**U.S. Senate Committee on the Judiciary**

**Defending Against Drones:**
**Setting Safeguards for Counter Unmanned Aircraft Systems Authorities**
**May 20, 2025**

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Unmanned aerial systems (UAS) have become ubiquitous. They are employed for commercial delivery, journalism, agriculture, construction, surveying, law enforcement, firefighting, photography, sports broadcasting, film production, real estate sales, entertainment, and myriad other purposes.[1] They can be outfitted with technologies that extend well beyond ordinary audio or video collection to include RGB imagery, 4K and 8K video, near infrared, multispectral imaging, thermal infrared and light detection and ranging (LiDAR).[2] Functionally, UAS can be used to identify safety concerns, perform inspections, provide security, secure investments, and augment reality.[3] They also can be employed as a matter of artistic expression, as the FC Dallas Drone Show demonstrated so vividly in 2024, recreating classical pieces of art in the skies above Texas.[4] Reflecting their broad integration into daily life, the FAA has now registered more than one million drones, with approximately 421,000 commercial drone registrations and another 383,000 for recreational fliers.[5]

While UAS present numerous opportunities for work and leisure, they also can be levied by states and non-state actors for nefarious purposes. Even as the costs of commercial drones has plummeted, GPS-enabled flight and autonomous swarms present unique challenges.[6] They are accompanied by an expansion in payload capabilities. Drones can carry guns, bombs, flamethrowers, incendiary devices, and biological, chemical, or nuclear materials. They can be outfitted with tracking technologies, enhanced by physiological and behavioral biometric identification systems, to allow them to follow particular vehicles, individuals or groups of people.[7] They can integrate magnification to enable operators to read documents and to photograph or record sensitive information from significant distances. They also can deliver contraband. In 2020, for instance, a Department of Justice audit of the Federal Bureau of Prisons reported eighty-three incidents between 2015–2020 in which drones had been used to try to provide illicit materials to inmates.[8] Not only was the number of such deliveries annually increasing, but as the technology advanced, the amount

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[1] *See, e.g.*, *Aerial Imaging Market Size, Share & Industry Analysis, By End Use (Real Estate & Architecture, Agriculture, Insurance, Environmental & Conservation (Urban Planning), Commercial & Advertising, and Others)*, FORTUNE BUSINESS INSIGHTS: AEROSPACE & DEFENSE, May 2025, https://www.fortunebusinessinsights.com/unmanned-systems-industry.
[2] *See* Jennifer Trock et al., *The Use of Unmanned Aircraft Systems in the Construction Industry in the United States and Canada*, 12 J. AM. COLL. CONSTR. LAWYERS 4 (2018).
[3] *Id.*
[4] *See* Sky Elements Drone Shows, Priceless Artwork Recreated using 500 Drones, FC Dallas Drone show, https://www.youtube.com/watch?v=I1whdYXNz3A.
[5] Federal Aviation Administration, *Drones by the Numbers (as of 4/1/2025)*, https://www.faa.gov/uas (last visited May 16, 2025) (noting "[r]ecreational flyers may use one registration number on multiple drones").
[6] *See generally* Jake Dulligan et al., *The Rising Threat of Non-state Actor Commercial Drone Use: Emerging Capabilities and Threats*, 18(3) COMBATING TERRORISM CENTER SENTINEL, Mar. 2025, https://ctc.westpoint.edu/the-rising-threat-of-non-state-actor-commercial-drone-use-emerging-capabilities-and-threats/; *see also* Ulrike Franke, *Drones in Ukraine and Beyond: Everything You Need to Know,* EUROPEAN COUNCIL ON FOREIGN RELATIONS, Aug. 11, 2023; Joshua A. Schwartz, *What Iran's Drone Attack Portends for the Future of Warfare*, MODERN WAR INSTITUTE, WEST POINT, Apr. 30, 2024; U.S. GOV'T ACCOUNTABILITY OFF., GAO-23-106930, SCIENCE & TECH SPOTLIGHT: DRONE SWARM TECHNOLOGIES (2023).
[7] *See generally* Laura K. Donohue, *Biomanipulation*, 113 GEO. L. J. 475, 505–29 (2025) (discussing PBCs and BBCs and the quality of information that can be remotely obtained).
[8] *See* DEP'T OF JUSTICE: OFF. OF THE INSPECTOR GEN., AUDIT OF THE DEPARTMENT OF JUSTICE'S EFFORT TO PROTECT FEDERAL BUREAU OF PRISONS FACILITIES AGAINST THREATS POSED BY UNMANNED AIRCRAFT SYSTEMS, 20-104, at 4 (2020), https://oig.justice.gov/sites/default/files/reports/20-104.pdf.

of material each UAS could carry expanding: in once instance, a single drone had been used to transfer twenty mobile phones, twenty-three phials of injectable drugs, dozens of syringes, and multiple packages of tobacco.[9] The weaponization of drones, their use in tracking and surveillance, and their role in providing illicit materials can be used to exploit vulnerabilities and undermine U.S. national security.

To address these and other threats, in 2018, Congress temporarily authorized the Department of Justice (DOJ) and Department of Homeland Security (DHS), without any prior consent, "to detect, identify, monitor, and track" any unmanned aerial system, to mitigate a credible threat posed by the aircraft "to the safety or security of a covered facility or asset."[10] The statute empowers the departments to warn operators and to disrupt control of the aircraft by disabling, intercepting, or interfering with wire, oral, electronic, or radio communications used to control the aircraft, to seize or confiscate the device, and, if necessary, to use reasonable force to damage or destroy it.[11] Continued intermittently, the provisions are set to expire September 30, 2025.[12]

Similar authorities have been extended to the military to "detect, identify, monitor, and track" and "disrupt control of," "seize or otherwise confiscate" or "use reasonable force to disable, damage, or destroy" drones threatening certain "facilities or assets."[13] The provisions are tied to particular locations, rendering it currently unlawful to operate personal drones within a 400-foot radius of military sites. Congress provided parallel powers to the Secretary of Energy in regard to certain nuclear facilities.[14] Unauthorized UAS sightings near military installations have continued, however, prompting Glen VanHerck, former joint commander of North American Aerospace Defense Command and U.S. Northern Command to suggest in March 2025 that there may be a foreign threat nexus.[15] His words echoed those of his successor, Gen. Gregory Guillot, who testified to the Senate Armed Services Committee in February 2025 about the need for more authorities.[16]

While the current statutory provisions and calls for expanded powers seek to address real threats which require attention, as written, the current statutory provisions already raise a number of constitutional concerns, amongst which are potential First and Fourth Amendment violations, as well as a violation of state sovereignty as protected by the Tenth Amendment. Ongoing appeals for expanded state powers,

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[9] *Id.* at 2.
[10] Homeland Security Act of 2002, Pub. L. No. 107-296, tit. II, § 210G, as added by the FAA Reauthorization Act of 2018, Pub. L. No. 115-254, div. H, § 1602(a), 132 Stat. 3522 (Oct. 5, 2018).
[11] *See* FAA Reauthorization Act of 2018, Pub. L. No. 115-254, div. H, § 1602(a), Oct. 5, 2018, 132 Stat. 3522 (codified at 6 U.S.C. § 124n(b)(1)(B)–(F)).
[12] Set to expire "on the date that is 4 years after the date of enactment of this section" (i.e., Sept. 30, 2023). On September 30, 2023, Congress extended the provisions to November 18, 2023. *See* Continuing Appropriations Act, 2024, and other Extensions Act, Pub. L. No. 118-15, Sept. 30, 2023, 137 Stat. 71, § 2221. In November 2023, Congress extended the authorities to February 3, 2024. *See* Further Continuing Appropriations and Other Extensions Act, 2024, Pub. L. No. 118-22, div. B, tit. III, § 601, Nov. 17, 2023, 137 Stat. 123. In January 2024, Congress moved the expiration date to Mar. 9, 2024. *See* Pub. L. 118-35, Div. B, Title III, § 301, Jan. 19, 2024, 138 Stat. 7. On the day before the provisions were set to expire, March 8, 2024, Congress pushed the date out to May 11, 2024, at which point the legislature again moved the date to October 1, 2024. *See* Airport and Airway Extension Act of 2024, Pub. L. No. 118-41, tit. III, § 301, Mar. 8, 2024, 138 Stat. 24; FAA Reauthorization Act of 2024, Pub. L. No. 118-63, Title XI, §1112, May 16, 2024. (The latter statute also included a range of measures to integrate UAS into the national airspace.) In September 2024, Congress moved the date to December 20, 2024. *See* Continuing Appropriations and Extensions Act, 2025, Pub. L. No. 118-83, div. B, tit. I, § 101, Sept. 26, 2024, 138 Stat. 1534. In December 2024, the legislature shifted the date to March 14, 2025. *See* American Relief Act, 2025, Pub. L. No. 118-158, div. E, § 5102, Dec. 21, 2024, 138 Stat. 1771. And in March 2025, the new date was set for Sept. 30, 2025. *See* Full-year Continuing Appropriations and Extensions Act, 2025, Pub. L. No. 119-4, div. C, § 3102, Mar. 15, 2025, 139 Stat. 46.
[13] *See* 10 U.S.C. § 130i.
[14] *See* 50 U.S.C. § 2661.
[15] *See* Bill Whitaker, *How the U.S. is Confronting the Threat posed by Drones Swarming Sensitive National Security Sites*, CBS NEWS: 60 MINUTES (Mar. 16, 2025), https://www.cbsnews.com/news/drone-swarms-national-security-60-minutes-transcript/.
[16] *See Defense Officials Testify on 2026 Defense Budget Request*, C-SPAN (Feb. 13, 2025), https://www.c-span.org/program/senate-committee/defense-officials-testify-on-2026-defense-budget-request/655737.

moreover, overlook the significant range of authorities that have already been introduced to ensure that state and local authorities can respond to threats to critical infrastructure, correctional facilities, and large scale events. Whatever actions Congress decides to take to address the current state of UAS, such steps should be carefully construed to ensure constitutional consistency and respect for state rights.

## I. First Amendment Considerations

The First Amendment reads,

> Congress shall make no law respecting an establishment of religion, or prohibiting the free exercise thereof; or abridging the freedom of speech, or of the press; or the right of the people peaceably to assemble, and to petition the Government for a redress of grievances.[17]

Courts have long considered the act of audio and video recording to fall within the First Amendment's guarantee of speech and press rights.[18] The logic behind this approach is that it would be somewhat contrary to the established rights to say that speech and press were protected while simultaneously depriving an individual of the right to obtain the material to be conveyed (such as via drone).[19] As a matter of jurisprudence, the right to obtain footage includes the right to record law enforcement as well as government employees in the execution of their duties, within certain parameters.[20] The ability to do so undergirds one of the primary aims of the First Amendment, which is "to hold government officials accountable."[21] Like all constitutional entitlements, the right is not absolute: it can, for instance, be limited to performance of public duties in public spaces and be subjected to reasonable time, place, and manner restrictions.[22] Simultaneously, the right does not extend greater protections to the press than, for instance, to ordinary citizens.[23]

The UAS provisions which we are today discussing, together with DOJ's guidelines implementing the measures, implicate the First Amendment's protection of speech and assembly facially and as applied. They raise the spectre of the chilling effect doctrine, and they give rise to concerns related to the both the right to assemble as well as the right to petition the Government.

### A. Facial Challenges to 6 U.S.C. § 124n

A law cannot be upheld merely because it is facially content- or speech-neutral. Intermediate scrutiny applies. In particular, a content-neutral law that implicates speech interests will be sustained if "it furthers an important or substantial governmental interest; if the governmental interest is unrelated to the suppression of free expression; and if the incidental restriction on alleged First Amendment freedoms is no greater than is essential to the furtherance of that interest."[24] To meet this requirement, the regulation in

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[17] U.S. Const amend. I.

[18] *See, e.g.*, ACLU of Ill. v. Alvarez, 679 F.3d 583, 595 (7th Cir. 2014) ("The act of making an audio or audiovisual recording is necessarily included within the First Amendment's guarantee of speech and press rights as a corollary of the right to disseminate the resulting recording."); People for the Ethical Treatment of Animals, Inc. v. N.C. Farm Bureau Fed'n, Inc., 60 F.4th 815, 824–34 (4th Cir. 2023).

[19] *See, e.g.*, *Alvarez*, 679 F.3d at 595 (writing "the right to publish or broadcast an audio or audiovisual recording would be insecure, or largely ineffective, if the antecedent act of making the recording is wholly unprotected").

[20] *See, e.g.*, Turner v. Lieutenant Driver, 848 F.3d 678, 690 (5th Cir. 2017).

[21] *Id.* at 699.

[22] *See, e.g.*, Glik v. Cunniffe, 655 F.3d 78, 82–83 (1st Cir. 2011); *Turner*, 848 F.3d at 699.

[23] *See* Branzburg v. Hayes, 408 U.S. 665, 684 (1972) (writing, "the First Amendment does not guarantee the press a constitutional right of special access to information not available to the public generally."); *see also* Davis v. E. Baton Rouge Par. Sch. Bd., 78 F.3d 920, 928 (5th Cir. 1996) ("[T]he news media have no right to discover information that is not available to the public generally.").

[24] *United States v. O'Brien*, 391 U.S. 367, 377 (1968).

question does not have to be the least speech-restrictive means of advancing the governmental interest (as it does in the case of strict scrutiny). Instead, the narrow tailoring can be satisfied "so long as the . . . regulation promotes a substantial government interest that would be achieved less effectively absent the regulation."[25] In other words, it cannot " burden substantially more speech than is necessary to further the government's legitimate interests."[26]

Federal courts have upheld intermediate scrutiny as an appropriate level of review for facial challenges to UAS laws. In *National Press Photographers Association v. McCraw*, for example, the Fifth Circuit determined that although Texas state measures governing the operation of UAS in Texas airspace did not facially violate the First Amendment, they gave rise to concerns which warranted heightened scrutiny.[27] The Texas statute includes surveillance and no fly provisions, both considerably more detailed than the federal measures we are considering today.

The Texas surveillance provision makes it illegal to use a drone to "capture an image" of an individual or private property with the aim of surveilling the subject.[28] There are nearly two dozen exemptions to the rule, such as for academic research and military or law enforcement purposes.[29] Critically, for First Amendment purposes (and unlike the federal measures being addressed in the hearing today), these exceptions also make it lawful to capture images of public property or individuals on public property, or where the individual consents.[30] Texas law does not explicitly exempt media.

The Texas no fly provisions make it illegal to fly UAS up to 400 feet above certain critical infrastructure facilities, which include, *inter alia*, airports, power generators, and military installations, as long as they are enclosed by a fence or barrier, or there is some other indication that entry is forbidden.[31] Similar restrictions apply to correctional facilities and detention centers.[32] The law prohibits flight above large sports venues, including arenas, automobile racetracks, coliseums, stadiums, and other facilities which have the ability to hold 30,000 or more people.[33] The statute exempts government or law enforcement, the owner or operator of the venue, and anyone operating under license from the FAA or contract with the owner/operator of the venue.[34]

In 2020, Texan journalists, along with the Texas Press Association, brought a pre-enforcement challenge, seeking to enjoin the government from enforcing either the surveillance or no-fly provisions.[35] The Fifth Circuit determined in relation to the latter that while the First Amendment covers activities which are "inherently expressive," operation of a drone alone is not, continuing, "nor is it expressive to fly a drone 400 feet over a prison, sports venue, or critical infrastructure facility."[36] The statute merely conveyed flight restrictions.[37]

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[25] United States v. Albertini, 472 U.S. 675, 689 (1985); *see also* Ward v. Rock Against Racism, 491 U.S. 781, 799 (1989).
[26] *Rock Against Racism*, 491 U.S. at 799. *See also* Reed v. Town of Gilbert, 576 U.S. 155, 174 (2015) (Alito, J., concurring) (noting "Time, place, and manner restrictions 'must be narrowly tailored to serve the government's legitimate, content-neutral interests.' But they need not meet the high standard imposed on viewpoint and content-based restrictions." (internal citations omitted)).
[27] *See* Nat'l Press Photographers Assoc. v. McCraw, 90 F.4th 770, 777 (5th Cir. 2024).
[28] *See* TEX. GOV'T CODE ANN. § 423.003(a) (West, Westlaw through 2025 Reg. Sess. 89th Leg.) (writing "A person commits an offense if the person uses an unmanned aircraft to capture an image of an individual or privately owned real property in this state with the intent to conduct surveillance on the individual or property captured in the image.").
[29] *See id.* §§ 423.002(a)(1), (3), and (8).
[30] *See id.*§ 423.002(a)(6) and (15).
[31] *See id.*§ 423.0045(a)(1-a), (b).
[32] *See id.* § 38.115(b).
[33] *See id.* § 423.0046(a), (b).
[34] *See id.* § 423.0046(c).
[35] *Id.* at 780.
[36] *Id.* at 787.
[37] *Id.* at 787–88.

The surveillance provisions proved more problematic. Courts have long considered restrictions on filming as triggering First Amendment concerns. "[T]he extent of constitutional protections for the right to film," the court noted, "is subject to ongoing and vigorous debate."[38] The court applied intermediate scrutiny on the grounds that the recording was not content based: i.e., individuals could obtain the same footage in other ways, such as by "using a helicopter, a tall ladder, a high building, or even a really big trampoline."[39] The fact that some individuals were exempted (e.g., academics, military personnel, and law enforcement) and not others (e.g., media), said nothing about the images themselves that were to be obtained.

The application of the same intermediate scrutiny test to the federal drone provision yields troubling results. The substantial government interests at issue include U.S. national security, the protection of critical infrastructure, and the safety and security of individuals and property.[40] But there are serious tailoring problems that attend. With more than one million drones operating in the United States, it would be fair to say that most drone operators harbor no ill intent towards U.S. national security or the safety and security of domestic individuals or property. Nevertheless, the provisions provide for the government, with no notice to any drone operators, to disrupt control of UAS by disabling the system and interfering in its command and control systems, seizing the device, confiscating it, or using force to disable, damage, or destroy the UAS.[41] There is *no* restriction in terms of the distance from the covered facility or asset, whether the UAS is travelling towards (or away) from such facility or asset, or whether it is located over private property. There is *no* discussion of what the drone is actually doing, what it may be observing, who may be operating the drone, or how many drones can be targeted in such manner. There is *nothing* to distinguish drones collecting information about public versus private spaces, with the result that all media coverage of any public activity can be prevented. It essentially allows the government to target all drones flying in the United States, even when located above private property, far from any critical facilities or assets, and flying well below the national airspace.

The current language fails intermediate scrutiny under the First Amendment. It burdens substantially more speech than is necessary to protect critical infrastructure, even as it potentially exempts any public or private facilities or conveyances designated by DOJ or DHS from scrutiny. Such constitutional deficiencies can result in troubling circumstances, significantly undermining First Amendment protections

In 2014, for instance, following Michael Brown's death in Ferguson, Missouri, law enforcement requested and obtained permission from the FAA to erect a no-fly zone over 37 square miles of airspace, making it impossible to obtain aerial footage of the protests that followed.[42] Following Freedom of Information Act requests, the Associated Press subsequently learned that the point of the prohibition was to prevent the media from recording the unrest.[43] U.S. Justice Department, reviewing more than 35,000 pages of police records and undertaking hundreds of interviews, found that the Fergusson Police Department had a pattern

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[38] *Id.* at 788.
[39] *Id.* at 791.
[40] *See, e.g.*, 6 U.S.C. § 124n (k)(8) (including within the required risk-based assessment "an evaluation of threat information specific to a covered facility or asset and, with respect to potential impacts on the safety and efficiency of the national airspace system and the needs of law enforcement and national security at each covered facility"); *id.* at (k)(8)(G) (requiring as a factor for consideration the "[p]otential consequences to national security, public safety, or law enforcement if threats posed by the. Unmanned aircraft systems are not mitigated or defeated")
[41] 6 U.S.C. § 124n (b)(1)(C)–(F).
[42] *See* Camila Domonoske, *AP: No-Fly Zone in Ferguson Meant to Keep Media Out*, NPR NEWS, Nov. 2, 2014, https://www.wbur.org/npr/360991500/ap-no-fly-zone-in-ferguson-meant-to-keep-media-out. *See also* Russell Brandom, *Ferguson's No-fly Zone Was About Keeping the Media Out, According to New Documents*, Associated Press, posted on THE VERGE, Nov. 3, 2014, https://www.theverge.com/2014/11/3/7149445/fergusons-drone-blackout-was-about-keeping-the-media-out-faa.
[43] *Id.*

of interfering with the right to free expression in violation of the First Amendment as well as rights protected by the Fourth Amendment—matters of great public interest.[44]

The absence of any tailoring in 6 U.S.C. § 124n raises the possibility of precisely the types of abuses which the First Amendment was designed to prevent—abuses which have already occurred in relation to efforts to stop media from covering matters of tremendous importance to the electorate.

B. Content-based as Applied

As recognized by scholars, even if a statute is content-neutral on its face, "laws that are content-based as applied should be presumptively unconstitutional, just as facially content-based laws are presumptively unconstitutional."[45] In *Reed v. Town of Gilbert*, the Supreme Court explained,

> Government regulation of speech is content based if a law applies to particular speech because of the topic discussed or the idea or message expressed. . . . Our precedents have also recognized a separate and additional category of laws that, though facially content neutral, will be considered content-based regulations of speech: laws that cannot be "'justified without reference to the content of the regulated speech,'" or that were adopted by the government "because of disagreement with the message [the speech] conveys," Those laws, like those that are content based on their face, must also satisfy strict scrutiny.[46]

While the presumption may be rebutted (e.g., if speech falls within an exception or passes strict scrutiny), "generally speaking, when a law punishes speech because its content may cause harmful effects, that law should be treated as content based."[47] Just because a provision is generally applicable does not mean that it can evade serious First Amendment examination.[48]

The strict scrutiny standard demands that courts start from a presumption of unconstitutionality whereupon the government must demonstrate that the actions in question are narrowly tailored to further a compelling government interest, and that they constitute the least restrictive means possible to further that interest. While national security presents one of the most compelling interests held by the federal government, the drone provisions as applied do not come anywhere near meeting the strict scrutiny standard. Nor do they even satisfy the weaker intermediate scrutiny standard.[49]

The primary limitations on the statute's application focus on establishing *which* facilities are covered and requiring that the provisions be invoked "to mitigate a credible threat" as defined by the Secretary of DHS or the Attorney General.[50] Accordingly, the Attorney General has issued guidelines, which define "credible threat" as,

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[44] *See* U.S. Department of Justice, Press Release: Justice Department Announces Findings of Two Civil Rights Investigations in Ferguson Missouri, Mar. 4, 2015, https://www.justice.gov/archives/opa/pr/justice-department-announces-findings-two-civil-rights-investigations-ferguson-missouri.

[45] Eugene Volokh, *Speech as Conduct: Generally Applicable Laws, Illegal Courses of Conduct, "Situation-Altering Utterances," and the Uncharted Zones*, 90 CORNELL L. REV. 1277, 1287 (2005).

[46] 576 U.S. at 163–64 (2015) (cleaned up).

[47] Volokh, *supra* note 45, at 41.

[48] On its face, 6 USC § 124n appears to be speech neutral, in that it applies to the conduct of drone flight, and not necessarily to the flight itself as a manifestation of speech. It also appears to be facially press-neutral in that it applies equally to private or public actors, regardless of their profession or purpose. They are thus considered generally applicable provisions. *See generally* Volokh, *supra* note 45, at 1294.

[49] *See supra* Section I.A.

[50] 6 U.S.C. § 124n (a).

> [T]he reasonable belief, based on the totality of the circumstances, that the activity of an unmanned aircraft or unmanned aircraft system may, if unabated:
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> 1. Cause physical harm to a person;
> 2. Damage property, assets, facilities, or systems;
> 3. Interfere with the mission of a covered facility or asset, including its movement, security, or protection;
> 4. Facilitate or constitute unlawful activity;
> 5. Interfere with the preparation or execution of an authorized government activity, including the authorized movement of persons;
> 6. Result in unauthorized surveillance or reconnaissance; or
> 7. Result in unauthorized access to, or disclosure of, classified, sensitive, or otherwise lawfully protected information.[51]

The disjunctive "or" following the penultimate condition means that *any one of these* would be sufficient to meet the credible threat determination.

The first problem with this definition as grounds for designating facilities or assets is that, looking at the top of the list, *all* drones have the potential to "cause physical harm to a person." They do not need a particularly nefarious payload to do so. Rather, they need only fly into someone or even into an object, such as a plate glass window, to cause injury. Even drones weighing less than half a pound can be used, for instance, to blind someone. For anyone who has operated UAS, the danger to others and to property, the second condition listed above, is *precisely* why such objects are generally operated outdoors and away from crowded areas. Neither condition, however, is tied in any way to a covered facility or asset. The mere fact *that* a drone can do these things is sufficient. The definition similarly fails to connect the fourth condition, facilitating or constituting unlawful activity, to any particular facility or asset. Nor does the fifth bear any nexus: *any* interference in preparation or execution of a government activity counts, which encompasses picketing, protests, and other ways of conveying disapproval of officials' actions. Again, it does not have to in any way be linked to a particular facility or asset. It is not at all clear, additionally, what "unauthorized" means in the sixth and seventh conditions—nor does the surveillance have to be tied to the facility. And no definition is provided of what constitutes "sensitive" information.

Numerous government entities can make such requests. The Attorney General has authorized the Heads of the Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF), the Drug Enforcement Agency (DEA), the Federal Bureau of Investigation (FBI), the Federal Bureau of Prisons (BOP), the United States Marshals Service (USMS), the Justice Management Division (JMD), and the Executive Office for United States Attorneys (EOUSA) to exercise counter-drone activities to identify facilities or assets considered a "high risk and potential target" for drone activity for approval by the Deputy Attorney General.[52] The government itself does not need to own or operate the facility. Instead, it merely must be located in the United States. Facilities, moreover, are broadly understood to include conveyances (such as vehicles transporting court witnesses) as well as law enforcement activities, emergency response, and security functions.

To satisfy the statutory requirement that the facility or asset be connected to one of the Department's authorized missions, the guidelines include, *inter alia*, any "National Special Security Event" (NSSE),

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[51] William Barr, Attorney Gen., *Guidance Regarding Department Activities to Protect Certain Facilities or Assets from Unmanned Aircraft and Unmanned Aircraft Systems* (April 13, 2020), X(D), https://www.justice.gov/archives/ag/page/file/1268401/dl?inline (emphasis added).

[52] *Id.* at II(B). Note that any significant changes to previously designated covered facilities or assets, such as a change in the location, an expansion of the area, the deployment of a new protective measure) must be resubmitted. In an emergency, the department head can authorize the designation, with paperwork submitted to the Deputy Attorney General within five business days. *Id*. III(A)(4).

"Special Event Assessment Rating Event," or the provision of support to state, local, and territorial law enforcement for "mass gatherings."[53]

Remarkably, the very definition of NSSEs invokes heightened First Amendment protections because they are content-based: i.e., the guidelines define it in part as "a designated event that, by virtue of its political, economic, social, or religious significance, may be the target of terrorism or other criminal activity."[54] To make this determination, the government *has* to look at the content of the speech itself, triggering strict scrutiny. Its application, though, fails to meet the standard to be applied. Far from being content-neutral, it is content-specific in a way that brings the government actions in regard to NSSE firmly within the meaning of the First Amendment. An additional point bears notice: terrorism is always a possibility. It is a method employed to any number of ends. Criminal activity, too, can occur any time, with the result that *all* political, economic, social, or religious events would fall within the statutory remit.

The "protective measures" which can be taken include "intercepting or otherwise accessing a wire, oral, or electronic communication used to control" the UAS or exercising control over the UAS—ostensibly including by intercepting any audio or video feeds.[55] *Any* drone feeds provided by UAS coverage can, for instance, be observed and seized by the government under the statutory provisions. These are incredibly broad methods that are overinclusive in relation to the purpose behind the provisions. These methods can be used against any drone, without any insight into whether the drone actually poses a terrorism or criminal threat. This is not the type of narrow tailoring that is constitutionally acceptable.

The definition of Special Event Assessment Rating (SEAR) Event allows for even broader application. The contours are set by a Federal Special Events Working Group chaired by DHS and FBI, with different levels of risk (on a scale of one to five) assigned to each.[56] They could include even small, local gatherings, such as parades or school board meetings.

The parallel risk assessment, which might otherwise limit the measures as applied, is required to note, amongst other conditions,

> [t]he potential consequences to national security, public safety, or law enforcement if threats posed by unmanned aircraft or unmanned aircraft systems are not mitigated or defeated, including any cybersecurity, espionage, intelligence, surveillance, reconnaissance, operational interference, criminal, chemical, biological, radiological, nuclear, or explosive-related risks.[57]

This understanding, however, applies everywhere and highlights further over-inclusivity problems: any drone carrying CBNRW would be considered of high consequence, regardless of where it was deployed within the United States. And any drone carrying CBNRW could threaten any facility or asset. Merely stating this is sufficient for any entity to be covered.

The upshot is that once approved, the facility or asset becomes a covered facility or asset at which protective measures can be deployed—without *any* particularity required as to specific drones subsequently observed, controlled, seized, or destroyed.[58] This is wildly overinclusive.

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[53] *Id.* at III(C)(4).
[54] *Id.* at X(F).
[55] *Id.* at X(G).
[56] *See id*. at X(H); Off. Of Operations Coordination, Dep't of Homeland Sec., *Fact Sheet: What are Special Event Assessment Rating (SEAR) Events?*, https://www.dhs.gov/sites/default/files/publications/19_0905_ops_sear-fact-sheet.pdf.
[57] *See* Barr, *supra* note 51, at III(F)(3)(g).
[58] *Id.* at III(K)(1), (3).

The Guidelines go on to note that components "may only intercept, acquire, access, maintain, use, or disseminate communications in a manner consistent with the Constitution, including the First and Fourth Amendments."[59] Similar to the provisions in the Foreign Intelligence Surveillance Act,

> A component may not deploy or use any protective measure under authority of the Act solely for the purpose of monitoring activities protected by the First Amendment or the lawful exercise of rights secured by the Constitution or laws of the United States. A component should consider and be sensitive at all times to the potential impact protective measures may have on legitimate activity by unmanned aircraft and unmanned aircraft systems, including systems operated by the press.[60]

The problem with the sole purpose provision is that the facilities have already been designated, bypassing the restriction that the activity be undertaken "solely for the purpose of monitoring" First Amendment activities.

As applied to journalism, the Supreme Court has noted that "generally applicable laws do not offend the First Amendment simply because their enforcement against the press has incidental effects on its ability to gather and report the news."[61] In the case of Texas, where surveillance provisions protected only private individuals and property, the Fifth Circuit determined that the press had "no special privilege to invade the rights and liberties of others."[62] But a key distinction in the case was that the provisions related to private—not public—property. In fact, the statute explicitly allowed drones to be used to obtain images on "public real property or a person on that property."[63] The federal provision makes no such distinction.

C. Interplay of 6 U.S.C. § 124n with the Chilling Effect Doctrine

The drone provisions risk having a chilling effect on media coverage of government activities, as well as matters of great political, religious, economic, and social importance. The doctrine stems from the Cold War, in the context of loyalty oaths.[64] Continued efforts throughout the 1950s and 60s provided the courts with numerous opportunities to consider their impact.[65] By 1967, in Justice Harlan's words, the "chilling effect" doctrine had become "ubiquitous."[66]

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[59] *Id.* at IV(A).
[60] *Id.* at VI(A).
[61] Cohen v. Cowles Media Co., 501 U.S. 662, 669 (1991).
[62] *Nat'l Press Photographers Assoc.*, 90 F.4th at 793 (internal quotation omitted).
[63] *Id.* (quoting § 423.002(a)(15)).
[64] *See* Wieman v. Updegraff, 344 U.S. 183 (1952).
[65] *See, e.g.*, Keyishian v. Board of Regents, 385 U.S. 589 (1967) (holding New York statute making treasonable or seditious words or acts grounds for removal from state employment and barring anyone willfully advocating or teaching he forcible overthrow of government as unconstitutionally vague and a violation of the First Amendment); Lamont v. Postmaster Gen., 381 U.S. 301 (1965) (holding unconstitutional a statute requiring the post office to detain and destroy unsealed mail from foreign countries determined to be communist political propaganda absent the addressee submitting a reply card indicating their desire to receive such mail); Baggett v. Bullitt, 377 U.S. 360 (1964) (holding Washington state statutes requiring teachers and state employees to take oaths unconstitutionally vague); Gibson v. Florida Legis. Investigation Comm., 372 U.S. 539, 556–57 (1963) (holding that state legislative committee directed to investigate subversive and Communist activities had failed to demonstrate a substantial connection between a race relations group and Communist activities and could not be compelled to product membership records); Shelton v. Tucker, 364 U.S. 479, 486 (1960) (holding as unconstitutional a statute compelling teachers as a condition of employment to annually file an affidavit listing all organizations to which they have belonged or regularly contributed over the previous five years); Sweezy v. New Hampshire, 354 U.S. 234, 246–50 (1957) (holding contempt conviction for a professor's refusal to answer questions about his lectures and knowledge of a political party to be a violation of the First Amendment).
[66] Zwickler v. Koota, 389 U.S. 241, 256 n.2 (1967) (Harlan, J., concurring).

The concept of deterrence resides at the heart of the doctrine: individuals in some sense may be restrained from undertaking certain speech or actions, or being associated with others or groups, with whom they otherwise might be in communion. The reason may be because of a fear of reprisal or punishment: fines, imprisonment, civil liability, or social or economic consequences. The question is whether an individual is inhibited from participating in activity that is protected, regardless of whether it is free exercise of religion, free speech, freedom of the press, or the right to assemble. Fear, risk, and uncertainty are part of the calculus as to what comparative harm an individual would suffer if he or she engaged in such expression.

By 1971, the composition of the Court had shifted, prompting a shift in the doctrine. In *Laird v. Tatum*, the Supreme Court drew a limit, holding that "Allegations of a subjective 'chill' are not an adequate substitute for a claim of specific present objective harm or a threat of specific future harm."[67] *Laird*, a case brought by anti-war protesters, focused on intelligence collection in the midst of civil disorder. Following the assassination of Dr. Martin Luther King, President Lyndon B. Johnson had ordered the military to assist civilian authorities in Detroit, Michigan.[68] The U.S. Army had subsequently collected information at public meetings, forwarding it back to Army Intelligence headquarters at Fort Holabird, Maryland, and then disseminating the information to Army posts across the United States.[69] Approximately 1,000 agents had been engaged in the operation.[70] The Court noted that while the litigants argued that the information amassed could be misused, they neither claimed that it was foreseeable, nor grounded their complaint in the concern. Instead, they solely argued that it created an impermissible burden on their ability to fully utilize their First Amendment rights.[71] The mere existence of intelligence gathering, however, was not sufficient grounds on which to find a chilling effect.[72]

In his dissent, Justice Douglas, joined by Marshall, protested, "[i]f Congress has passed a law authorizing the armed services to establish surveillance over the civilian population, a most serious constitutional problem would be presented."[73] The Founders' fears of a standing army existed not just "in bold acts of usurpation of power, but also in gradual encroachments."[74] For Douglas, "The authority to provide rules 'governing' the Armed Services means the grant of authority to the Armed Services to govern themselves, not the authority to govern civilians."[75] Such military "power must be carefully limited lest the delicate balance between freedom and order be upset."[76] Douglas explained, "The act of turning the military loose on civilians even if sanctioned by an Act of Congress, which it has not been, would raise serious and profound constitutional questions. Standing as it does only on brute power and Pentagon policy, it must be repudiated as a usurpation dangerous to the civil liberties on which free men are dependent."[77] He concluded, "The 'deterrent effect' on First Amendment rights by government oversight marks an

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[67] *See* Laird v. Tatum, 408 U.S. 1, 13–14 (1972).
[68] *Id.* at 4–5.
[69] *Id.* at 6.
[70] *Id.* at 7.
[71] *Id.* at 9–10.
[72] *Id.* at 10.
[73] 408 U.S. at 16 (Douglas, J., dissenting).
[74] *Id*. at 18.
[75] *Id*. at 18–19.
[76] *Id.* at 19.
[77] *Id.* at 24; *see also id.* at 24–25 ("It is alleged that the Army maintains files on the membership, ideology, programs, and practices of virtually every activist political group in the country. . . . The Army uses undercover agents to infiltrate these civilian groups and to reach into confidential files of students and other groups. The Army moves as a secret group among civilian audiences, using cameras and electronic ears for surveillance. The data it collects are distributed. . . . [T]he charge is that the purpose and effect of the system of surveillance is to harass and intimidate the respondents and to deter them from exercising their rights of political expression, protest, and dissent 'by invading their privacy, damaging their reputations, adversely affecting their employment and their opportunities for employment, and in other ways.' [. . .] Judge Wilkey, speaking for the Court of Appeals, properly inferred that this Army surveillance 'exercises a present inhibiting effect on their full expression and utilization of their First Amendment rights.'")

unconstitutional intrusion."[78] While standing acted for a number of years as a barrier to First Amendment chilling claims, as intelligence collection has expanded, (as heralded in the current drone context, in regard to the type and extent of information collected, or the potential number of people implicated), numerous cases alleging a chilling effect have met the standing requirement.[79]

In the matters before this committee today, all it might take would be the interruption of one flight, either by the government assuming control, by seizing the UAS, or by destroying it, to chill the likelihood of others collecting footage. We have already seen instances in which the federal government had enacted measures to prevent the media, for instance, in reporting on certain conditions.

In October 2021, for instance, the FAA implemented a two week Temporary Flight Restriction over international bridge in Del Rio, Texas, with the result that Fox News could no longer provide footage of, and information about, some 8,000 people who had been congregating on the Texas-Mexico border.[80] Concerns immediately emerged that instead of addressing the border crisis, the Biden Administration was trying to cover it up.[81] Although later lifted, giving the government the authority to capture any footage picked up by drones in the vicinity may well chill others' willingness to engage in critique of the Administration's decisions.

The chilling effect becomes particularly problematic in light of the regulatory guidelines which target drone flights above religious, political, economic, or social functions—even if held on private property.[82] The Supreme Court has held that any effort by the government to compel membership lists in certain organizations, for instance, may violate freedom of association under the First Amendment.[83] In *NAACP v. Alabama ex rel. Patterson*, the Court held that requiring the NAACP to disclose its group membership would likely have an adverse impact on members' ability "to pursue their collective effort to foster beliefs which they admittedly have the right to advocate, in that it may induce members to withdraw from the Association and dissuade others from joining it because of fear of exposure of their beliefs shown through their associations and the consequences of this exposure."[84] It mattered naught that "whatever repressive effect compulsory disclosure" may have stemmed from private community pressure: "The crucial factor is the interplay of governmental and private action, for it is only after the initial exertion of state power represented by the production order that a private action takes hold."[85]

D. Impact on the Right to Petition

A final consideration worth mentioning relates to the right to petition, an entitlement often overlooked, but one which, at least at the Founding, was considered far more important than the speech and associative rights most commonly associated with the First Amendment.[86] It was, in part, because the new U.S.

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[78] *Id.* at 25 (quoting *Lamont*, 381 U.S. at 307).
[79] *See, e.g.*, Am. C.L. Union v. Clapper, 785 F.3d 787 (2d Cir.2015); Schuchardt v. President of the United States, 839 F.3d 336, 341–50 (3d Cir. 2016); Wikimedia Found. v. Nat'l Sec. Agency, 857 F.3d 193 (4th Cir. 2017).
[80] *See* Andrew Mark Miller & Bill Melugin, *Fox News Cleared to Fly After Biden FAA Temporarily Bans Drones Over Bridge Packed With Illegal Immigrants*, FOX NEWS (Sept. 17, 2021, 1:59 PM), https://www.foxnews.com/politics/bidens-faa-places-temporary-ban-on-drones-flying-over-bridge-packed-with-illegal-immigrants.
[81] *See* Samuel Chamberlain, *FAA Grounds Fox News Drones Near Where Thousands of Migrants Are Sheltering Under a Bridge*, N.Y. POST (Sept. 17, 2021), https://nypost.com/2021/09/17/faa-grounds-fox-news-drones-in-texas-near-sheltering-migrants/ (running Fox News footage after the Administration lifted the prohibition).
[82] *See* Barr, *supra* note 51, at X(F).
[83] See NAACP v. Alabama ex rel. Patterson, 357 U.S. 449, 462 (1958).
[84] *Id.* at 462-3.
[85] *Id.* at 463.
[86] *See* JOHN PHILLIP REID, CONSTITUTIONAL HISTORY OF THE AMERICAN REVOLUTION: THE AUTHORITY OF RIGHTS 4 (1986); Julie M. Spanbauer, *The First Amendment Right to Petition Government for a Redress of Grievances: Cut from a Different Cloth*, 21 HASTINGS CONST. L.Q. 15, 17, 34–39 (1993); Norman B. Smith, "*Shall Make No Law Abridging . . . ": An Analysis of the Neglected, But Nearly Absolute, Right of Petition*, 54 U. CIN. L. REV. 1153, 1165–67 (1986); *see also* Laura K. Donohue, *The*

Constitution had failed to protect the right that Anti-Federalists roundly attacked the new framework.[87] The right was considered so important that while the prefatory clauses in the First Amendment single out Congress, the petition clause extends to all three branches of government, attaching as much to the executive and judicial branches as to the legislative one.[88] The reason was simple: the right protects active, political engagement. It prevents limiting citizens' interaction to the ballot box, instead empowering a continuous conversation between the government and the governed. It ensures that officials cannot insulate themselves, or limit access just to those who are more favored. It establishes an expectation that officials will respond to requests. And it provides a steam valve to diffuse tension.

In 1978, the Supreme Court recognized that this clause plays a critical "role in affording the public access to discussion, debate, and the dissemination of information and ideas."[89] It goes beyond concepts like freedom of the press or individual self-expression "to prohibit government from limiting the stock of information from which members of the public may draw."[90] The public has a right to get information about the government. This right of access extends to obtaining information from, and about "all departments of the Government."[91]

Like all rights, the right of petition and its concomitant right of access is not absolute. In *Press Enterprise Co. v. Superior Ct.*, the Supreme Court articulated a two-part test for the First Amendment right to public access: "First, because a 'tradition of accessibility implies the favorable judgment of experience,' we have considered whether the place and process have historically been open to the press and general public."[92] The Court continued, "Second, in this setting the Court has traditionally considered whether public access plays a significant positive role in the functioning of the particular process in question."[93] The Court continued, "If the particular proceeding in question passes these tests of experience and logic, a qualified First Amendment right of public access attaches."[94]

This inquiry, referred to as the "experience and logic" test, is used to determine whether or not access must be granted to certain areas or facilities. While both elements must be met for the right of access to attach, the first takes precedence.[95] Resultantly, "[i]t is only where access has traditionally not been granted that we look to logic. If logic favors disclosure in such circumstances, it is necessarily dispositive."[96]

The statutory provisions related to designating certain facilities and assets as covered by the drone regulations, which can then be used to prevent the public from any access to events which occur on or near such facilities (or, indeed anywhere), fail to account for the importance of the experience and logic test in ascertaining whether the government even has a right to prohibit the public from observing certain areas and obtaining information. They impermissibly leave all such designations to DOJ and DHS, without any discussion of whether the government even has the constitutional authority to close such facilities to inspection.

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*Common Law and First Amendment Qualified Right of Public Access to Foreign Intelligence Law*, 112 GEO. L. J. 271, 298–301 (2024).

[87] *See, e.g.*, Centinel II, PHILA. FREEMAN'S J. (Oct. 24, 1787), reprinted in 13 THE DOCUMENTARY HISTORY OF THE RATIFICATION OF THE CONSTITUTION 457, 466–67 (John P. Kaminski et al., eds., 1981); Richard Henry Lee's Amendments, 27 September, reprinted in 13 THE DOCUMENTARY HISTORY OF THE RATIFICATION OF THE CONSTITUTION, *supra*, at 238, 239.

[88] *See* Donohue, *supra* note 86, at 299.

[89] First Nat'l Bank of Bos. v. Bellotti, 435 U.S. 765, 783 (1978).

[90] *Id.*

[91] Cal. Motor Transp. Co. v. Trucking Unlimited, 404 U.S. 508, 510 (1972).

[92] Press Enterprise Co. v. Superior Ct., 478 U.S. 1, 8 (1986) (citation omitted) (quoting *Globe Newspaper Co.*, 457 U.S. at 605).

[93] *Id.*

[94] *Id.*

[95] As the Ninth Circuit has explained, "Where access has traditionally been granted to the public without serious adverse consequences, logic necessarily follows." In re Copley Press, Inc., 518 F.3d 1022, 1026 & n.2 (9th Cir. 2008).

[96] *Id.* at 1026 n.2.

## II. Fourth Amendment

The Fourth Amendment states,

> The right of the people to be secure in their persons, houses, papers, and effects, against unreasonable searches and seizures, shall not be violated, and no Warrants shall issue, but upon probable cause, supported by Oath or affirmation, and particularly describing the place to be searched, and the persons or things to be seized.[97]

The current statutory provisions raise Fourth Amendment concerns in relation to general warrants, with concerns about geofencing providing a parallel analysis. The countermeasures appear to constitute both a search and a seizure, moreover, for which a particularized warrant is required. The provisions run rampant over property rights and the Fourth Amendment's protection of "effects", and could under some circumstances give rise to concerns about the collection of geolocational data. Analogies can be drawn to cell site simulators, for which particularized warrants are generally required. Under Supreme Court doctrine, simply asserting that the threat is of great interest to domestic security does not excuse the government from the warrant requirement.

### A. General Warrant

The Founding generation adopted the Fourth Amendment in response to significant concerns in the wake of the Constitutional Convention that the common law prohibition against general warrants, and the need for particularized warrants, be retained as a way to offset the expansion in federal power. A general warrant is a document issued by an official or member of the judiciary, not based on any prior evidence of wrongdoing. It lacks particularity regarding the person or place to be searched, or the papers or records to be seized. Unsupported by any oath or affirmation, it is used to find evidence of criminal activity. At the Founding, it was well recognized that such muniments violated the "reason of the common law" and thus were considered an "unreasonable" search or seizure (thus the inclusion of "unreasonable searches and seizures" in the Fourth Amendment).[98] The second part of the clause goes on to spell out exactly what constitutes sufficient particularities for a particularized warrant to be valid: probable cause, an oath or affirmation of wrongdoing, and a description of the place to be search and persons or things to be seized.

One of the most glaring concerns in the current statutory language which governs UAS search and seizure is that it essentially operates as a general warrant. It gives the federal government the authority to intercept or access all communications between the drone operator and the UAS used to control it, as well as to disrupt and seize control of all UAS systems.[99]

The statute ties its understanding of wire, oral, and electronic communications to criminal law provisions. Specifically, a "wire communication" is "any aural transfer made in whole or in part through the use of facilities for the transmission of communications by the aid of wire, cable, or other like connection between the point of origin and the point of reception (including the use of such connection in a switching station) furnished or operated by any person engaged in providing or operating such facilities for the transmission of interstate or foreign communications or communications affecting interstate or foreign commerce."[100] The government also can intercept "any oral communication uttered by a person exhibiting an expectation

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[97] U.S. Const. amend IV.
[98] *See* Laura K. Donohue, *The Original Fourth Amendment*, 83 UNIV. CHICAGO L. REV. 1181 (2016).
[99] 6 U.S.C. § 124n(b)(1)(A), (C),(D).
[100] 18 U.S.C. § 2510 (1).

that such communication is not subject to interception."[101] Electronic communication, in turn, "means any transfer of signs, signals, writing, images, sounds, data, or intelligence of any nature transmitted in whole or in part by a wire, radio, electromagnetic, photoelectronic, or photooptical system that affects interstate or foreign commerce."[102]

The meaning of UAS is similarly tied to provisions in the U.S. code which broadly define it as "an unmanned aircraft *and associated elements* (including communication links and the components that control the unmanned aircraft) that are required for the operator to operate safely and efficiently in the national airspace system."[103]

The upshot of the statute's reliance on these definitions is that the government can seize not just communications directing the drone where to fly, but also communications related to what the drone itself is collecting, observing, and communicating back to the drone operator.

It also means that the government gains access to any devices used over the course of such transmissions, whether it be radio frequency signals, Wi-Fi, or satellites, which play a critical role in communicating with drones (particularly for devices flown beyond visual line of sight (BVLOS)). Even common commercial drones, such as those sold by DJI, a prominent Chinese drone maker, rely on satellite technologies. They use Global Navigation Satellite System (GNSS) receivers for accurate georeferencing and positioning, as well as features like DJI AirSense which employ Automatic Dependent Surveillance-Broadcast (ADS-B) technology for situational awareness and collision alerts.[104] They also offer Real-time Kinematics (RTK) and Post-Processing Kinematics (PPK) for commercial and industrial applications requiring high-precision positioning.[105] The former supplies real-time correction data from a base station, while the latter provides a backup system, where raw satellite data can be processed later. These capabilities are included in even starter-level drones like the Phantom 4 RTK.[106] Various other applications, such as DJI's photogrammetry (i.e., the science of extracting reliable information about physical objects and the environment by capturing and analyzing electromagnetic radiation—essentially generating 3D models or maps from aerial images), rely on satellite positioning for accurate georeferencing and mapping.

There is nothing in the statutory provisions to limit government access to such satellites, or to ground stations with which they communicate. Search and seizure of such devices does not need to be tied to any sort of probable cause. Instead, at the say so of local operators, the government can simply engage in a search of such devices to try to find evidence of wrongdoing. The provisions thus act as a general warrant.

Various drone mitigation technologies can be employed, with varying implications. The government, for instance, may use RF sensors, which passively monitor radio frequencies used by drones for communications or listen for characteristic radio signals (e.g., 2.4 GHz and 5.89 GHz bands). Alternatively, optical cameras can be used to identify and track drones. They can be integrated with other technologies such as radar or acoustic sensors (more effective than RF for instance, if the flight pattern has been pre-programmed), to provide a multi-sensor approach. Once that occurs, various mitigation and

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[101] 18 U.S.C. § 2510 (2).
[102] 18 U.S.C. § 2510 (12).
[103] 49 U.S.C. § 44801 (12) (emphasis added).
[104] *See generally* Run Li, *Unlocking Aerial Mapping and Data Collection: Elevate Your Operations with the Power and Precision of DJI's LiDAR Technology*, Mastering LiDAR with DJI Enterprise: An Introductory Booklet (Jan. 18, 2024), https://enterprise-insights.dji.com/blog/lidar-basic-guide#:~:text=GNSS%20(Global%20Navigation%20Satellite%20System,sensor%20during%20the%20data%20capture; DJI AirSense, https://www.dji.com/flysafe/airsense#:~:text=DJI%20AirSense%20is%20an%20alert,airwaves%20by%20adding%20additional%20transmissions.
[105] *See generally* RTK Hardware, DJI Enterprise, https://enterprise-insights.dji.com/blog/rtk-real-time-kinematics.
[106] *Id.*

countermeasures may be employed, such as jamming, which interferes with RF, disabling drone communication and control. Spoofing can create false GPS signals to divert the drone or interrupt its navigation. Operators, alternatively, could simply take remote control of the drone, or it could use various kinetic options to intercept, disable, or destroy the drone. But none of these steps can be taken until the drone is identified, as it may be by constant scans of certain areas.

In this sense, the detection systems employed may share similarities with geofencing, in which GPS or RFID technology is used to create a virtual geographic boundary enabling software to trigger a response when a mobile device enters or leaves a particular area. Geofence warrants allow law enforcement to compel companies, like Google, to provide location data from their users' devices within a particular location during a specific timeframe. Vendors then provide a list of mobile phones present within the window requested. Such warrants, which have become more widespread over the past ten years, tend to be used when law enforcement knows the approximate location of criminal activity, but not the identity of the person themselves.[107] Like the drone provisions, they lack particularity.[108] They also raise significant privacy concerns because they can collect data from a large number of people, and not just from individuals suspected of wrongdoing.[109]

Unlike the drone provisions, however, geofence warrants involve a third party magistrate, demonstration of probable cause, and an oath or affirmation. Even so, the Circuits are split as to whether such warrants still constitute general warrants and thus violate the Fourth Amendment.[110] Just last year, for instance, the Fifth Circuit held that geofence warrants constitute general warrants and are presumptively unconstitutional.[111] As explained above, 6 U.S.C. § 124n suffers from the same constitutional defect with the notable addition of not having any warrant procedures in place.

When courts have assessed geofence warrants to determine whether or not they should be granted, moreover, they have analyzed whether the government's application is supported by probable cause and whether it is sufficiently particularized.[112] Probable cause requires a showing that "there is a fair probability that contraband or evidence of a crime will be found in a particular place."[113]

6 U.S.C. § 124n does not apply just to criminal activity; nor does it require a showing that meets the probable cause requirement. A "reasonable ground to believe" in the totality of the circumstances[114] is not the same as a "fair probability." In an application denying a geofence warrant a district court explain that "the particularity requirement for a geofence warrant is satisfied if [it] narrowly identifies the place to be searched by time and location so that it is not overbroad in scope."[115] The fact that a proposed geofence boundary would encompass "two public streets" that may have lots of people on it during the relevant time that might have nothing to do with criminal activity was a problem.[116] As aforementioned, the 6 U.S.C. § 124n application has no restriction on how close it needs to be to the actual covered facility or asset, other

[107] United States v. Smith, 110 F.4th 817, 821 (5th Cir. 2024)
[108] *Id.* at 821.
[109] *See generally,* Jake Laperruque, *Geofence Warrants: The Last Piece of the Location Privacy Puzzl*e, Project on Gov't Oversight, Aug. 25, 2021, https://www.pogo.org/analysis/geofence-warrants-the-last-piece-of-the-location-privacy-puzzle#:~:text=And%20then%20there%20are%20geofence,the%20same%20risks%20as%20stingrays.
[110] *Smith*, 110 F.4th at 817; United States v. Chatrie, 2025 WL 1242063 (4th Cir. Apr. 30, 2025); United *States v. Davis*, 109 F.4th 1320 (11th Cir. 2024).
[111] *Smith*, 110 F.4th at 838.
[112] *See Matter of Search of Info. that is Stored at Premises Controlled by Google, LLC*, 542 F. Supp. 3d 1153, 1158–59 (D. Kan. 2021); *United States v. Easterday*, 712 F. Supp. 3d 46, 51-53 (D.D.C. 2024).
[113] *Illinois v. Gates*, 462 U.S. 213, 214 (1983)
[114] *See* Barr, *supra* note 51, at III(f), X(d,
[115] 542 F. Supp. 3d at 1158.
[116] *Id.*

than the general "necessary to mitigate" language in the statute. This raises the same particularity problems which dog geofence warrants, as would the lack of time restrictions.

B. The Warrant Requirement

6 U.S.C. § 124n explicitly authorizes the government to conduct a search and seizure of UAS, bringing such actions within the meaning of the Fourth Amendment in at least three ways: first, the ancient doctrine of *ad coelem* raises the spectre of trespass in government examination and expropriation of drones located above public and privately-owned property; second, UAS, including the component parts directing flight such as ground stations and satellites, constitute "effects"; and third, under *United States v. Carpenter*, the locational data collected by the government in searching UAS, if persistent, may be subject to constitutional protections.

*1. Property Rights: Ad Coelum*

Legal doctrine clearly establishes that property rights convey control over adjacent airspace, with interference considered a trespass or nuisance, depending upon the context. The statutory provisions allowing the government to search and seize drones located over either private or state-held property amount to an unconstitutional interference in the airspace above the land.

As Franciscus Accurius wrote in *Glossa Ordinaria* (1220-1250 CE), a work which for 500 years provided the authoritative statement of Justinian law, "*Cuius est solum, eius est usque ad coelum et ad inferos*" (*Trans*. "Whoever owns land it is theirs up to the heavens and down to hell."). For more than a millennium the concept of *ad coelum* has treated terrestrial rights, and the landowner's entitlement to the air above, as coextensive.[117] The Justinian concept quickly worked its way into English Common Law, with Sir Edward Coke writing in his *First Institute of the Laws of England*, "And lastly the hearth hath in law a great extent upward, not only of water as hath been said, but of aire, and all other things even up to heaven, for *cujus est solum ejus est usque ad coelum*, as it is holden."[118]

Blackstone later explained the rights conveyed in real property: "Land hath also, in its legal signification, an indefinite extent, upwards as well as downwards. *Cuius est solum, eius est usque ad coelum*, is the maxim of the law, upwards; therefore no man may erect any building, or the like, to overhang another's land: and, downwards, whatever is in a direct line between the surface of any land, and the center of the earth, belongs to the owner of the surface."[119]

Consistent with this doctrine, throughout the 17th and 18th centuries English courts recognized that trespass on airspace violated landowners rights.[120] Even passing over another's property in an air balloon constituted a violation. The American colonies and later, states, incorporated *ad coelum* into domestic law, with the result that by the nineteenth century, state courts routinely considered even overhanging branches to constitute a trespass as well as a nuisance.[121] Even when the invasion was temporary and did no actual damage, it still violated the property owner's rights.[122]

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[117] *See* Laura K. Donohue, *Who Owns the Skies? Ad Coelum, Property Rights, and State Sovereignty*, in EYES TO THE SKY: PRIVACY AND COMMERCE IN THE AGE OF THE DRONE (Matthew Feeney ed., Cato Institute (2021).
[118] Edward Coke, "Of Real Property, and First or Corporeal Hereditaments of Land," The First Part of the Institutes of the Lawes of England (London: Rawlins, Roycroft, and Sawbridge, 1684). *See also* Donohue, *supra* note 117.
[119] William Blackstone, Commentaries on the Laws of England, vol. 2 (London, G.W. Childs., 1866), p. 18.
[120] *See* Donohue, *supra* note 117.
[121] *See, e.g.*, Grandone v. Lovdal, 70 Cal. 161, 11 P. 623 (1886); Tanner v. Wallbrun, 77 Mo. App. 262 (1898); Countryman v. Lighthill, 24 Hun. (N.Y.) 405 (1881).
[122] *See, e.g.*, Herrin v. Sutherland, 74 Mont. 587, 241 P. 328 (1925) (holding that shooting a duck flying over another person's property constitutes trespass).

The Supreme Court followed suit, finding in *Portsmouth Harbor Land & Hotel Company* that the routine discharge of a battery amounted to a taking.[123] Justice Holmes, writing for the Court, noted,

> If the United States, with the admitted intent to fire across the claimants' land at will, should fire a single shot or put a fire control upon the land, it well might be that the taking of a right would be complete. But even when the intent thus to make use of the claimants' property is not admitted, while a single act may not be enough, a continuance of them in sufficient number and for a sufficient time may prove it. Every successive trespass adds to the force of the evidence.[124]

In 1946, the Supreme Court held in *United States v. Causby* that anything below navigable airspace was in the control of the landowner: "The superadjacent airspace at [a] low altitude is so close to the land that continuous invasions of it affect the use of the surface of the land itself. We think that the landowner, as an incident to his ownership, has a claim to it and that invasions of it are in the same category as invasions of the surface."[125]

Although the federal government followed *Causby* by re-defining "navigable airspace" to include "airspace needed to insure safety in take-off and landing of aircraft," the Supreme Court again recognized that landowners controlled the airspace over their property, writing in the 1962 case of *Griggs v. Alleghany*, "[T]he use of land presupposes the use of some of the airspace above it. Otherwise, no home could be built, no tree planted, no fence constructed, no chimney erected. An invasion of the superadjacent airspace will often affect the use of the surface of the land itself."[126]

6 U.S.C. § 124n does not acknowledge landowners' rights. To invade such rights on any sort of ongoing basis (such as in continual scans of communications sent to or from drones above private property, or the interception of transmissions or exertion of control over the same), the government would have to first obtain a warrant. The statute, however, as aforementioned, does nothing of the sort. Instead, as outlined by the Attorney General guidelines, when an authorized agency would like to make use of the law, it merely submits a written request to the Deputy Attorney General to confirm which facility or asset are covered and what protective measures will be deployed.[127] This application must, among other things, explain why there is a reasonable ground to believe, in the totality of the circumstances, that the activities of UAS represent a credible threat to the safety and security of the facility or asset.[128] There is no hard limit on the length of time such measures may be in place. Nor, as explained above, is there any geographic limitation on how far these measures extend in relation to a covered facility or asset other than the general statutory limitation that the authorized methods may be approved for what is "necessary to mitigate a credible threat."[129] They are put in place once approved by the Deputy Attorney General and are, presumably, to be employed against *any* UAS without regard to what the UAS is actually doing, who is controlling it, what its purpose is, and other similar considerations.

In contrast to the federal provisions, numerous states in their drone laws have continued to recognize landowners' rights in the airspace above their property. Nevada state law, for instances, states, "The ownership of the space above the lands and waters of this state is declared to be vested in the several owners

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[123] Portsmouth Harbor Land & Hotel Co. v. United States, 260 U.S. 327 (1922).
[124] 260 U.S. at 329–30.
[125] United States v. Causby, 328 U.S. 256, 265 (1946).
[126] Griggs v. Alleghany, 369 U.S. 84, 85 (1962).
[127] *See* Barr, *supra* note 51, at III.
[128] *Id.* at III(F).
[129] 6 U.S.C. 124n(a).

of the surface beneath."[130] Consistent with this understanding, Nevada state law empowers landowners to bring an action for trespass against the operator of an unmanned aerial vehicle (UAV) flown at a height of less than 250 feet, subject to a handful of exceptions.[131] North Carolina similarly prohibits anyone from conducting UAS surveillance of a person or dwelling or private real property without the owner's consent.[132] South Dakota prohibits trespass on property using a drone with the intent to subject anyone to surveillance.[133] Tennessee makes it a misdemeanor to use a drone "to capture an image of an individual or privately owned real property in Tennessee with the intent to conduct surveillance on the individual or property captured in the image."[134] California prohibits entering a landowner's airspace to capture any image of individual's engaging in private, personal, or familial activity without permission.[135]

Numerous states, moreover, require that state and local law enforcement, outside exigent circumstances, obtain a warrant prior to using drones for certain activities and forbid use of UAV to establish either reasonable suspicion or probable cause.[136] Tennessee's "Freedom from Unwarranted Surveillance Act", for instance, states "The use of a drone . . . by a law enforcement agency to search for and collect evidence or obtain information or other data shall constitute a search" unless authorized by a warrant.[137] Utah state law reads, "A law enforcement agency or officer may not obtain, receive, or use data acquired through an unmanned aircraft system unless the data is obtained [] pursuant to a search warrant."[138] States also limit the amount of time for which a warrant operate.[139]

It is quite remarkable to see a complete absence of any equivalent protections at a federal level. And while the federal provision allows for retention of information for 180 days, for most states, information obtained with a prior warrant can only be kept for 15 or fewer days, unless it is to be used as evidence in criminal prosecution.[140] State provisions are often supplemented by numerous municipal ordinances.[141]

To the extent that state-owned and operated drones are being flown over state-owned land, any federal interference would fall subject to the same restrictions which accompany private landowners' rights. Numerous states, again, recognize state sovereignty and control of such airspace.[142] (*See* Part III, below).

*2. UAS as "Effects"*

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[130] NEV. REV. STAT. ANN. § 493.040 (West, Westlaw through 83rd Reg. Sess. (2025).
[131] *Id.* at 493.103.
[132] NC GEN. STAT. ANN. § 15A-300.1(b) (West, Westlaw through 2024 Reg. Sess.).
[133] S.D. CODIFIED LAWS § 22-21-1 (West, Westlaw through the 2025 Reg. Sess.).
[134] TENN. CODE ANN. § 39-13-903 (West, Westlaw through 2025 First Reg. Sess.).
[135] A.B. 856 (Cal. 2015).
[136] *See, e.g.*, NEV. REV. STAT. ANN. § 493.112 (West, Westlaw through 83rd Reg. Sess. (2025); NC GEN. STAT. ANN. § 15A-300.1(c)(3) (West, Westlaw through 2024 Reg. Sess.); OR. REV. STAT. § 837.310 (2024 Reg. Sess. 82nd Legis. Assem.); TENN. CODE ANN. § 39-13-609(e)(2) (West, Westlaw through 2025 First Reg. Sess.).;TEX. GOV'T CODE ANN § 423.001(West, Westlaw through 2025 Reg. Sess. 89th Leg.); UTAH CODE ANN. § 72-10-802 (West, Westlaw through 2025 General Sess.).
[137] TENN. CODE ANN. § 39-13-609 (West, Westlaw through 2025 First Reg. Sess.).
[138] UTAH CODE ANN. § 72-10-802(West, Westlaw through 2025 General Sess.) (containing certain exceptions).
[139] *See, e.g.*, NEV. REV. STAT. ANN. § 493.112 (West, Westlaw through 83rd Reg. Sess. (2025); (limiting it to 10 days); OR. REV. STAT. § 837.310 (2024 Reg. Sess. 82nd Legis. Assem.) (limiting it to 30 days).
[140] *See, e.g.,* TENN. CODE ANN. § 39-13-609 (West, Westlaw through 2025 First Reg. Sess.).
[141] In California, for instance, dozens of municipal ordinances restrict drone flight. See, e.g., Town of Los Alamitos Mun. Ord. 2018; City of Yorba Linda Mun. Ord. 2017; Town of Calabasas Mun. Ord. 2017; City of Hermosa Beach Ord. 16-1363 2016; Sacramento County Code 9.36.068 2018; San Francisco Park Code § 3.09 1981; Santa Clara Valley Open Space Authority Reg. § 11.01.01 2018; Mid Peninsula Regional Open Space District Lands Regs. § 409.4 2014; City of La Mesa Mun. Ord. 2005; City of Malibu Filming Permit; Mountains Recreation & Conservation Authority Park Ordinance 2018; City of Rancho Palos Verde Mun. Ord. 1991; City of Napa Mun. Code 12.36.130. Other states, however, have prohibited any governmental sub-units from introducing their own provisions.
[142] *See, e.g., id.* at 493.030.

In addition to "persons, houses, [and] papers", the Fourth Amendment protects "effects". As Professor Maureen Brady has argued, personal property in public space gives rise to significant privacy and security interests.[143] At the time of the Founding, the protection against unreasonable searches and seizures was intimately tied to laws prohibiting interference with possession of personal property, such as dispossession, damage, or unwanted handling.[144] But that is precisely what the federal drone provisions do: they give the government permission to undertake each of these interferences, without any warrant supported by probable cause.

To the extent that the government takes control of such effects, the sensor and collection capabilities of the drones may give rise to further concerns about what information is collected. The statutory provisions, however, deal only with how long information obtained may be kept—and nothing about what information, in the first place, can be obtained. Under the provisions, moreover, the government may disseminate any footage or communications obtained from a drone if, for instance, the information obtained revealed completely unrelated criminal activity, essentially hijacking personal devices.[145]

Take, for instance, a circumstance in which a farmer is surveying a pond adjacent to his home, some fifty miles from any covered facility. The government, under the statutory provisions could take control of the drone, direct it to the home, zoom in through the window, and acquire footage of the family inside. If any illegal activity is observed, that video can then be provided to local law enforcement for prosecution. In fact, the government can take over control of any drone anywhere in the United States and use it to obtain whatever footage it would like of events occurring on private property, without ever obtaining a warrant justifying search either of the effect itself, or of the persons or houses located in the vicinity.

*3. Location data*

6 U.S.C. § 124n allows for the government to collect location data without any limitation on the length of time such information is obtained. In 2017, though, the Supreme Court held in *Carpenter v. United States* that the warrantless search and seizure of cell phone records, including the location and movement of the users, violated the Fourth Amendment.[146]

A close analogue here may be the constitutional analysis related to cell-site simulators (also known as IMSI catchers): electronic surveillance devices which imitate a cell tower's signal and trick nearby phones into communicating with it. These devices enable law enforcement to obtain location and identifying information, as well as potentially other data such as calls, texts, and the contents of communications, from mobile phones in the vicinity. There are significant concerns about the privacy implications because they can be used to track individuals even inside their homes (where they have a heightened expectation of privacy), as well as to intercept users' communications. As a result of public outcry, DOJ guidelines now require federal agencies to obtain warrants before using IMSI catchers, outside of exigent circumstances.[147]

Concerns about the collection of location data and the consequent need for a warrant have already surfaced in the drone context. In *Leaders of a Beautiful Struggle v. Baltimore Police Department*, grassroots organizations challenged law enforcement's implementation of the Aerial Investigation Research (AIR)

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[143] *See* Maureen E. Brady, *The Lost "Effects" of the Fourth Amendment: Giving Personal Property Due Protection*, 125 YALE L.J. 946 (2016).
[144] *Id.* at 981–994.
[145] *See* Barr, *supra* note 51, at VI(C)(2).
[146] Carpenter v. United States, 585 U.S. 296 (2018).
[147] *See* Department of Justice Policy Guidance: Use of Cell-Site Simulator Technology, Sept. 3, 2015, p. 3 https://www.justice.gov/d9/press-releases/attachments/2015/09/03/doj_cell-site_simulator_policy_9-3-15.pdf (stating "prosecutors should. . . . either (1) obtain a warrant that contains all information required to be included in a pen register order pursuant to 18 U.S.C. 3123 (or the state equivalent), or (2) seek a warrant and pen register order concurrently.")

program, which recorded activity occurring within the city.[148] Consistent with *Carpenter*, the Fourth Circuit determined that because the program enabled the police to deduce from individuals' movements, access to the data constituted a search. The extent to which a similar argument could be levied in regard to 6 U.S.C. § 124n would depend upon the nature and extent of interference in UAS, limits to which are not provided by the statutory language.

*4. Investigations Relating to Domestic Security Still Require a Warrant*

One argument frequently raised in support of broader authorities for UAS relates to the severity of the threat: namely, that where national security is at risk, special procedures need to be adopted. While it is true that issues of domestic national security may not always require the same warrant procedures adopted in criminal law cases, the Supreme Court in *U.S. v. U.S. District Court* ("Keith") made it clear that measures to address domestic national security that implicate the Fourth Amendment require "prior judicial review."[149] Some sort of probable cause standard attaches. This, after all, was the impetus for Congress's introduction of the 1978 Foreign Intelligence Surveillance Act, which has repeatedly been upheld by the courts as constitutional.[150]

Here, however, 6 U.S.C. § 124n operations have nothing even approximating a warrant. They require only the approval of the Deputy Attorney general or, in emergencies, the head of an authorized agency.[151] This raises the very *nemo iudex in causa sua* problems that the Court deemed unconstitutional in *Keith*.

## III. State Rights

In 2014 the Federal Aviation Administration (FAA) posted an article on its website entitled, Busting Myths about the FAA and Unmanned Aircraft. Exhibit #1 was the "myth" that "The FAA doesn't control airspace below 400 feet." [152] To the contrary, the agency claimed, "The FAA is responsible for the safety of U.S. airspace from the ground up."[153]

To some extent, the statement is accurate: the FAA is responsible for the safety of U.S. airspace. It simultaneously is misleading and wrong: while the FAA is constrained in what it can do in relation to UAS,

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[148] Leaders of a Beautiful Struggle v. Baltimore Police Department, 2F.4th 330, 333 (4th Cir. 2021).
[149] United States v. U.S. Dist. Ct. for E. Dist. of Mich., S. Div., 407 U.S. 297, 323–24 (1972) (Keith).
[150] *See, e.g.*, United States v. Nicholson, 955 F. Supp. 588, 590-91 (E.D. Va. 1997) (holding FISA as constitutional); United States v. Cavanagh, 807 F.2d 787, 790–92 (9th Cir. 1987) (per then-Circuit Judge Kennedy) (rejecting argument that FISA violates the Fourth Amendment and Article III); United States v. Duggan, 743 F.2d 59 (2d Cir.1984) (rejecting challenges to FISA under the Fourth and Fifth Amendments and under the Equal Protection Clause of the Fourteenth Amendment); United States v. Belfield, 692 F.2d 141, 148 (D.C. Cir. 1982) (rejecting argument that FISA violates Fifth and Sixth Amendments); United States v. Spanjol, 720 F.Supp. 55, 58 (E.D. Pa. 1989) (rejecting challenge to FISA under the Fourth Amendment); United States v. Ott, 637 F.Supp. 62 (E.D.Cal.1986), aff'd, 827 F.2d 473 (9th Cir.1987) (rejecting challenge to FISA under the Due Process Clause); *In the Matter of Kevork*, 634 F.Supp. 1002 (C.D. Cal. 1985) (rejecting challenges to FISA under the Fourth Amendment and Article III); *United States v. Falvey*, 540 F.Supp. 1306 (E.D.N.Y. 1982) (rejecting challenges to FISA under the First, Fourth, Fifth, and Sixth Amendments); *see also* Ellsberg v. Mitchell, 709 F.2d 51, 66 n. 66 (D.C. Cir. 1983) (noting that FISA had theretofore survived all constitutional challenges), cert. denied, sub nom. Russo v. Mitchell, 465 U.S. 1038 (1984); United States v. Benkahla, 437 F. Supp. 2d 541, 554 (E.D. Va. 2006) (holding FISA ELSUR and physical search procedures as consistent with the Fourth Amendment); United States v. Muhtorov, 187 F. Supp. 3d 1240, 1250, 1255 (D. Colo. 2015), aff'd, 20 F.4th 558 (10th Cir. 2021) (holding that the FISA-acquired evidence (under §702) should not be suppressed because its collection did not violate the Fourth Amendment, and, while the defendant does have a reasonable expectation of privacy in his communications it is "diminished when transmitted to a third party over the internet."); United States v. Warsame, 547 F. Supp. 2d 982, 993 (D. Minn. 2008) (holding that FISA's probable cause and particularity requirements satisfy the reasonableness requirement of the Fourth Amendment).
[151] Barr, *supra* note 51, at III(a).
[152] Busting Myths about the FAA and Unmanned Aircraft, reproduced at https://www.asprs.org/news-resources/busting-myths-about-the-faa-and-unmanned-aircraft.
[153] *Id.*

it has little to no claim to the air just above the ground. Instead, as aforementioned both private and public landowners own low-altitude airspace and air rights, with states in the primary position for enforcement.[154] The current way in which the regulations are written in regard to federal powers run rampant over both.

As explained in Professor Eugene McQuillin's *The Law of Municipal Corporations*,

> The public right to the use of streets goes to the full width of the street, and extends, indefinitely upward and downward. On the ground, therefore, of failure to exercise ordinary care to keep public ways in a reasonably safe condition for travel, municipal negligence may be established, on the theory of a defect in the street, in action for damages due to injuries to travelers from awnings, signs, billboards, poles, electric wires, or other objects suspended over, or near thereto, or falling into a street or sidewalk.[155]

It is to the states, and not to the federal government, that we look for ownership and control of property within each state which is not formally owned by the federal government.

Under the U.S. Constitution, states retained all powers neither delegated to the federal government nor prohibited to them.[156] The Tenth Amendment encompassed a range of authorities: under it, police powers (relating to health, welfare, and morals), criminal law, and corporate charters fell within the state domain. To states went authority for education, manufacturing, and agriculture. States bore the responsibility to regulate, control, and govern real and personal property, as well as individuals located within the state. As the Supreme Court noted in 1905,

> Although this court has refrained from any attempt to define the limits of [state police powers], yet it has distinctly recognized the authority of a state to enact quarantine laws and health laws of every description; indeed, all laws that relate to matters completely within its territory and which do not by their necessary operation affect the people of other states.[157]

The Court later suggested that "laws relating to matters completely within the territory of the state" belonged to the state itself.[158]

Control of real property, including the airspace above (outside of land owned outright by the federal government) falls within the purview of state and local government. As the Supreme Court acknowledged, "[A] State has the same undeniable and unlimited jurisdiction over all persons and things, within its territorial limits, as any foreign nation."[159] State authority "is complete, unqualified and exclusive."[160] Thus, while landowners' title to water may extend to the low-water mark, the ground beneath was held by the state, not the federal government. So, too, do states control and place any applicable restrictions on landowners in their use and enjoyment of property, such as building heights, permits, and the placement of fences.

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[154] *See* Laura K. Donohue, A Tale of Two Sovereigns: Federal and State Use and Regulation of Unmanned Aircraft Systems, in HANDBOOK OF UNMANNED AERIAL VEHICLES (Kimon P. Valavanis & George J. Vachtsevanos eds., Springer International Publishing AG 2d ed.) (2015).
[155] Eugene McQuillin, A Treatise on the Law of Municipal Corporations, vol. 8 (Chicago: Callaghan and Co., 1921), § 2775 (internal quotations omitted); *see also* McQuillin, Municipal Corporations, vol. 6 (1913), § 2775; Incorporated Town v. Cent. States El. Co., 204 Iowa 1246, 1250, 214 N.W. 879, 54 A.L.R. 474 (1927) (quoting McQuillin).
[156] U.S. Const. amend. X.
[157] Jacobson v. Massachusetts, 197 U.S. 11, 25 (1905) (internal quotations omitted).
[158] Thomas Cusack Co. v. City of Chi., 242 U.S. 526, 531 (1917).
[159] New York v. Miln, 36 U.S. 102, 139 (1837).
[160] *Id.*

The advent of air travel initially had almost no impact on such rights. The Uniform Aeronautics Act, the first model statute to circulate, emphasized state sovereignty over airspace, landowners' rights above their property, and other provisions relating to aircraft.[161] Twenty-two states adopted it in some form.[162] As for whether overflight constituted a trespass, case law repeatedly considered the question to be well within the state domain. In *Smith v. New England Aircraft Co.*, for instance, the Supreme Court of Massachusetts wrote,

> It is essential to the safety of sovereign States that they possess jurisdiction to control the airspace above their territories. It seems to us to rest on the obvious practical necessity of self-protection. Every government completely sovereign in character must possess power to prevent from entering its confines those whom it determines to be undesirable. That power extends to the exclusion from the air of all hostile persons or demonstrations, and to the regulation of passage through the air of all persons in the interests of the public welfare and the safety of those on the face of the earth. This jurisdiction was vested in this Commonwealth when it became a sovereign State on its separation from Great Britain.[163]

When the Air Commerce Act of 1926 passed, it acknowledged dual sovereignty and the rights of state governments, distinguishing navigable airspace from that controlled by the states.[164] Only aircraft in the former could be controlled by the federal government. Initially, federal regulations established a floor of 1,000 feet over cities, towns, and settlements, and 500 feet over all other land, subject to certain exceptions.[165] Numerous states followed suit, prompting litigation over the status of *ad coelum*.

In *Swetland v. Curtiss Airports Corporation*, the Sixth Circuit noted that while "the law reports of practically every state" referred to the concept, the right was not absolute; nevertheless,

> [t]his does not mean that the owner of the surface has no right at all in the air space above his land. He has a dominant right of occupancy for purposes incident to his use and enjoyment of the surface, and there may be such a continuous and permanent use of the lower stratum which he may reasonably expect to use or occupy himself as to impose a servitude upon his use and enjoyment of the surface.[166]

The landowner could not "reasonably expect to occupy" the upper stratum. Here, the only right of the landowner was "to prevent the use of it by others to the extent of an unreasonable interference with his complete enjoyment of the surface."[167] While in the lower strata, interference might constitute a trespass, in the upper it might be merely a nuisance.

In the intervening years, the federal government has consistently made an effort to claim ever more control over state land.[168] The courts, however, have continued to acknowledge state rights. In *United States v. Causby*, the Supreme Court recognized that granting the federal government control over lower airspace would give them "complete dominion and control over the surface of the land."[169] One of the latest efforts to narrow state rights even further appeared in the FAA Reauthorization Act of 2018, which limited the

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[161] *See* William A. Schnader, *Uniform Aviation Liability Act*, 9 J. AIR L. & COM. 9 664 (1938). For discussion of the evolution of the model statute, see George Gleason Bogert, *Recent Developments in the Law of Aeronautics*, 8 CORNELL L.Q. 26 (1923).
[162] *Id.*
[163] *See, e.g.,* Smith v. New England Aircraft Co. [Mass.] 170 N.E. 385 (1930).
[164] 44 Stat. 571, § 5(b).
[165] Air Commerce Regulations (Dec. 1926), Chapter 7, § 74(G)
[166] 55 F.2d at 203.
[167] *Id.*
[168] *See generally* Donohue, *supra* note 117.
[169] Causby, 328 U.S. at 262.

hobbyist carve-out to 400 feet above ground level.[170] In 2013, the Congressional Research Service acknowledged the tension between federal claims and individual and state rights.[171]

What perhaps makes these matters even more complicated is that *almost every state now has UAS regulations*, many of which already deal with concerns presented to this committee. Numerous states, for instance, make it illegal to fly UAS above or near prisons and critical infrastructure.[172] States have laws restricting UAS over open-air athletic facilities and large scale events.[173] States forbid the weaponization of unmanned vehicles.[174] States claim the right to control airspace within their borders. In Nevada, for

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[170] *See* FAA Reauthorization Act of 2018, Pub. L. No. 115-254.

[171] *See* Alissa M. Dolan & Richard M. Thompson II, Cong. Research Serv., R42940, *Integration of Drones into Domestic Airspace: Selected Legal Issues* 2 (2013), https://fas.org/sgp/crs/natsec/R42940.pdf.

[172] *See, e.g.,* S.B. 1449,52nd Leg., 2d Reg. Sess.(Ariz. 2016), ARIZ. REV. STAT. ANN. 13-3729 (West, Westlaw through First Reg. Sess. Fifty-Seventh Legis. (2025) (prohibiting UAS flight within 500 feet horizontally or 250 feet vertically of any critical facility, including but not limited to federal, state, county, or municipal jails or prisons; oil and gas facilities; water treatment facilities; power plants, courthouses, military installations; and hospitals); ARK. CODE ANN. § 5-60-103 (West, Westlaw 2025 Reg. Sess. 95th General Assem.) (prohibiting flight over, *inter alia*, electrical power plants, petroleum refineries, railroads, communication towers, and correctional or detention facilities); CAL. PENAL CODE § 4577(a) (West, Westlaw through 2025 Reg.Sess. ) (prohibiting UAS flight above a state prison, jail, juvenile hall, camp, or ranch); FLA. STAT. ANN. § 330.41 (West, Westlaw through 2025 first reg. sess.) (prohibiting operation of a drone over a critical infrastructure facility, allowing a drone to make contact with any person or object at such a facility, or coming close enough to interfere with the operations or to cause a disturbance to the facility, and defining such facilities as, inter alia, power generation, refineries, gas processing, airports, spaceports, military installations, dams, and both state-run and private correctional facilities); GA SB 6 (Act 67) (prohibiting use of UAS to deliver or attempt to deliver contraband to places of incarceration); Iowa HF 2492 (prohibiting use of UAS in, on, or above any municipal holding, detention, or correctional facility or the surrounding grounds subject to certain exceptions); Kentucky SB 157 (KY Acts c. 061) (prohibiting UAS over critical infrastructure, correctional facilities, and military installations); LA.. STAT. ANN. § 337 (West, Westlaw through 2024 First Extraordinary, Second Extraordinary, Reg., Third Extraordinary Sess.) (prohibiting use of UAS over critical infrastructure and correctional facilities); MN Stat. Sec. 243.552 (prohibiting UAS in airspace over state correctional facilities or grounds belonging to or land controlled by the facility without the written consent of the commissioner of corrections); NEV. REV. STAT. ANN. § 493.109 (West, Westlaw through 83rd Reg. Sess. (2025) (prohibiting UAV flight within 500 feet horizontally or 250 feet vertically from a critical facility, defined as power plants, water treatment facilities, pipelines, chemical or petroleum facilities); N.J. STAT. ANN. § 2C:40-28 (West, Westlaw through L.2025, c. 38 and J.R. No. 5) (prohibiting UAS flight over correctional facilities); N.C. GEN. STAT. ANN. § 15A-300.3 (West, Westlaw through 2024 Reg. Sess. General Assem.) (prohibiting UAS within 500 horizontal or 250 vertical feet over prisons); OK H.B. 2599 (prohibiting unmanned aircraft over critical infrastructure facilities less than 400 feet above the ground); Or. H.B. 4066 (prohibiting UAS over critical infrastructure facilities and correctional institutions less than 400 feet above the ground); Pa. Act 78 of 2018 (H.B. 1346), § 3505(a) (making it illegal to provide, transmit or furnish contraband); S.C. CODE ANN. § 24-1-300 (West, Westlaw through 2025 Act No. 2) (prohibiting UAV within 250 vertical feet of a correctional facility); SC § 24-5-175 (prohibiting UAV within 250 feet of a detention facility); S.D. CODIFIED LAWS § 50-15-3 ((West, Westlaw through the 2025 Reg. Sess.) (prohibiting drone flight over correctional, detention, and military facilities absent administrator consent); TENN. CODE ANN. § 39-13-903 (West, Westlaw through 2025 First Reg. Sess.) (prohibiting flight of unmanned aircraft over correctional facilities or within 250 feet of the perimeter of any critical infrastructure facility with the business operator's consent); TEX. GOV'T CODE ANN. § 423.0045 (West, Westlaw through 2025 Reg. Sess. 89th Leg.) (prohibiting flight of unmanned aircraft over critical infrastructure); stadiums); Utah § 14-1-304 (prohibiting operation of UAS "to carry or drop any item to or inside the property of a correctional facility" or to interfere with its operation); WIS. STAT. ANN. §114.045, 175.55 (West, Westlaw through 2025 Act 5) (prohibiting drone flight over the grounds of any state correctional institution without authorization).

[173] *See, e.g.,* DEL. CODE ANN. tit. 11, c. 5, § 1334 (West, Westlaw through ch. 16 153rd General Assem. (2025-2026)) (prohibiting UAS over any sporting event, concert, automobile race, festival, or other event at which more than 1,500 people are in attendance, over any critical infrastructure, or over any incident where first responders are actively engaged); Rev. Stat. of Missouri § 217.850 (prohibiting UAS over correctional facilities and "open-air facilities such as stadiums, sports venues, theaters, music venues, performing arts facilities, and entertainment facilities which can seat 5,000 or more people); TENN. CODE ANN. § 39-13-903 (West, Westlaw through 2025 First Reg. Sess.) (prohibiting use of unmanned aircraft to capture image of an individual or event at an open-air event venue wherein more than 100 individuals are gathered for a ticketed event, provided there is no consent from the venue owner or operator); TEX. GOV'T CODE ANN. § 423.0046 (West, Westlaw through 2025 Reg. Sess. 89th Leg.) (prohibiting unmanned aircraft over sports venues with a seating capacity of 30,000 or more people outside of certain conditions).

[174] *See, e.g.,* NEV. REV. STAT. ANN. § 493.106, 193.130 (West, Westlaw through 83rd Reg. Sess. (2025); NC GEN. STAT. ANN. § 14.401.24 (West, Westlaw through 2024 Reg. Sess.); OR. REV, STAT. § 837.365 (2024 Reg. Sess. 82nd Legis. Assem.); UTAH CODE ANN. § 72-10-902 (West, Westlaw through 2025 General Sess.); WIS. STAT. ANN. § 941.292 (West, Westlaw through 2025 Act 5).

instance, a provision relating to "Sovereignty in space" states: "Sovereignty in the space above the lands and waters of this state is declared to rest in the State, except where granted to and assumed by the United States pursuant to a constitutional grant from the people of the State."[175]

Unlike the federal statutes which form the basis for the hearing today, state law frequently acknowledges the right of owners to fly drones over their own property, as well as to exclude others from their airspace.[176] There is nothing, however, in the federal provisions which acknowledges state control over these areas, bringing them into direct conflict with the rights reserved to the states under the Tenth Amendment.

## IV. Principles of Construction

There are numerous ways Congress could address the threat posed by UAS while still ensuring that the statutory provisions structurally and substantively meet constitutional requirements. The guiding principles should center on isolating specific facilities which present the greatest risk, requiring public notice and a nexus between the threat posed by a specific drone and proximity to the site, introducing a warrant procedure for the interception of communications, and exempting private and state-owned drones flown over non-federal land. A few examples of how this could be done follow.

First, Congress could redraw the statute to ensure that fewer facilities are covered and that only UAS actually threatening critical facilities are included (e.g., in terms of distance from the covered facility), thus helping to protect citizens' First Amendment activities. In 2017, when Congress first extended the authority to the military to respond to UAS, it did so in relation to specific mission sets: i.e., nuclear deterrence, missile defense, and national security space.[177] It simultaneously gave the Department of Energy the power to use counter UAS technology in relation to special nuclear material.[178] The following year, DOD obtained additional authorities, again tied to particular missions: protecting the President or Vice President, U.S. air defense, combat support agencies, special operation activities, and the production, storage, transportation, or de-commissioning of high-yield explosives.[179] It also included Major Range and Tast Facility Bases, as statutorily defined.[180]

In contrast, 6 U.S.C. § 124n allows for DHS to target UAS in regard to *any* "buildings, grounds, and property that are owned, occupied, or secured by the Federal Government."[181] The regulations further allow DHS and DOJ to target drones in relation to any NSSE or SEAR events, which, as aforementioned, are broadly written and include events of "political, economic, social, or religious significance", all of which are First Amendment protected activities.[182]

These definitions should be significantly narrowed and foreclosed in the statutory provisions, as should the definition of "covered facility". Right now, the agencies can name any building or area considered a high risk for UAS activity, instead of facilities which contain, for instance, sensitive nuclear materials. The emphasis is on whether a drone may fly overhead, not on what it is that is being protected. Yet myriad federal agencies have nothing to do with highly sensitive national security matters.

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[175] NEV. REV. STAT. ANN. § 493.030 (West, Westlaw through 83rd Reg. Sess. (2025).
[176] *See, e.g.,* ARK. CODE ANN. § 5-60-103(c)(1) (West, Westlaw 2025 Reg. Sess. 95th General Assem.) (exempting surveillance over property owned, leased, or licensed as well as by third parties retained by the owners or insurance companies).
[177] National Defense Authorization Act, Pub. L. No. 114-328, §§ 1697, 3112, 130 Stat. 2000, 2639-40, 2756 (2017).
[178] *Id.* at §§ 1697, 3112.
[179] National Defense Authorization Act, Pub. L. No. 115-91, § 1692 (2018).
[180] *Id.*
[181] 40 U.S.C.A. § 1315(a). *See also* 6 U.S.C. § 124n(k)(3)(C)(I)(III) (stating "protection of facilities pursuant to section 1315(a) of Title 40).
[182] William Barr, Attorney Gen., *Guidance Regarding Department Activities to Protect Certain Facilities or Assets from Unmanned Aircraft and Unmanned Aircraft Systems* (April 13, 2020), X(F), https://www.justice.gov/archives/ag/page/file/1268401/dl?inline.

Many state measures, moreover, limit the flight of drones to a specific horizontal as well as vertical distance above certain facilities (e.g., 250 feet from a correctional facility). The federal measures do not. Instead, they simply say that the government can target drones (anywhere), in order to protect the critical facilities. Congress could address this by limiting the distance from which the drone is flying from the facility itself.

There is a distinction to be drawn between no fly and no surveillance measures, which the current statutory language conflates. While both implicate First Amendment concerns, it is the former that causes the greatest concern in terms of threat. In an age of satellite surveillance, it would be naïve to assume that the latter would prevent adversaries from being able to observe U.S. facilities, so it makes little sense to place such restrictions on the media and others within domestic bounds. Currently, however, there are no such protections, again in contrast to state statutes, which explicitly allow the capture of images of public property or individuals on public property, as well as where property owners consent.[183]

Simultaneously, as aforementioned, the Fourth Amendment protects U.S. citizens from persistent surveillance by the U.S. government. State provisions recognize this by prohibiting law enforcement use of drones without a warrant. There is no equivalent provision at a federal level to stop the government from routinely searching UAS or assuming control of the drones and using them to place private operators, located on private land, under surveillance. Introducing a warrant procedure, which is subject to an exigent circumstances exception, and restricting what can be done with the drone and which communications could be obtained could help to address this concern.

A warrant procedure also would go some way towards addressing Fifth Amendment due process concerns that could easily arise in situations in which forced landings occur and/or the government takes possession of the drone.[184] Under *Matthews v. Edridge*, due process determinations require an examination of three distinct factors: "First, the private interest that will be affected by the official action; second, the risk of an erroneous deprivation of such interest through the procedures used, and the probable value, if any, of additional or substitute procedural safeguards; and finally, the Government's interest, including the function involved and the fiscal and administrative burdens that the additional or substitute procedural requirement would entail."[185] Additional safeguards to prevent the government from being able to assume control of, and deprive an individual of their property would help to strengthen the constitutional sufficiency of the UAS provisions.

Finally, as currently written, 6 U.S.C. § 124n contains no explicit recognition of state rights. To the contrary, it claims control of drones in state airspace and would allow the federal government to assume control of state-owned drones as well. UAS located 400 feet or below fall within state, not federal, purview. So, too, does the state exercise control over its own UAS. It is only above federal land, or in the national airspace, that the federal government can control state-owned drones. This needs to be explicitly acknowledged in the federal provisions to ensure that DHS and DOJ do not overreach their constitutional limits.

## V. Concluding Remarks

UAS offer tremendous commercial and creative opportunities. At the same time, they can be used in myriad ways that could endanger people and property, critical infrastructure, or U.S. national security. In addressing this threat, however, it is critical that Congress not overreach.

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[183] *See, e.g.,* TEX. GOV'T CODE ANN. 423.002(a)(6) and (15).

[184] The due process clauses found in the Fifth and Fourteenth Amendments ensure that the government cannot deprive an individual of his or her property absent notice, an opportunity to be heard, and a determination by a neutral decisionmaker. See U.S. Const. amends V, XIV.

[185] Matthews v. Eldridge, 424 U.S. 319, 335 (1976).

The recent spate of drone sightings proves illustrative. They spurred panic and prompted the FAA to impose a slew of temporary flight restrictions: at least thirty in New York and another twenty-two in New Jersey.[186] The FAA announced that the government may use "deadly force" in the event that UAS posed an "imminent security threat".[187] It later emerged that a number of the sightings, even those near critical infrastructure, were simply normal air traffic.[188] Had the government responded aggressively to the sightings, human life could have been imperiled.

The incident, and the various examples noted above, serve as a strong reminder that while it is necessary to address real threats, there is a reason that the U.C. Constitution erects procedural and substantive protections. Whatever course Congress decides to pursue must comport with the protections of rights enshrined in the First and Fourth Amendments, as well as rights reserved to the states through the Tenth Amendment.

Thank you.

[186] FAA Imposes Flight Restrictions in NY Amid Drone Mayhem, NBC N.Y., Dec. 20, 2024, https://www.nbcnewyork.com/new-york/drone-update-news-faa-ban/6081619/.
[187] Ayesha Ali and Clara McMichael, *FAA Temporarily Bans Drones in Parts of New Jersey, New York adds flight restrictions*, ABC NEWS, Dec. 20, 2024, https://abcnews.go.com/US/drone-updates-faa-temporarily-bans-drone-operations-parts/story?id=116936091.
[188] *See* Matthew Petti, *Newly Released Documents Show What the Feds Knew About the New Jersey Drone Scare*, REASON, May 9, 2025, https://reason.com/2025/05/09/what-the-feds-knew-about-the-new-jersey-drone-scare/#:~:text=On%20December%2017%2C%202024%2C%20the,Goff%20wrote%20in%20an%20email.