HOW FAR SHOULD THE RIGHTS TO POST 3D-PRINTED HANDGUNS EXTEND: DOES THE GOVERNMENT INFRINGE UPON CONSTITUTIONAL RIGHTS BY REQUIRING THE REMOVAL OF 3D-PRINTABLE HANDGUN BLUEPRINTS?

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I. INTRODUCTION

In May 2013, Cody Wilson, a Texas resident, received a letter from the U.S. Department of State (“DOS”) demanding that he take down blueprints of “the Liberator,” a 3D-printable, one-shot handgun. Alleging constitutional violations, Defense Distributed, on behalf of Cody Wilson, filed a complaint. There has only been a complaint filed on Mr. Wilson’s behalf to date. Accordingly, the question of whether the government, through the removal of 3D-printed handgun blueprints, violates an individual’s First, Fourth, and Fifth Amendment rights has yet to be decided. In our ever-evolving society, the advancement of technology requires an equal advancement in law to outline and clarify what can or cannot be done, coinciding with appropriate and just reasoning. Technology that falls outside of any existing laws, such as the availability of 3D-printable handgun blueprints online, requires an in-depth analysis weighing constitutional rights with public safety concerns.

This Article will show that the DOS must take reasonable precautions in the interest of public safety to avoid the widespread sharing of weapons that can harm the user or innocent victims, in

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2 Id. at 688.

3 Based on the date of Article submission.

4 Defense Distributed, 121 F. Supp. 3d at 688.
addition to potentially arming terrorists—domestic and abroad. The DOS’s requirement of preapproval of weapons to prohibit specific 3D-printable blueprints is necessary to avoid the obliteration of gun control laws that prohibit certain individuals from possessing firearms. Section II of this Article provides an overview of the facts surrounding Cody Wilson’s removal of the Liberator blueprints, as well as an explanation of the existing law surrounding Mr. Wilson’s removal of the blueprints. Section II explains 3D-printed guns and the dangers surrounding widespread accessibility to these types of blueprints. Section III of this Article outlines potential First Amendment constitutional right violations yet illustrates the necessity to balance these rights in the interest of public safety. Section IV of this Article illustrates how there is no Second Amendment right to a self-defense violation in the DOS’s request for preapproval of 3D-printable weapon blueprints prior to posting. Section IV also provides a brief overview of how the preapproval of these blueprints comports with gun control laws. Section V of this Article shows how there may be a Fifth Amendment right to due process of law violation. Section VI concludes the discussion with the repercussions of failing to regulate 3D-printed technology.

II. BACKGROUND

In May 2013, Cody Wilson received a letter from the DOS demanding him to remove the blueprints for a 3D-printable handgun that he had developed and posted online. Mr. Wilson’s 3D-printable

5 Id. at 689, 691.
6 Federal law outlines the classes of individuals forbidden from receiving or possessing firearms. 18 U.S.C § 922(g) (2012). This list includes felons, those adjudicated as mentally incompetent, individuals convicted of misdemeanor domestic violence, etc. Id. § 922(g)(1), (4), (9).
7 See infra Part II.
8 See infra Part II.
9 See infra Part III.
10 See infra Part IV.
11 See infra Part IV.
12 See infra Part V.
13 See infra Part VI.
handgun was named “the Liberator”: a one-shot plastic pistol and one of the first 3D-printed guns online and open for public download.\(^\text{15}\) The letter from the DOS also outlined the criminal and civil violations under the International Traffic Arms in Regulation ("ITAR").\(^\text{16}\) The DOS and the director of Defense Trade Control claimed Mr. Wilson violated arms export controls by posting the files.\(^\text{17}\) The online posting of a 3D-printable handgun blueprint does violate export controls because 3D-printable weapons are plans to create actual weapons, which the ITAR prohibits.\(^\text{18}\)

To understand the reality and dangers online posting of 3D-printable weapons possess, it is first necessary to examine 3D-printing technology. 3D printers allow any user to upload the blueprints for a weapon and have the actual weapon printed out, usually within a matter of hours.\(^\text{19}\) A 3D printer creates the weapon through an additive manufacturing process, which involves the 3D printer depositing small layers upon layers of material fused together to create the finished product.\(^\text{20}\) There is a wide variety of printing material available to print 3D objects from, including hard plastic to metals.\(^\text{21}\)

Additionally, the technology to print guns made out of materials that can withstand the pressure of firing has become recently available.\(^\text{22}\) These weapons, if allowed to circulate on the Internet, allow anyone with a 3D printer to create any weapon with the click of a button. This includes guns with rapid-firing capabilities made completely out of plastic and therefore untraceable under metal detectors. These weapons could end up in the hands of anyone who can simply download a file and press print.

\(^\text{16}\) 22 C.F.R. Part 120 et seq.; Defense Distributed, 121 F. Supp. 3d at 686-87.
\(^\text{17}\) Defense Distributed, 121 F. Supp. 3d at 686, 690.
\(^\text{18}\) Id. at 690.
\(^\text{20}\) Id. at 448.
\(^\text{21}\) Id. at 451.
\(^\text{22}\) Id. at 454-56.
The online availability of blueprints to 3D-printable weapons also raises concerns over who has access to these weapon plans. There are currently no restrictions in place that prohibit Internet downloads from being internationally accessible. The availability of weapon blueprints online raises exportation concerns because individuals residing in foreign countries would have access to the blueprints.23

While “exportation” traditionally involves items actually leaving federal jurisdiction, intellectual property law has yet to define the jurisdiction of the Internet.24 But the capability of an individual to post information that can be readily accessed by the citizens of other countries implies exportation, although the relevant laws have yet to clarify it as exportation.25 Laws that prohibit the accessibility of weapon plans should also apply to 3D-printed blueprints, even though the medium and jurisdiction may change.

The ITAR’s regulations over blueprints of defense articles should be applicable to 3D-printable weapon blueprints to allow flexibility in the law for evolving technologies. The DOS is an executive agency that enforces the Arms Export Control Act of 1976.26 This Act has authority over the ITAR and gives the executive branch limited control to export “defense articles.”27 While the Arms Export Control Act does not specifically exercise control over “technical data,” the ITAR includes “technical data” within its definition of “defense articles.”28 The ITAR defines “technical data” as information “required for the design, development, production, manufacture, assembly, operation, repair, testing, maintenance or modification of defense

25 Id. at 1153-56.
III. FIRST AMENDMENT VIOLATIONS

The First Amendment of the U.S. Constitution states that "Congress shall make no law . . . abridging the freedom of speech . . . ." It is undeniable that First Amendment protections are great: the First Amendment protects the public’s right to receive access to social or political ideas. The Supreme Court of the United States has "long understood as implicit in the right to engage in activities protected by the First Amendment a corresponding right to associate with others in pursuit of a wide variety of political, social, economic, educational, religious, and cultural ends." Yet, 3D-printable weapon blueprints are unlikely protected speech: although they would have automatic copyright protection upon creation, the computer code required for these blueprints would not offer the type of freedom of expression the Supreme Court of the United States requires for speech protection. However, even if the blueprints were subject to First Amendment protection, the right to post blueprints of handguns online would be an exception because it involves public safety concerns. The right to express oneself does not extend to sacrificing the safety of others.

A. WEAPON BLUEPRINTS ARE NOT CONSIDERED PROTECTABLE SPEECH

Under the First Amendment, electronic communications are often considered speech. The protection of "freedom of speech" can extend to computer coding, as it is a source of information expression. The First Amendment also commands protection for "new and different..."
medium[s] for communication . . .". However, unlike other forms of electronic communications, the blueprint of a 3D, computer-aided design file is an expression of information through the language of coding. The Supreme Court has extended protection for computer coding to the expression of creative information, such as creating a virtual reality. While the creation of a 3D-printable weapon would allow for patentability of the actual idea or expression of idea, the sharing of this information would not be subject to First Amendment protection because the file and coding itself is just a formula. Computer coding that simply expresses a formula or equation is not patentable and therefore would not be protected speech.

For example, in Brown v. Entertainment Merchants Associations, the Supreme Court of the United States held that “video games qualify for First Amendment protection” because they communicate ideas through distinctive features of the medium. The Court analogized video games to “books, plays, and movies” that also hold First Amendment protection; although video games are advanced technology, the same principles apply. The Supreme Court of the United States emphasized that “whatever the challenges of applying the Constitution to ever-advancing technology, ‘the basic principles of freedom of speech and the press, like the First Amendment’s command, do not vary’ when a new and different medium for communication appears.” Yet the Court specified that the communication of ideas is protected when coding allows for programmable creative expression.

3D-printable handgun blueprints are not protected under this form of freedom of speech. The files are codes more similar to a

36 Jensen-Haxel, supra note 19, at 449-50.
37 See Brown, 131 S. Ct. at 2733; Reno, 521 U.S. at 851; Roth, 354 U.S. at 484.
39 Gottschalk, 409 U.S. at 67; see Alice Corp. v. CLS Bank Intern., 134 S. Ct. 2347, 2350 (2014) (holding that a mathematical principle on a computer is not patentable).
40 Brown, 131 S. Ct. at 2733.
41 Id.
42 Id. at 2733 (quoting Joseph Burstyn, Inc. v. Wilson, 343 U.S. 495, 503 (1952)).
43 Id.
formula than to the creation of a virtual story, as in Brown. The 3D-printable handgun blueprints a language that communicates and conveys information on how to manufacture a device for personal use so long as you have the necessary equipment. The conveyance of this information is not protectable under the First Amendment because of the lack of creative expression.

B. PROHIBITING THE SHARING OF POTENTIALLY VIOLENT COMPUTER CODING DOES NOT VIOLATE FREEDOM OF ASSOCIATION

Although the First Amendment protects the public and its right to receive information, the access to certain information is prohibited. First Amendment freedom of speech “embraces the right to distribute literature,” while “protecting the right [of the public] to receive it.” Although the dissemination of information is included within the First Amendment, the rights do not encompass the dissemination of information that may be deemed a threat to public welfare. While the First Amendment further protects freedom of association by protecting the rights of individuals to exchange information, federal laws clearly prohibit the dissemination or exchange of certain information, such as national security or the exportation of weapon plans.

In order to determine whether restricting public access to 3D-printable weapon blueprints would be a First Amendment freedom of association violation, it is first necessary to determine what rights freedom of association encompasses. Freedom of association is a fundamental right “that cannot be denied without violating those fundamental principles of liberty and justice which lie at the base of all civil and political institutions.” The Supreme Court of the United States “has recognized a right to associate for the purpose of engaging

44 Red Lion Broad. Co. v. FCC, 395 U.S. 367, 390 (1969) (protecting “the right of the public to receive suitable access to social, political, esthetic, moral, and other ideas and experiences”).
in those activities protected by the First Amendment—speech, assembly, petition for the redress of grievances, and the exercise of religion.”

In these respects, when the government restricts an individual’s selection of society, the restriction infringes upon the individual’s “freedom of intimate association and [his or her] freedom of expressive association.”

While freedom of association is a fundamental right, there is no violation here because prohibiting sharing of 3D-printable weapon plans would not deny an individual the freedom to associate with anyone. Freedom of association does not include an individual’s ability to post or send weapon plans because an individual would still have the ability to associate with any of the receivers of the information, just not the specific ability to share the weapon plans. Restrictions against online public access to 3D-printable weapon blueprints is not prohibiting freedom of association but solely specific file-sharing when the DOS determines the blueprints to be a danger.

In looking to specific restrictions on freedom of association, the First Amendment protects communication with members of organizations “as long as that advocacy is not ‘directed to inciting or producing imminent lawless action and . . . likely to incite or produce such action.’”

A “blanket prohibition of association with a group having both legal and illegal aims” would present “a real danger that legitimate political expression or association would be impaired.”

Allowing 3D-printable weapon blueprints to be posted for the public is likely to incite or produce lawless action because the type of people who would seek to create a weapon at home are most likely those who cannot obtain a weapon by other means, including persons prohibited from the possession of guns.

While it can be argued that the government put a blanket prohibition over an individual posting 3D-printable weapon blueprints, the argument falls short of blanket prohibition because the DOS’s

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50 Id.
preapproval of the blueprints would allow for discretion to determine what can be posted to public forums. For example, in *NAACP v. Claiborne Hardware Co.*, the Supreme Court of the United States held that the defendants’ involvement in a boycott against white merchants at an NAACP meeting, where some threats and acts of violence occurred, did not impose liability despite the fact that the defendants had “agreed to use force, violence, and ‘threats.’” The Court determined that “intent must be judged ‘according to the strictest law.’” The Court found that if it is not, there is “a danger that one in sympathy with the legitimate aims of such an organization, but not specifically intending to accomplish them by resort to violence, might be punished for his adherence to lawful and constitutionally protected purposes, because of other and unprotected purposes which he does not necessarily share.”

The posting of 3D-printable weapon blueprints to public sites, like the restrictions in *NAACP*, does not involve a blanket prohibition because the DOS’s preapproval analyzes each blueprint set separately. While there have been no prohibitions limiting books to gunsmith manuals teaching individuals to traditionally create a handgun, 3D-printable handguns provide for public access abroad. This potential for domestic misuse, as well as exportation abroad, requires stricter monitoring of 3D-printable weapons online, prior to the blueprints being accessible to the public.

IV. SECOND AMENDMENT VIOLATIONS

In addition to the First Amendment protecting freedom of speech, “[t]he Supreme Court has found, in several contexts, that the First Amendment often bolsters other constitutional rights.”

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53 *NAACP v. Claiborne Hardware Co.*, 458 U.S. 886, 894 (1982) (relying on the rule from *Brandenburg*, 395 U.S. at 447, that states that advocacy can only be forbidden or proscribed if it is directed to or likely to incite unlawful aims and goals).

54 *Id.* (quoting *Noto v. United States*, 367 U.S. 290, 299 (1961)).


Communication involving the right to keep and bear arms likewise falls under the First Amendment, which bolsters Second Amendment rights.\textsuperscript{57} Second Amendment rights are infringed upon by prohibiting lawful citizens from bearing arms.\textsuperscript{58} However, prohibiting the posting of certain 3D-printable weapons online does not infringe upon an individual’s Second Amendment right because the individual would still have the ability to obtain a weapon through lawful means.\textsuperscript{59}

To determine there is no Second Amendment violation, it is first necessary to determine what right the Second Amendment entails. The Second Amendment guarantees, “[a] well regulated militia, being necessary to the security of a free state, the right of the people to keep and bear arms, shall not be infringed.”\textsuperscript{60} The Supreme Court of the United States established that “[s]elf-defense is a basic right, recognized by many legal systems from ancient times to the present day, and in [\textit{District of Columbia v.} Heller, [the Supreme Court] held that individual self-defense is ‘the central component’ of the Second Amendment right.”\textsuperscript{61} The textual elements and historic context of the Second Amendment “guarantee the individual right to possess and carry weapons in case of confrontation.”\textsuperscript{62}

In looking first to the textual component of the Second Amendment, the language itself does not explicitly show an intent to include the manufacturing of personal firearms, although it may be inferred.\textsuperscript{63} \textit{Heller} established that the right to carry weapons was for the purpose of self-preservation and defense.\textsuperscript{64} “Constitutional rights are enshrined with the scope they were understood to have when the people adopted them.”\textsuperscript{65} “The Constitution was written to be understood by the voters; its words and phrases were used in their normal and ordinary freedom of association claims).

\textsuperscript{57} Blackman, \textit{supra} note 56.
\textsuperscript{59} See FLA. STAT. 790.065(1)(a)(1) (2016).
\textsuperscript{60} U.S. CONST. amend IV.
\textsuperscript{62} \textit{Id.}; \textit{Heller}, 554 U.S. at 595.
\textsuperscript{63} \textit{Heller}, 554 U.S. at 570; \textit{McDonald}, 561 U.S. at 742.
\textsuperscript{64} \textit{Heller}, 554 U.S. at 570.
\textsuperscript{65} \textit{Id.}
[meaning] as distinguished from technical meaning.”66 “The most natural reading of ‘keep Arms’ in the Second Amendment is to ‘have weapons.’”67 In order to “have weapons,” the weapons must have been manufactured by either the individuals themselves or a nearby gunsmith: neither were required to have a license.68

The historic component of the Second Amendment further illustrates the intended individual right of self-defense that includes the right to manufacture a personal handgun within the right to keep and bear arms. Starting with the beginning of this nation’s history, colonists and early Americans understood the natural right to protect and defend themselves against public and private violence.69 Historically, guns were often manufactured by individuals without extensive experience in the manufacturing of firearms.70

Based on federal law, individuals may presently make pistols, revolvers, or rifles at home.71 The Bureau of Alcohol, Tobacco, Firearms and Explosives website indicates, with certain exceptions, a firearm may be made by a nonlicensee provided that it is not for sale and the maker is not prohibited from possessing firearms.72 This right was established prior to 3D-printing capabilities. Columnist Brian Doherty stated that 3D-gun technology is a “change in convenience, not in kind; that people always had both the means and to some degree the legal right to arm themselves with homemade weapons.”73 The concern regarding 3D printing includes plastic guns defeating security

67 Heller, 554 U.S. at 582.
69 Heller, 554 U.S. at 594-95 (finding “Americans understood the ‘right of self-preservation’ as permitting a citizen to ‘repe[ll] force by force.’”).
70 Cramer, supra note 68.
71 18 U.S.C. § 922(o), (p), (r).
procedures; yet as a Bureau of Alcohol, Tobacco, Firearms and Explosives official stated, plastic guns “have been tried and true for the last [thirty] years.”74 Another concern is mass production by laymen. As the liberal magazine Mother Jones stated, “there are already upwards of 300 million nonplastic firearms currently in circulation in the United States, and they’re pretty easy to get a hold of. (It’s also already perfectly legal to make your gun from normal materials.)”75 “The danger is that these potential negatives will swamp the analysis and policy debates so that an incumbent or one sector gains an upper hand in demanding the hammer of the law stop certain technology.”76

Further, 3D printing would “produce the only regulated [part] of the firearm[:] the frame.”77 Although Congress has a complex system for regulating the production, distribution, and possession of firearms, individuals who produce firearms for personal use are excluded from this system.78 As long as a person is not otherwise prohibited from possessing a handgun, he or she may make a handgun for personal use.79 An individual producing a firearm for personal use is not required to be licensed because he or she is not “engaging in the business” of manufacturing.80

75 Id. at 489 (quoting Tim Murphy, Chuck Schumer Wants to Stop You From Printing a Gun at Home. Good luck., MOTHER JONES (May 8, 2013), http://www.motherjones.com/politics/2013/05/chuck-schumer-defense-distributed-printed-gun).
76 Deven R. Desai & Gerard N. Magliocca, Meet Napster: 3D Printing and the Digitization of Things, 102 GEO. L.J. 1691, 1700 (2014); see also Bill Bumgarner, Getting Started with a 3D Printer, Winter 2013, at 12. (“There are three approaches to additive manufacturing in common use: photopolymerization (using light to cure a liquid material into solids of the desired shape), granular materials binding (using lasers, hot air, or other energy sources to fuse layers of powder into the desired shape), and the focus of this article, molten polymer deposition (MPD; extruding molten material in layers to build up the desired shape).”).
77 Jensen-Haxel, supra note 19 at 499.
The right to defend oneself in the home is explicitly stated within *Heller*. As a historical and textual analysis shows, the right to defend oneself in the home includes the right to have a handgun. For much of history, and prominent in current times, this includes the right for individuals to manufacture their own handguns.

While individuals may have the right to create firearms for their use in defending their homes, the regulation on 3D-printable weapon blueprints would not prohibit this right. Just as gun enthusiasts acknowledge, the right and ability to create a firearm in one's home would exist the same as it did prior to 3D-printable technology. The only restrictions on 3D-printable weapon blueprints would be its access abroad. The DOS has not established that it is illegal to send 3D-printable weapon blueprints domestically, or to authorized persons. Until a complete ban on 3D-printed weapon blueprints is set, there is no Second Amendment violation. And even if there were a complete ban, the right to defend one's home would still not be violated because individuals would have other ways of obtaining weapons lawfully.

While the ITAR has no way of distinguishing which downloaded handguns would be for unlawful use, the ability of 3D-printable weapon blueprints to be accessed abroad in violation of exportation controls remains precedent for national security. The Supreme Court in *Heller* established that an individual has a right to possess a handgun within the home. However, no Supreme Court precedent has outlined the right to manufacture one's own firearm. While it may be argued that this right is encompassed within the right to keep and bear arms, restricting one way that an individual obtains a weapon is not a violation of the right to have a weapon. An individual's right to make his own weapons from a 3D printer for self-defense is therefore not protected under Second Amendment rights.

V. Violation of Due Process Under the Fifth Amendment

The Due Process Clause of the Fifth Amendment guarantees that, "[n]o person shall . . . be deprived of life, liberty, or property, 

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82 See supra notes 71-73 and accompanying text.
83 Heller, 554 U.S. at 636.
without due process of law . . . ."84 The "requirement of clarity in regulation is essential to the protections provided by the Due Process Clause of the Fifth Amendment."85 The Supreme Court of the United States can determine that a statute is unconstitutionally vague through a facial or an as-applied challenge.86 A statute violates due process when it "fails to provide a person of ordinary intelligence fair notice of what is prohibited, or is so standardless that it authorizes or encourages seriously discriminatory enforcement."87 Because laws are still unclear as to whether 3D blueprints qualify under the ITAR, individuals of ordinary intelligence may not yet be put on notice that posting 3D-printable weapon blueprints is prohibited, which may lead to discriminatory enforcement.

A. THE ITAR VIOLATES THE FIFTH AMENDMENT FACIALLY

In looking specifically at facial constitutionality, a statute can be facially unconstitutional in two ways.88 First, under the overbreadth doctrine, a statute can be considered overbroad and unconstitutional under the First Amendment if it burdens more speech than necessary or if it prohibits protected expressive activity.89 Second, a statute is facially invalid when it fails to establish clear standards that put both the public and police on notice against the "potential for arbitrarily suppressing" liberty interests.90

A statute is overly broad and subject to the overbreadth doctrine when it runs the risk of deterring constitutionally protected speech.91 While invalidating a law that is constitutional in some respects may be harmful, the Supreme Court of the United States must also weigh an

84 U.S. CONST. amend V.
86 Williams, 553 U.S. at 304.
87 Fox Television Station, Inc., 132 S. Ct. at 2317 (quoting Williams, 553 U.S. at 304 (internal quotation marks omitted)).
89 Id; see Dombrowski v. Pfister, 380 U.S. 479, 486 (1965).
individual’s fundamental rights and liberties.92 A statute infringing upon constitutionally protected liberties “support[s] a facial challenge under the overbreadth doctrine.”93 “Where a vague statute ‘abut(s) upon sensitive areas of basic First Amendment freedoms,’ it ‘operates to inhibit the exercise of (those) freedoms.’”94

For example, in *United States v. Williams*, the Supreme Court of the United States applied the First Amendment overbreadth doctrine to analyze a statute prohibiting “speech that accompanies or seeks to induce a transfer of child pornography . . . .”95 The Court analyzed the reach of the statute and the amount of prohibited expressive activity to determine whether the statute was unconstitutional under the overbreadth doctrine.96 The Court first analyzed the scope of the statute “to determine whether the statute reaches too far.”97 To determine the scope, the Court analyzed five different components of the statute.98 The statute specified “visual depictions of an actual minor,” which would eliminate an individual’s conviction for viewing youthful-looking adults.99 The Supreme Court reasoned that the statute had a scienter requirement, “sexually explicit conduct,” and a “string of operative verbs—‘advertises, promotes, presents, distributes, or solicits’ [that] is reasonably read to have a transactional connotation.”100 The Court found that all the meanings were narrow within the context of the sentence.101 An additional phrase in the sentence required both subjective and objective components, limiting the potential to convict innocent individuals.102 Another phrase provided the manner, which contained only the subjective component that the individual must

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95 *Williams*, 553 U.S. at 294.
96 Id. at 292-93.
97 Id. at 293.
98 Id. at 293-96.
99 Id. at 290.
100 Id. at 294.
101 Id. at 294-95.
102 Id. at 295-96.
"intend" the listener to believe that the material is child pornography.\textsuperscript{103}

The Supreme Court of the United States next analyzed whether the statute "criminalizes a substantial amount of protected expressive activity."\textsuperscript{104} While the Court acknowledged that "there remains an important distinction between a proposal to engage in illegal activity and the abstract advocacy of illegality," the Court determined that "[t]he Act before us does not prohibit advocacy of child pornography, but only offers to provide or requests to obtain it."\textsuperscript{105} Accordingly, prohibiting this type of speech is constitutional because "offers to give or receive what it is unlawful to possess have no social value and thus, like obscenity, enjoy no First Amendment protection."\textsuperscript{106}

Unlike \textit{Williams}, the ITAR lacks the specificity to limit the offense to a select group of individuals engaged in a specific activity. The qualifications and specificity provided for the statute in \textit{Williams} aid in preventing the incarceration of individuals engaged in innocent activity. Contrarily, the ITAR is vague as to its definitions and what all is included within those definitions. The lack of clarity for the scope here indicates that the statute could lead to conviction of innocent individuals.

Further, unlike \textit{Williams}, regulations "criminalize[] a substantial amount of protected expressive activity."\textsuperscript{107} Although there was no social value found regarding the material in \textit{Williams}, the Court still expressed interest in preserving the First Amendment right to \textit{advocate} for child pornography, although not proposing to engage in the illegal activity.\textsuperscript{108} While the strength of First Amendment protection extends far, the Court set a limitation when there is no social value to the information.\textsuperscript{109} The social value in sharing information to promote the general welfare and encourage scientific and technical endeavors is well

\begin{footnotes}
\item[103] \textit{Id.} at 296.
\item[104] \textit{Id.} at 297.
\item[105] \textit{Id.} at 298-99.
\item[106] \textit{Id.}
\item[107] \textit{Id.} at 297.
\item[108] \textit{Id.} at 303.
\item[109] \textit{Id.} at 298, 303.
\end{footnotes}
established in Article 1 of the Constitution. Unlike Williams, this information here may have social value.

In addition, a 3D-printable handgun is also legal to possess in the home. The Court in Williams weighed the information against the First Amendment protectable interest. The Court found that there is no interest in protecting illegal information. However, here, the information is legal if confined domestically or if only shared to authorized persons. A handgun itself would be legal to possess, even unregistered, so long as it is for personal use. The blueprints to make a device that would be legal to possess is also legal. Accordingly, the DOS’s prohibition against Mr. Wilson’s expression of information is included within the Fifth Amendment overbreadth doctrine and the ITAR is facially unconstitutional.

B. THE ITAR IS UNCONSTITUTIONAL BECAUSE IT FAILS TO PROVIDE FAIR NOTICE

Similar to a facial challenge, an as-applied challenge can also violate due process when it “fails to provide a person of ordinary intelligence fair notice of what is prohibited, or is so standardless that it authorizes or encourages seriously discriminatory enforcement.” If the statute may “trap the innocent” or lead to “discriminatory enforcement,” then the imprecise statute is void for vagueness. However, “due process does not require ‘impossible standards’ of clarity,” but rather further clarification when such is neither impossible nor impractical.

For example, in FCC v. Fox Television Stations, Inc., the Supreme Court of the United States considered a statute that banned the broadcast of “any obscene, indecent, or profane language,” and under

110 U.S. CONST. art. I, § 8, cl. 8.
111 Williams, 553 U.S. at 298.
112 Id.
113 FCC v. Fox Television Station, Inc., 132 S. Ct. 2307, 2317 (quoting Williams, 553 U.S. at 304 (internal quotation marks omitted)).
the void for vagueness doctrine, the Court focused its analysis on fair notice.\textsuperscript{116} The Court held that the television networks were not given fair notice of the Federal Communications Commission's indecency enforcement policy because the networks "lacked notice at the time of their broadcasts that the material they were broadcasting could be found actionably indecent under then-existing policies."\textsuperscript{117} The Supreme Court of the United States took issue with the broad language of the regulation, as well as the lack of sufficiently specific notice of the prohibited conduct.\textsuperscript{118} The Court held that the "harsh choice" between not airing a broadcast or risking losing its license "led to a chill of protected speech."\textsuperscript{119}

Similar to Fox Television Stations, Inc., an individual subject to the ITAR prosecution and fees would face a "harsh choice," although substantially more serious than the potential loss of license in Fox. For example, in violation of the ITAR exportation laws, Cody Wilson faced the criminal threats of twenty years in prison and a $1,000,000 potential fine, in addition to civil fees.\textsuperscript{120} Without modification of the statute, or case law determining the scope of blueprints to explicitly include 3D-printable weapon blueprints, an individual posting these types of blueprints would face harsh penalties.

Also similar to Fox Television Stations, Inc., Mr. Wilson was not put on fair notice that his conduct would be considered prohibited conduct under the ITAR. This results from the ITAR having no set scope for its regulations. The ITAR requires an individual to give advance governmental notice regarding the export of technical data.\textsuperscript{121} What is considered technical data is subject to interpretation and includes a broad definition encompassing "software directly related to defense articles."\textsuperscript{122} Whether Mr. Wilson's uploading of the 3D-printable files to the internet is an "export" is also subject to

\textsuperscript{116} Fox Television Station, Inc., 132 S. Ct. at 2317-20.
\textsuperscript{117} Id.
\textsuperscript{118} Id. at 2319.
\textsuperscript{119} Id. at 2316.
\textsuperscript{120} 22 C.F.R. §§ 127.3, 127.10 (2016); 22 U.S.C. § 2778(c).
\textsuperscript{121} See 22 C.F.R. § 125.2 (2006) (requiring a license for the export of unclassified technical data).
\textsuperscript{122} 22 C.F.R. § 120.10 (2014).
interpretation—a concept heavily debated in intellectual property law. Further, the ITAR regulations are ever-changing and do so without notice of what the change entails. When individuals are unaware that they are potentially violating a law, the law is unconstitutional for vagueness.

C. THE ITAR FAILS TO PROVIDE FAIR NOTICE

A statute is unconstitutional when it "fails to establish standards for the police and public that are sufficient to guard against the arbitrary deprivation of liberty [interests]."\(^{123}\) A statute violates due process rights if it "fails to provide a person of ordinary intelligence fair notice of what is prohibited" or runs the "impermissible risk of discriminatory enforcement."\(^{124}\) Either of these two violations of due process result in the statute being unconstitutional.\(^{125}\) Courts find statutes vague not because "it may at times be difficult to prove an incriminating fact but rather because it is unclear as to what fact must be proved."\(^{126}\) An individual can challenge the vagueness of a statute for the particular facts of the case.\(^{127}\)

For example, in *City of Chicago v. Morales*, the Court found a statute prohibiting "criminal street gangs" from "loitering" invalid on its face.\(^{128}\) The Supreme Court of the United States held that the statute was unconstitutionally vague on its face because it failed to give fair notice of the prohibited conduct to the public.\(^{129}\) The Court stated, "the purpose of the fair notice requirement is to enable the ordinary citizen to conform his or her conduct to the law."\(^{130}\) The failure of warning as to what conduct is prohibited could result in discriminatory

\(^{127}\) *Hoffman Estates*, 455 U.S. at 495.
\(^{128}\) Chicago, 527 U.S. at 46, 52.
\(^{129}\) See *id.* at 58.
\(^{130}\) *Id.*
enforcement.\textsuperscript{131} The Court reasoned that, "[b]ecause an officer may issue an order only after prohibited conduct has already occurred, it cannot provide the kind of advance notice that will protect the putative loiterer from being ordered to disperse."\textsuperscript{132} This retroactive order cannot "give adequate warning of the boundary between the permissible and the impermissible applications of the law."\textsuperscript{133}

In addition to the lack of fair notice, the vagueness of the ITAR regulations can also lead to discriminatory enforcement. Because the scope of the regulations is unknown, there is a flexibility in application that can move depending on each individual case. This flexibility has the potential to result in discriminatory enforcement. In order for a statute to be unconstitutional, the statute must have solely the possibility of discriminatory enforcement—a lack of clarity that leads to ambiguous interpretation. That is exactly what the ITAR has here. When individuals are unaware of the scope of the regulation, it is also unlikely that law enforcement personnel know the scope. This lack of clarity yields injustice, as the regulations are open for interpretations. The regulations are therefore unconstitutional.

\textbf{VI. Conclusion}

An absence of up-to-date laws results in legislative gaps that can endanger society as a whole. The invention of new technologies requires clarification as to whether certain laws pertain to newly emerged technology. Laws must adapt to encompass advancements in technologies in order to put individuals on notice. While the direct ramifications of Cody Wilson’s 3D-printed handgun plans and its over 100,000 downloads within a two day span is unclear, it is necessary for the ITAR to specify exportation laws to include 3D-printable weapon technology to avoid future exportation violations.\textsuperscript{134} Failing to do so could result in Fifth Amendment due process violations.

\textsuperscript{131} See id.
\textsuperscript{132} Id. at 59.
\textsuperscript{133} Id. at 58.
\textsuperscript{134} Andy Greenberg, \textit{State Department Demands Take Down of 3D-Printable Gun Files for Possible Export Control Violations}, FORBES (May 9, 2013, 2:36 PM), http://www.forbes.com/sites/andygreenberg/2013/05/09/state-department-demands-take-down-of-3d-printable-gun-for-possible-export-control-violation/#7d44a0f3fb77.
The posting of 3D-printable weapon blueprints within public domains poses a direct threat to national security because the files may be downloaded by anyone, including individuals abroad that may pose terroristic threats to the nation. Supplying the plans for weapons could provide material support to foreign terrorist organizations, arming every individual. While this may seem to be an extreme example, individuals not able to lawfully obtain firearms or other weapons would likely be looking for another way to obtain these weapons. 3D-printed weapons could be that means.

While arguments claiming a Second Amendment violation through 3D-printed guns is persuasive, the Second Amendment solely protects an individual's right to self-defense within the home. The Second Amendment does not protect all ways of obtaining firearms for self-defense. The Second Amendment is not violated by the regulation of 3D-printed guns because individuals would still have the ability to obtain weapons in order to defend themselves, just as they did prior to the invention of 3D-printed technology. A restriction on one means of obtaining guns is not an entire prohibition.

Instead, the danger of 3D-printed technologies outweighs individuals' interest in defending themselves through the creation of 3D-printed firearms. In looking at a future without 3D-printed weapon restrictions, one could imagine anyone possessing an automatic firing weapon that they printed at home in a matter of hours. Gun control laws have established that certain people, those designated as prohibited persons, cannot have access to guns. Yet with 3D-printed firearm plans available in public domain, these individuals could easily have access to any weapon imagined. Further, instead of licenses to allow for possession of firearms outside of the home, any individual could be in possession at any time. With the advancement of speed at which a 3D-printed gun can be printed, this could even incite crimes of passion by creating a weapon at the click of a button. The road to furthering violence by mass weapon distribution is not the path this nation should follow.