory Circular 150/5300-13A (Sept. 28, 2012) at pages 71-75.
- 27 City of Burbank v. Lockheed Air Terminal Inc., 411 U.S.624, 627 (1973) (quotations omitted).

RECENT DEVELOPMENTS IN FEDERAL PREEMPTION IN THE AVIATION CONTEXT RAISE QUESTIONS ABOUT THE FUTURE OF THE DOCTRINE *by Paul Stinson*

Introduction

ttorneys litigating in the aviation field are certain, at one time or another in their careers, to run up against one or more species of federal preemption – whether express, conflict or implied. Of these three types of preemption, implied field preemption perhaps raises the most difficult challenges for litigators and courts. This article will provide a brief overview of the scope of implied field preemption in the aviation context, as well as a discussion of two significant recent decisions that have come to very different conclusions about how the doctrine should be applied.

Express, Conflict and Field Preemption

In general, federal law will displace state law in a given area under three circumstances: (1) where Congress has expressly preempted state law; (2) where state law conflicts with federal law or interferes with the achievement of federal objectives (i.e., "conflict" preemption); or (3) where federal law "so thoroughly occupies a legislative field" as to make it reasonable to assume that Congress intended to preempt state law in that field.¹ This article focuses on the third type, "implied field" preemption. Since it was decided in 1999, the Third Circuit's opinion in Abdullah v. American Airlines, Inc.² has often been cited as the seminal implied preemption precedent in aviation cases. The Third Circuit held that "federal law establishes the applicable standards of care in the field of air safety, generally, thus preempting the entire field from state and territorial regulation."3 In other words, under Abdullah, unless a claimant could establish a violation of an applicable federal standard of care (e.g., a federal aviation regulation (FAR)), then any allegations in the area of "air safety" were subject to potential dismissal.

The original Federal Aviation Act of 1958⁴ included no express preemption clause, and in fact stated that "[a] remedy under this part is in addition to any other remedies provided by law." Although two subsequent amendments – the Airline Deregulation Act⁵ ("ADA") and the General Aviation Revitalization Act⁶ – added express preemption provisions, those Acts do not apply to the vast majority of liability claims against aircraft pilots, operators, manufacturers and the like. Accordingly, most aviation preemption decisions outside of the ADA's "rates, routes and services" context have focused on the second two concepts – "conflict" preemption and "implied field" preemption. As noted above, the Third Circuit's decision in *Abdullah* had previously been a benchmark case for implied preemption of the "entire field" of aviation. However, that court's recent decision in *Sikkelee v. Precision Airmotive Corp.*⁷ has now placed some significant restraints on the applicability of implied preemption in the products liability context within the Third Circuit.

The Sikkelee Case

The Sikkelee case had been pending in the district courts in the Third Circuit since 2007, and spawned a number of lower court preemption decisions prior to its latest arrival at the Court of Appeals. The case stems from the crash of a Cessna 172N aircraft in Brevard County, North Carolina in 2005. David Sikkelee, the pilot, was killed in the crash and his wife brought suit against 17 different defendants in the U.S. District Court for the Middle District of Pennsylvania. Her primary allegation was that the aircraft lost power and crashed as a result of a malfunction or defect in the engine's carburetor. In 2010, the district court granted defendants' motion for judgment on the pleadings, holding that Sikkelee's state law claims, which were premised on state law standards of care, fell within the preempted "field of air safety" described in Abdullah.8 Sikkelee subsequently filed an amended complaint, continuing to assert state law claims, but this time incorporating federal standards of care by alleging violations of numerous FARs. As the trial date approached, the district court granted defendants' motion for summary judgment on the ground that the Federal Aviation Administration's (FAA) granting of a Type Certificate for manufacture of the subject Textron Lycoming engine established that the engine met the relevant federal standards of care as a matter of law.9 However, questioning its own ruling and the meaning and scope of Abdullah, the district court certified the order for immediate appeal, and the Third Circuit granted interlocutory review.

The Third Circuit framed the question before it as whether Abdullah "extends to state law products liability claims."¹⁰ The Court answered that question in the negative, holding that neither the Federal Aviation Act "nor the issuance of a type certificate per se preempts all aircraft design and manufacturing claims. Rather, subject to traditional principles of conflict preemption, including in connection with the specifications expressly set forth in a given type certificate, aircraft products liability cases like Appellant's may proceed using a state standard of care."¹¹ The Court's primary rationale for departing from Abdullah's holding that federal law preempts the "field of aviation safety" was that Abdullah, and the Court's later decision in Elassaad v. Independence Air, Inc.¹², both involved regulations "related to in-air operations," and that the "catch-all" standard of care that the Court had invoked in those cases, 14 C.F.R. § 91.13, "applied only to operating, not designing or manufacturing, an aircraft."¹³

As for the FAA's issuance of a type certificate for the engine in question, the court agreed with the FAA's position, submitted in a Letter Brief, "that type certification is relevant only to an analysis under 'ordinary conflict preemption principles," that is, that preemption would apply only "where compliance with both the type certificate and the claims made in the state tort suit is a physical impossibility; or where the claim stands as an obstacle to the accomplishment and execution of the full purposes and objectives of Congress."¹⁴ The Third Circuit therefore reversed the district court's grant of summary judgment and remanded for further proceedings consistent with its opinion. Defendants Avco Corp.'s and Textron Lycoming's petition for rehearing en banc was supported by amicus briefs filed by The Boeing Company and Airbus Americas, Inc., and the General Aviation Manufacturers Association, all of which pointed out a number of significant flaws in the court's reasoning, in particular its curious holding that the design and manufacture of an aircraft did not relate to "in-air safety." The court denied the petition on June 7, 2016, and defendants in that case may petition the U.S. Supreme Court for review.

Other Courts Have Reached a Different Outcome

It also remains to be seen whether and how Sikkelee may affect aviation preemption cases outside the Third Circuit. At least four other U.S. circuits, including the Second, the Sixth, the Ninth and the Tenth, have also adopted the broad "entire field" approach to field preemption in the aviation context (although sometimes with caveats).¹⁵ Federal district courts and state courts have also found preemption in the aviation product liability context.¹⁶ Perhaps most significantly highlighting the conflict, the Tenth Circuit's decision in U.S. Airways, Inc. v. O'Donnell¹⁷ and a couple of Colorado state court decisions formed the basis for a recent holding directly contrary to Sikkelee – i.e., that state law product liability claims <u>were</u> preempted by federal law. In Bowe v. Air Methods Corp. and Repsher v. Air Methods Corp., opinions rendered prior to Sikkelee, a Colorado state court held that product design defect claims brought by plaintiffs related to a helicopter accident were preempted by federal law.¹⁸ The Plaintiffs in those cases asserted product liability claims (design defects and failure to warn) against the helicopter manufacturer based solely on violations of state law.

Although not all state and federal courts have adopted implied preemption in the aviation context, the Colorado Supreme Court had done so twice. In Banner Advertising v. City of Boulder, the Court found that a City of Boulder ordinance prohibiting aerial banner towing was preempted by the Federal Aviation Act and FARs.¹⁹ Later, in Sky Fun 1 v. Schuttloffel, the Court held that the provisions of the federal Airline Pilot Hiring and Safety Act preempt and prevent lawsuits, such as state law tort defamation lawsuits, based on pilot records provided to a potential employer (although the Court found that the specific oral communication at issue in that case was not within the scope of the preemption).²⁰ In US Airways, in which the Tenth Circuit invalidated a New Mexico law imposing a fine on US Airways related to on-board liquor service, the Court wrote: "Based on the FAA's purpose to centralize aviation safety regulation and the comprehensive regulatory scheme promulgated pursuant to the FAA, we conclude that federal regulation occupies the field of aviation safety to the exclusion of state regulations."²¹

In light of the Colorado Supreme Court and Tenth Circuit precedent that federal law impliedly preempts state law standards of care in the field of aviation safety, the helicopter manufacturer defendants moved the Colorado court in the *Bowe* and *Repsher* cases to dismiss plaintiffs' complaints for failure to state a claim. The argument was not that the FARs precluded plaintiffs from seeking remedies under state law following an aviation accident. Rather, because the Federal Aviation Act and FARs are preemptive, they set federal standards of care for claims falling within their scope. The Colorado trial court agreed, holding that:

Plaintiffs' claims in this case concerning the design, certification, flight and performance characteristics and operating instructions of the AS350B3e model helicopter involved in the accident are preempted by federal regulations. The FAA and FARs establish the standard of care for these claims. Since none of the counts in Plaintiffs' Complaint against [the defendants]

are based on a violation of a FAR[] or federal standard of care, each count could be dismissed for failure to state a claim upon which relief can be granted.²²

Accordingly, the court sustained the motions to dismiss, giving plaintiffs an opportunity to amend their complaints to cure the deficiencies. However, after the Third Circuit issued its decision in *Sikkelee*, briefing on the preemption issue recommenced, with plaintiffs' asking the *Bowe/Repsher* court to reconsider its prior decision that preemption should apply to their claims. The court has not yet ruled on these latest motions.

There has been a lot of water under the preemption bridge since *Abdullah* was decided in 1999. Although *Abdullah* had been viewed as a seminal preemption case, implied field preemption has now been adopted in at least four other federal courts of appeal and in various state courts, and changing opinions in the Third Circuit may not be as persuasive as they might have been in the past. The *Bowe* and *Repsher* cases underscore that implied field preemption may be found based on courts' own precedent, irrespective of how the Third Circuit has interpreted the issue.

Conclusion

As can be seen from a comparison of these two recent, seemingly diametrically opposed cases from the Third Circuit and a Colorado state court, the somewhat esoteric doctrine of implied field preemption still generates lively, and sometimes heated, debate, and has the potential to seriously change the course of litigation of aviation related claims. Aviation attorneys on both sides of the aisle will undoubtedly be closely watching further developments in both *Sikkelee* and *Bowe/ Repsher*, and in any similar cases across the country in which state law claims or standards of care are being asserted against federally regulated aviation defendants.

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(Endnotes)

- Hillsborough County v. Automated Med. Lab., Inc., 471 U.S. 707, 713 (1985); Schneidewind v. ANR Pipeline Co., 485 U.S. 293, 300 (1988); Cipollone v. Liggett Group, 505 U.S. 504, 516 (1992).
- 2 181 F.3d 363 (3d Cir. 1999).
- 3 Id. at 367 (emphasis added).
- 4 Pub. L. No. 85-726, 72 Stat. 731 (codified as amended at 49 U.S.C. §§ 40101 et seq.).
- 5 Pub. L. No. 95-504, 92 Stat. 1705 (1978) (codified at 49 U.S.C. § 41713).

- Pub. L. No. 103-298, 2(d), 108 Stat. 1552 (1994), amended, Pub. L. No. 105-102, 3(e), 111 Stat. 2215 (1997) (codified at 49 U.S.C. 40101 note).
- 2016 U.S. App. LEXIS 7015, 2016 WL 1567236 (3d Cir. Pa. Apr. 19, 2016).
- 8 Sikkelee v. Precision Airmotive Corp., 731 F. Supp. 2d 429, 439 (M.D. Pa., 2010) (Judge Jones).
- 9 Sikkelee v. Precision Airmotive Corp., 45 F. Supp. 3d 431, 451-53, 456 (M.D. Pa. 2014) (Judge Brann). Judge Matthew W. Brann joined the bench in 2013, and Sikkelee was one of the cases reassigned to him. [http:// www.pamd.uscourts.gov/?q=judge-matthew-w-brann]
- 10 Sikkelee, 2016 U.S. App. LEXIS 7015 at *2.
- 11 Id. at *2-3.
- 12 613 F.3d 119 (3d Cir. 2010).
- 13 Sikkelee, 2016 U.S. App. LEXIS 7015 at *18-19.
- 14 Id. at *51-52 (quotations omitted).
- 15 U.S. Airways, Inc. v. O'Donnell, 627 F.3d 1318 (10th Cir. 2010); Goodspeed Airport LLC v. East Haddam Inland Wetlands & Watercourses Comm'n, 634 F.3d 206 (2d Cir. 2011); Greene v. B.F. Goodrich Avionics Sys., 409 F.3d 784, 795 (6th Cir. 2005); Montalvo v. Spirit Airlines, 508 F.3d 464, 468 (9th Cir. 2007).
- 16 See, e.g., McIntosh v. Cub Crafters, Inc., 2014 U.S. Dist. LEXIS 21491, *14 (E.D. Wash. Feb. 19, 2014) (holding that "based upon field preemption, federal law exclusively establishes the standard of care as to the design, test, and approval of the [aircraft] stall/spin characteristics, preempting any state standards"); Estate of Becker v. Forward Tech. Indus., Inc., 365 P.3d 1273 (Wash. Ct. App. 2015) (federal regulations preempted the standard of care for state law manufacturing defect claims related to an aircraft carburetor); Agape Flights, Inc. v. Covington Aircraft Engines, Inc., 2012 U.S. Dist. LEXIS 94053, *19-22 (E.D. Okla. July 9, 2012) (FARs preempted and set the standard of care for negligent aircraft maintenance claims).
- 17 627 F.3d 1318 (10th Cir. 2010).
- 18 January 5, 2016 Orders Granting Defendant Airbus Helicopters, Inc.'s and Airbus Helicopters, S.A.S.'s Rule 12(b)(5) Motions to Dismiss for Failure to State a Claim Upon Which Relief Can Be Granted Unless Complaint is Amended, Bowe v. Air Methods Corp., District Court Summit County, Colorado, Case No. 2015CV30147, and Repsher v. Air Methods Corp., District Court Summit County, Colorado, Case No. 2015CV30146. *Note that the author's law firm, Nixon Peabody LLP, represented the prevailing defendants in those cases.
- 19 868 P.2d, 1077, 1081-82 (Colo. 1994).
- 20 27 P.3d 361, 368 (Colo. 2001) (citing Abdullah, 181 F.3d at 368-69).
- 21 US Airways, 627 F.3d at 1326.
- 22 Bowe and Repsher Orders at 9 (citation omitted).