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Products Liability in the Digital Age: Liability of Commercial Sellers of CAD Files for Injuries Committed with a 3D-Printed Gun

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Products Liability in the Digital Age: Liability of Commercial Sellers of CAD Files for Injuries Committed with a 3D-Printed Gun

PRODUCTS LIABILITY IN THE DIGITAL AGE: LIABILITY OF COMMERCIAL SELLERS OF CAD FILES FOR INJURIES COMMITTED WITH A 3D-PRINTED GUN

MIKA SHARPE*

The invention of new technologies, and specifically 3D printing, is quickly changing how we shop, eat, and live. For example, current technology already allows consumers to print a pair of shoes from the comfort of their living rooms instead of going to the mall, and parents can 3D-print custom-shaped chicken nuggets as an afternoon snack for their children. But, aside from the positive changes, 3D printing poses serious safety concerns because it allows for printing of plastic, untraceable, deadly weapons.

Whom will we hold liable when someone gets injured with a 3D-printed gun? How will the courts apply existing law to address this novel challenge? This Comment argues that courts should use traditional products liability laws to hold commercial sellers of CAD files liable for injuries caused by defects arising out of the design of their products. Specifically, this Comment finds that CAD files are products for purposes of products liability. It further finds that 3D-printed guns are inherently and unreasonably dangerous because they are undetectable by standard metal detectors; their users do not need to register or go through a background check before purchasing them; and because the public,

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including children and mentally ill persons, have unlimited access to them. Additionally, the designs of currently available CAD files do not incorporate a safety feature into the design of the firearm, making it more dangerous. Commercial sellers can thus be held strictly liable for injuries caused by a gun printed with their CAD file. In adapting traditional products liability law to 3D-printing technology, courts can encourage accountability for 3D-products designers who might otherwise escape liability for their defective designs and protect consumers from poorly designed CAD files.

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INTRODUCTION

Americans have a unique and intimate relationship with guns, which, not unlike any other relationship, is often complicated. The Second Amendment to the United States Constitution states that the “right of the people to keep and bear Arms shall not be infringed,”¹ and the Supreme Court has interpreted this provision to mean that Americans have an individual, but not unlimited, right to possess and carry weapons.² Unfortunately, this right often comes at a high cost as the number of reported gun-related deaths in the United States surpasses those of other high-income countries.³ Balancing gun regulation and safeguarding the constitutional rights of American citizens has been a daunting task, one that is getting increasingly more complicated with recent technological developments.⁴

While 3D printing has been around since the late 1980s,⁵ the technological advances that led to the production of a fully functioning 3D-printed weapon are fairly recent developments.⁶ The invention of 3D printing has undoubtedly impacted a range of industries,⁷ but it has also

1. U.S. CONST. amend. II.

2. *McDonald v. City of Chi.*, 561 U.S. 742, 791 (2010) (holding that the Second Amendment protects the right to keep and bear arms for the purpose of self-defense, and the right was incorporated and made applicable to the states by the Due Process Clause of the Fourteenth Amendment); *D.C. v. Heller*, 554 U.S. 570, 626, 635–36 (2008) (holding that Americans have the right to possess handguns in their own home and striking down a D.C. statute that prohibited individuals from owning handguns as unconstitutional. The Court also stated, in dicta, that Americans have the right to self-defense but that this right is not unlimited). *See generally* David B. Kopel, *The Supreme Court's Thirty-Five Other Gun Cases: What the Supreme Court Has Said About the Second Amendment*, 12 J. ON FIREARMS & PUB. POL'Y 65, 65 (2000) (arguing that despite the fact that the Court has not said so explicitly, its past decisions indicate that the justices regard the Second Amendment right to bear arms as an individual right).

3. Kara Fox, *How U.S. Gun Culture Compares with the World in Five Charts*, CNN (Mar. 9, 2018, 11:07 AM), <https://www.cnn.com/2017/10/03/americas/us-gun-statistics/index.html> [<https://perma.cc/L6V4-M95R>].

4. *See generally* Jessica Berkowitz, Comment, *Computer-Aided Destruction: Regulating 3D-Printed Firearms Without Infringing on Individual Liberties*, 33 BERKELEY TECH. L.J. 51, 81–84 (2018) (discussing current gun laws in the United States and arguing that the best way to regulate and monitor the 3D-printing process is to impose safeguards on the purchase of ammunition).

5. *History of 3D Printing*, 3D PRINTING INDUS., <https://3dprintingindustry.com/3d-printing-basics-free-beginners-guide> [<https://perma.cc/68LN-VN4Y>].

6. *Id.*

7. Hospitals across the United States and the world are incorporating 3D printing into their operations by printing prosthetic limbs and orthotic braces, creating customized medical implants, and conducting clinical trials focused on improving surgical outcomes. *See* Nancy S. Giges, *Top 5 Ways 3D Printing Is Changing the Medical Field*, AM. SOC'Y MECH. ENG'RS (May 2017), <https://www.asme.org/engineering->

created a host of safety concerns with potentially serious ramifications. The dangers that 3D printing could create became publicized in 2013 when Cody Wilson, a then twenty-five-year-old law student at the University of Texas, created and successfully fired the world's first-ever 3D-printed gun, named "the Liberator."⁸ Simultaneously, Wilson's organization, Defense Distributed, released digital blueprints of the "Liberator" on its website, allowing all internet users to download and print their own guns.⁹

On August 8, 2018, twenty-three-year old Austin James David West was arrested at his home after sharing his plan to carry out a mass shooting at Broadview University with an untraceable 3D-printed gun.¹⁰ The authorities intervened before West harmed anyone, but this chilling incident provides a glimpse of what may be the future of crime.¹¹

What will happen when someone does get injured or killed with a 3D-printed gun? Who will be liable? This Comment proposes that Defense Distributed, and other commercial sellers of CAD files, should be held strictly liable for injuries caused by defects arising out of their designs. Part I will provide background information on the 3D printing process.¹² It will also discuss Defense Distributed's operations and provide

topics/articles/manufacturing-design/top-5-ways-3d-printing-changing-medical-field [https://perma.cc/G9ZY-AUZR] (assessing how "hospitals across the U.S. and around the [world] are setting up 3D printing labs . . . so that [doctors] can incorporate the process into [their daily] work"); see also Adam Thierer & Adam Marcus, Symposium, *Guns, Limbs, and Toys: What Future for 3D Printing?*, 17 MINN. J.L. SCI. & TECH. 805, 810–12 (2016) (discussing the potential benefits of 3D printing across different industries).

8. *Who Is Cody Wilson, the Man Behind the 3D Printed Gun?*, CNN TECH. (Aug. 1, 2018, 1:01 PM), <https://money.cnn.com/2018/08/01/technology/3d-printed-gun-cody-wilson-defense-distributed/index.html> [https://perma.cc/ZYS5-YZNY]; Jacob Silverman, *A Gun, a Printer, an Ideology*, NEW YORKER (May 7, 2013), <https://www.newyorker.com/tech/elements/a-gun-a-printer-an-ideology> [https://perma.cc/M35X-8GBZ]; Doug Gross, *Video Shows Test Firing of 3D-Printed Handgun*, CNN (May 6, 2013, 7:44 PM), <https://www.cnn.com/2013/05/06/tech/innovation/3d-gun-video/index.html> [https://perma.cc/ZYS5-YZNY].

9. Susannah Cullinane & Doug Criss, *All Your Questions About 3D Guns Answered*, CNN (Aug. 2, 2018, 8:24 AM), <http://www.cnn.com/2018/07/31/us/3d-printed-plastic-guns/index.html> [https://perma.cc/7MT5-Q7V7].

10. Pat Reavy, *Utahn Threatened Mass School Shooting Using 3D-Printed Gun, Police Say*, DESERET NEWS (August 28, 2018, 12:05 PM), <https://www.deseretnews.com/article/900029678/utahn-threatened-mass-school-shooting-using-3d-printed-gun-police-say.html> [https://perma.cc/6ZBA-8Y2M].

11. See Justin Wise, *Utah Man Threatened to Commit Mass School Shooting with 3D-Printed Gun: Police Say*, THE HILL (Aug. 28, 2018, 4:17 PM), <https://thehill.com/blogs/blog-briefing-room/news/404045-utah-man-threatened-to-commit-mass-school-shooting-with-3d> [https://perma.cc/624J-S65K] (reporting that officials seized a 3D-printed gun after reviewing West's communications with a fellow student and charged him for "threat of violence").

12. *Infra* part I.A.

an overview of the organization's legal challenges that began in 2013.¹³ Further, Part I will examine current gun laws in the United States and the regulations applicable to gun sellers and manufacturers.¹⁴ Then, it will analyze prior judicial decisions involving lawsuits between gun manufacturers and sellers.¹⁵ Part II will provide an overview of existing tort laws, mainly focusing on products liability.¹⁶ Part III will use prior judicial decisions to apply current products liability laws to potential claims against commercial sellers like Defense Distributed.¹⁷ Part III goes on to argue that Defense Distributed, as a commercial seller, can be held liable for injuries committed with 3D-printed weapons because the design of the CAD file constitutes a product defect due to its inherently dangerous character. Finally, the conclusion suggests that the federal government should play a central role in enacting legislation that directly addresses the legality and regulation of 3D-printed weapons.¹⁸

I. BACKGROUND

A. *The 3D Printing Process*

The process of 3D printing, otherwise known as additive manufacturing or rapid prototyping, involves building an object by layering many thin sheets of a material, which eventually create the predesigned product.¹⁹ There are many different types of 3D printing processes, but the most common is the Fused Deposition Modelling ("FDM").²⁰ The process is guided by an

13. *Infra* Section I.B.

14. *Infra* Part II.

15. *Infra* Section II.A.

16. *Infra* Part III.

17. *Infra* Part IV.

18. *Infra* Part V. Please note that, aside from where necessary for support and context, this Comment will not analyze Constitutional challenges associated with regulation and liability of 3D printing, nor will it focus on intellectual property concerns. While those issues pose complex and important questions, addressing them thoroughly is beyond the scope of this Comment.

19. *Introduction—What Is 3D Printing?*, 3D PRINTING INDUS., <https://3dprintingindustry.com/3d-printing-basics-free-beginners-guide> [<https://perma.cc/HN3J-7ARS>]. Materials used with an FDM 3D printer are called thermoplastics. While plastics are the most commonly used type of material, many others can be used such as metals, ceramics, paper, bio materials, and others. Materials are often developed for specific applications. Thierer & Marcus, *supra* note 7, at 807–08.

20. Scott J. Grunewald, *What You Need to Know About 3D Printed Guns and Why You Don't Need to Fear Them*, 3D PRINT (June 23, 2016), <https://3dprint.com/139537/3d-printed-guns> [<https://perma.cc/B396-3P3Z>]. For a description of other types of

electronic file called a computer-aided design (“CAD”) file that contains the data that the 3D printer needs to produce the final object.²¹ FDM slices the CAD into thousands of thin layers, which the 3D printer uses to replicate each of the individual pieces on a printing bed.²² Contrary to popular belief, a standard 3D printer does not have the capability to create an object that is composed of multiple parts, such as a gun.²³ Instead, each part must be printed individually and then assembled upon completion.²⁴

The cost of 3D printing has gone down significantly in the last few years, making it more readily available to the general public.²⁵ While this technology has been around since the early 1980s, recent technological developments have greatly expanded its application.²⁶ 3D printing has already had a transformative impact in many different fields, including medicine, food, dental, aerospace, automotive, and others.²⁷ The process simplifies and streamlines manufacturing processes while enabling greater flexibility and easy customization of products at a significantly reduced cost.²⁸ However, 3D printing has also made it possible to print untraceable, un-registerable, plastic weapons without any of the procedural safeguards normally applicable to gun owners in the United States.²⁹

processes, see *3D Printing Processes*, 3D PRINTING INDUS., <https://3dprintingindustry.com/3d-printing-basics-free-beginners-guide> [<https://perma.cc/ZZQ4-UJMZ>].

21. *Introduction—What Is 3D Printing?*, *supra* note 19.

22. *Id.*

23. Grunewald, *supra* note 20.

24. *Id.*

25. In the early 1990s, 3D printers cost as much as \$15,000 or more. *How Much Does a 3D Printer Cost?*, 3D INSIDER, <https://3dinsider.com/cost-of-3d-printer> [<https://perma.cc/ZJD6-423W>]. Today, they range from as little as \$200 up to several thousands. *Id.*; Jordan L. Couch, *Additively Manufacturing a Better Life: How 3D Printing Can Change the World Without Changing the Law*, 51 GONZ. L. REV. 517, 521 (2016).

26. Couch, *supra* note 25, at 520.

27. Thierer & Marcus, *supra* note 7, at 811–12 (discussing the benefits of 3D printing across different industries); see also James M. Beck & Matthew D. Jacobson, *3D Printing: What Could Happen to Products Liability When Users (and Everyone Else in Between) Become Manufacturers*, 18 MINN. J.L. SCI. & TECH. 143, 151–52 (2017) (discussing how doctors can customize medical devices so that they perfectly match patients’ needs and improve surgical outcomes).

28. *Global Effects*, 3D PRINTING INDUS., <https://3dprintingindustry.com/3d-printing-basics-free-beginners-guide#06-global-effects> [<https://perma.cc/LWM4-FY2D>]. Companies like Shapeways allow users to upload their own designs while Shapeways will print, market, and deliver the products to the users. SHAPEWAYS, <https://www.shapeways.com/create> [<https://perma.cc/XAV7-CZHK>].

29. Rory K. Little, Symposium, *The Legal Dimension of 3D Printing: Guns Don’t Kill People, 3D Printing Does? Why the Technology Is a Distraction from Effective Gun Controls*, 65

The 3D printing process has become more user-friendly in the last few years. Currently, users can choose between designing their own model or downloading an existing design in a few quick steps.³⁰ Companies like MakerBot provide free software that users can download and use to customize their own 3D prints; alternatively, users can choose from over 1.7 million 3D models already available on Thingiverse, MakerBot's online design platform.³¹ Among MakerBot's 1.7 million designs, users can find models to print a variety of items such as a toothbrush holder, a coaster, a children's toy, an iPhone case, and many others, but the company has a strict policy against uploading any design that "contributes to the creation of weapons."³²

B. Defense Distributed and 3D Printing Litigation

Cody Wilson founded Defense Distributed in 2012 as an organization "dedicated to the advancement of American gunsmithing and the expansion of the Second Amendment."³³ In line with this vision, Wilson set out to design the world's first printable firearm and make the CAD files available for download to the public.³⁴ In 2013, Wilson revealed the

HASTINGS L.J. 1505, 1510 (2014); Caitlyn R. McCutcheon, Note, *Deeper Than a Paper Cut: Is It Possible To Regulate Three-Dimensionally Printed Weapons or Will Federal Gun Laws Be Obsolete Before the Ink Has Dried?*, 14 U. ILL. J.L. TECH. & POL'Y 219, 221 (2014).

30. *About MakerBot 3D Printing*, MAKERBOT, <https://www.makerbot.com/about-us> [<https://perma.cc/GQ7C-8N2Y>]; *Applications*, 3D PRINTING INDUS., <https://3dprintingindustry.com/3d-printing-basics-free-beginners-guide#08-applications> [<https://perma.cc/H36D-T9U4#05-materials>].

31. *MakerBot Apps*, MAKERBOT, <https://www.makerbot.com/3d-printers/apps> [<https://perma.cc/MX62-GZUJ>]; THINGIVERSE, <https://www.thingiverse.com/explore/newest/3d-printing> [<https://perma.cc/MK8E-YA73>].

32. *MakerBot Terms of Use*, MAKERBOT, <https://www.makerbot.com/legal/terms> [<https://perma.cc/VYG3-262W>].

33. *U.S. Judge Temporarily Blocks Release of Blueprints for 3D-Printed Guns*, NEWSTALK (Aug. 1, 2018), <https://www.newstalk.com/news/us-judge-temporarily-blocks-release-of-blueprints-for-3dprinted-guns-500682> [<https://perma.cc/FE2D-GL7L>]. In December 2012, after MakerBot Industries removed all firearms-related 3D-printable files from the crowdsourcing website Indiegogo for violating its terms of service, Defense Distributed set up a companion website, DEFCAD.com, where it could host the files on its own. DEFCAD became Defense Distributed's "marketplace." The website is now password protected and Defense Distributed is actively pursuing litigation to allow public access to the files. *Defcad*, DEFCAD, <https://defcad.com/> [<https://perma.cc/MU6L-H54Y>].

34. Andy Greenberg, 'Wiki Weapon Project' Aims to Create a Gun Anyone Can 3D-Print at Home, FORBES (Aug. 23, 2012, 9:00 AM), <https://www.forbes.com/sites/andygreenberg/2012/08/23/wiki-weapon-project-aims-to-create-a-gun-anyone-can-3d-print-at-home> [<https://perma.cc/78B4-9DMZ>] (quoting a statement by Wilson: "Every citizen has the right to bear arms. This is the way to really lower the barrier to access to arms. That's what this represents. . . . If a gun's any good, it's lethal. It's not really a gun if it can't threaten to kill someone"); *see also* Fidel Martinez, *Indiegogo Shuts*

“Liberator,” the first fully functional gun assembled entirely from parts printed with a 3D printer, with the exception of the metal firing pin.³⁵

The release of the Liberator prompted concern among policy and legal circles.³⁶ Just a few days following its release, the State Department Office of Defense Trade Control Compliance sent a letter to Wilson asking him to take down the files, citing concerns over possible arms export violations.³⁷ Specifically, the State Department said that by releasing the blueprints online and allowing them to be downloaded outside of the United States, Defense Distributed may have released technical data controlled by the International Traffic in Arms Regulations (“ITAR”).³⁸ Wilson complied

Down Campaign to Develop World’s First Printable Gun, DAILY DOT (last updated Feb. 3, 2019, 2:22 AM), <https://www.dailydot.com/news/indiegogo-3d-printed-gun-campaign> [<https://perma.cc/MKRS-QMXA>] (detailing Defense Distributed’s efforts to raise capital to afford developing its prototype).

35. Gross, *supra* note 8; Silverman, *supra* note 8.

36. Bob Fredericks, *Dems Introduce Law to Block Publication of 3-D Printed Gun Blueprints*, N.Y. POST (Aug. 3, 2018), <https://nypost.com/2018/08/03/dems-introduce-law-to-block-publication-of-3-d-printed-gun-blueprints> [<https://perma.cc/66DR-VQ76>] (“The idea of untraceable, undetectable guns available to anyone, even violent criminals and domestic abusers, with the click of a mouse is utterly terrifying. . . . This isn’t about freedom of information; this is about our national security and our public safety.”); *see also* Deanna Paul, Meagan Flynn & Katie Zezima, *Federal Judge Blocks Posting of Blueprints for 3-D-Printed Guns Hours Before They Were to Be Published*, WASH. POST (July 31, 2018) https://www.washingtonpost.com/news/morning-mix/wp/2018/07/31/in-last-minute-lawsuit-states-say-3-d-printable-guns-pose-national-security-threat/?utm_term=.96b6ebdf1641 [<https://perma.cc/YXZ8-KKYG>] (quoting New York Attorney General Barbara Underwood’s reaction to a nationwide temporary restraining order as “a major victory for common sense and public safety”). Some states have proposed bills that would require owners to register a 3D gun similarly as would be required for registering a regular weapon, but none have become law as of this writing. Simon Van Zulylen-Wood, *Philly Becomes First City to Ban 3-D Gun Printing*, PHILA. MAG. (Nov. 21, 2013), <https://www.phillymag.com/news/2013/11/21/philly-becomes-first-city-ban-3-d-gun-printing>; Cyrus Farivar, *New NYC Bill Would Require 3D Printed Guns to Be Registered with Police*, ARS TECHNICA (June 13, 2013), <https://arstechnica.com/tech-policy/2013/06/new-nyc-bill-would-require-3d-printed-guns-to-be-registered-with-police> [<https://perma.cc/3WH9-Z2PE>]; *see also* Jana Winter, *Homeland Security Bulletin Warns 3D-Printed Guns May Be ‘Impossible’ to Stop*, FOX NEWS (Dec. 1, 2015) <http://www.foxnews.com/us/2013/05/23/govt-memo-warns-3d-printed-guns-may-be-impossible-to-stop.html> [<https://9CL6-XQ5T>] (discussing how the Department of Homeland Security circulated a bulletin among law enforcement officials to explain that legislation can only slow, not halt, production of 3D-printed weapons).

37. For the original letter, see Glenn E. Smith, *Letter from Department of State to Defense Distributed*, WIKISOURCE (May 8, 2013), <https://en.wikipedia.org/wiki/File:Letter-from-Department-of-State-to-Defense-Distributed.pdf> [<https://perma.cc/UC4T-TJ56>].

38. *Id.* 22 C.F.R. §§ 120–30 (2019). Section 38 of the Arms Export Control Act (AECA) authorizes the President to control the export and import of defense articles and

and removed the files from the company servers but could not minimize public access to online content.³⁹

In 2015, Wilson and the Second Amendment Foundation⁴⁰ sued the federal government for violating Wilson's First and Second Amendment rights.⁴¹ The complaint alleged that the State Department's interpretation of the Arms Export Control Act ("AECA") unconstitutionally restrained free speech and sought a preliminary injunction to prevent the government from requiring Defense Distributed to undergo any approval requirements prior to releasing the files online.⁴² The government maintained that allowing for unrestricted distribution of technical data that allows for production of weapons and their components using a 3D

services. These designated items and articles of equivalent performance capabilities are recorded on the United States Munitions List. 22 U.S.C. § 2778 (2012); DIRECTORATE OF DEF. TRADE CONTROLS (DDTC), *The International Traffic in Arms Regulations (ITAR)*, https://www.pmdtc.state.gov/ddtc_public?id=ddtc_public_portal_itar_landing [<https://perma.cc/TW4E-6RKL>]. Following the release of the blueprints, "the federal government had taken the position that . . . AECA authorizes restrictions on the internet publication of CAD data files that would allow [for 3D-printing of guns] and their components." *Washington v. U.S. Dep't of State*, 318 F. Supp. 3d 1247, 1251 (W.D. Wash. 2018). DDTC explained that releasing the files online "constituted a disclosure or transfer of technical data to foreign persons and was considered an 'export' subject to the AECA and ITAR." *Id.* at 1252.

39. See Andy Greenberg, *3D-Printed Gun's Blueprints Downloaded 100,000 Times in Two Days (With Some Help from Kim Dotcom)*, FORBES (May 8, 2013, 5:12 PM), <https://www.forbes.com/sites/andygreenberg/2013/05/08/3d-printed-guns-blueprints-downloaded-100000-times-in-two-days-with-some-help-from-kim-dotcom> [<https://perma.cc/S7LL-ZE58>] (identifying Wilson's blueprint as one of "the most popular files in the site's 3-D printing category"). In the past, the group had posted CAD files for particular components of a gun, such as the magazine for an AK-47 and the body of an AR-15. *Id.*

40. The Second Amendment Foundation is a non-profit committed to protecting Americans' "right to keep and bear arms, through its publications, public education programs and legal action." *What Is the Second Amendment Foundation?* SECOND AMENDMENT FOUND., <https://www.saf.org/frequently-asked-questions> [<https://perma.cc/E69J-PFLC>].

41. *Def. Distributed v. U.S. Dep't of State*, 121 F. Supp. 3d 680, 688, 696 (W.D. Tex. 2015) (finding that the plaintiffs had not "shown a likelihood of success" on the merits of any of their constitutional claims), *aff'd*, 838 F.3d 451 (5th Cir. 2016). See generally Deanna Paul, *Meet the Man Who Might Have Brought on the Age of Downloadable Guns*, WASH. POST (July 18, 2018), <https://www.washingtonpost.com/news/post-nation/wp/2018/07/18/meet-the-man-who-wants-to-bring-on-the-age-of-downloadable-guns-and-may-have-already-succeeded> [<https://perma.cc/QR4W-SJ8B>] (chronicling Wilson's creation of a printable gun).

42. See *Def. Distributed v. U.S. Dep't of State*, 838 F.3d 451, 453 (5th Cir. 2016) (holding that the district court did not abuse its discretion by finding that the public interest in national security outweighs Defense Distributed's right to free speech and affirming the denial of the plaintiffs' request for a preliminary injunction).

printer was contrary to the government's efforts to combat terrorism and protect national security.⁴³

After three years of litigation, the Trump administration settled the case in June 2018.⁴⁴ The parties entered into an agreement whereby the government agreed to revise the United States Munitions List ("USML") to allow for unlimited distribution of CAD files for the automated production of 3D-printed weapons and to issue a public letter stating that the files are approved for public distribution and release.⁴⁵ Defense Distributed was scheduled to "reopen" its website for business on August 1, 2018.⁴⁶ However, in response to the settlement, eight attorneys general sued to stop Defense Distributed from making the blueprints available on the internet, arguing that the State Department violated the states' Tenth Amendment constitutional right to make and enforce their own gun laws.⁴⁷ Further, the states argued that they would suffer irreparable injury if the files in question were released to the public, citing concerns over national security.⁴⁸ Judge Robert S. Lasnik of the federal

43. *Id.* The government opposed the motion and argued that the (1) distribution of the files could cause serious harm to national security, hurt U.S. foreign policy, and "warrants subjecting [the files] to ITAR's export licensing of technical data" (2) and further argued that the "CAD files constitute[d] the functional equivalent of defense articles: capable . . . of 'automatically' generating a lethal firearm that can be easily modified to be virtually undetectable in metal detectors and other security equipment," (3) that the "technology could be used in an assassination, for the manufacture of spare parts by embargoed nations, terrorist groups . . . or to compromise aviation security . . . [,]" and (4) both the government and the public have a strong interest in protecting national security and foreign policy interests. *Washington v. U.S. Dep't of State*, 315 F. Supp. 3d 1202, 1204 (W.D. Wash. 2018).

44. David Sherfinski, *Gun Company Wins Legal Fight to Post 3D Printable Gun Plans Online*, WASH. TIMES (July 22, 2018), <https://www.washingtontimes.com/news/2018/jul/22/defense-distributed-wins-settlement-can-post-firea> [<https://perma.cc/VE46-KHNS>].

45. *Washington*, 315 F. Supp. at 1203. Additionally, the government agreed to pay a significant portion of the plaintiffs' attorneys' fees, and to return \$10,000 that the Defense Distributed paid in registration fees. *Id.*; see also DOJ, *SAF Reach Settlement in Defense Distributed Lawsuit*, SECOND AMENDMENT FOUND., <https://www.saf.org/doj-saf-reach-settlement-in-defense-distributed-lawsuit> [<https://perma.cc/KG77-CX7J>] (noting that non-automatic firearms up to .50-caliber are not inherently military).

46. Andy Greenberg, *The Last-Ditch Legal Fight to Stop 3-D Printed Guns*, WIRED (July 31, 2018, 10:50 AM), <https://www.wired.com/story/legal-fight-stop-3d-printed-guns-defense-distributed> [<https://perma.cc/2TQU-W6ED>].

47. See *id.*

48. *Washington*, 315 F. Supp. 3d at 1206. In response to the defendant's argument that the States would not be harmed because the United States is still committed to enforcing the UFA, the majority stated in dicta that

it is of small comfort to know that once an undetectable firearm has been used to kill a citizen of Delaware . . . the federal government will seek to prosecute

district court in Seattle agreed and granted a preliminary injunction, temporarily blocking the release of the files pending the outcome of the attorneys' general lawsuit.⁴⁹ Because the injunction only prevented Defense Distributed from posting the files online for free, the company began selling them instead, bypassing the order.⁵⁰

C. *Gun Laws in the United States*

Federal and state laws and regulations govern firearms production, sale, ownership, and distribution.⁵¹ On a federal level, the Bureau of Alcohol, Tobacco, Firearms and Explosives ("ATF") oversees and regulates firearms, including the enforcement of the Gun Control Act of 1968 ("GCA") and the National Firearms Act of 1934 ("NFA").⁵² The ATF also issues licenses

a weapons charge in federal court, while the State pursues a murder conviction in state court. The very purpose . . . is to arm every citizen outside of the government's traditional control mechanisms It is untraceable and undetectable nature of these small firearms that poses a unique danger.

Id. at 1263.

49. Tiffany Hsu & Alan Feuer, *A Rush to Block Downloadable Plans for 3-D Printed Guns*, N.Y. TIMES (July 30, 2018), <https://www.nytimes.com/2018/07/30/business/downloadable-blueprints-printable-guns.html> [<https://perma.cc/9RTB-VX6M>]. Subsequently, ten more attorneys general joined the lawsuit, arguing that 3D-printed guns are impossible to trace and constitute a threat to national security. The original order issued on July 31, 2018 was extended until the lawsuit is resolved. See Tiffany Hsu, *3-D Printed Gun Plans Must Stay Off Internet for Now, Judge Rules*, N.Y. TIMES (Aug. 27, 2018), <https://www.nytimes.com/2018/08/27/business/3-d-printed-gun-cody-wilson.html> [<https://perma.cc/Y4GB-TCQT>] (discussing the lawsuit).

50. *Homepage*, DEF. DISTRIBUTED, <https://defcad.com> [<https://perma.cc/5GBF-RYXR>]. Formerly, on its homepage, Defense Distributed gave the user an option to "discover," "buy," or "contribute." A registered user could purchase a file or submit his own design. However, as of June 2019, the website is password protected and requires a subscription to access. *Id.*; see also *Cody Wilson Speaks Out on Selling Blueprints for 3D-Printed Guns After Court Order*, CBS NEWS (Aug. 29, 2018, 08:09 AM), <https://www.cbsnews.com/news/cody-wilson-founder-of-defense-distributed-speaks-out-on-court-order-banning-3d-printed-gun-blueprints-from-being-posted-online> [<https://perma.cc/C7KM-DYNK>] (discussing the developments in the case and quoting Wilson: "I could always . . . sell these files. And I'll continue to do so").

51. *Data & Statistics*, THE BUREAU OF ALCOHOL, TOBACCO, FIREARMS & EXPLOSIVES, <https://www.atf.gov/resource-center/data-statistics> [<https://perma.cc/3Y6F-BESA>] [hereinafter ATF].

52. *Id.*; Thierer & Marcus, *supra* note 7, at 831.

and sets rules and requirements for obtaining a Federal Firearms License.⁵³ 3D-printed guns are not currently subject to regulation.⁵⁴

No federal law specifically regulates 3D-printed guns or the process of 3D printing a firearm, but two existing pieces of legislation may cover this new way of manufacturing firearms: the Undetectable Firearms Act of 1988 (“UFA”),⁵⁵ and the GCA.⁵⁶ The UFA states that it is unlawful for anyone to “manufacture, import, sell, ship, deliver, possess, transfer, or receive any firearm” that cannot be detected by walk-through metal detectors⁵⁷ and requires that all firearms contain a minimum of 3.7 ounces of metal so that they can be detected by standard metal detectors.⁵⁸

In the United States, anyone may lawfully make their own firearm as long as it is for personal use. However, a person wishing to manufacture a firearm for sale or distribution must obtain a license.⁵⁹ Additionally, the GCA requires that firearms have a serial number that can be used to trace the weapon and that the purchaser undergoes a background check.⁶⁰ The Act also imposes restrictions on sellers of firearms, prohibiting them from selling a weapon to certain classes of individuals,

53. *Listing of Federal Firearms Licensees*, ATF, <https://www.atf.gov/firearms/listing-federal-firearms-licensees> [<https://perma.cc/D5VC-XQ66>].

54. Vicky A. Bufano, *3D-Printed Guns: Regulations and Legal Implications*, IN PUBLIC SAFETY (Sept. 17, 2018), <https://inpublicsafety.com/2018/09/3d-printed-guns-regulations-and-legal-implications> [<https://perma.cc/AL6E-XQHR>].

55. 18 U.S.C. § 922(p) (2012).

56. 18 U.S.C. § 921 (2012). Under the GCA, a person “engaged in the business” of manufacturing is defined as one “[w]ho devotes time, attention, and labor to manufacturing firearms as a regular course of trade or business with the principal objective of livelihood and profit through the sale or distribution of the firearms manufactured” *See id.* § 921(a)(21)(A).

57. § 922(p)(1)(A); *Is a Firearm Illegal if it Is Made of Plastic?*, ATF, <https://www.atf.gov/firearms/qa/firearm-illegal-if-it-made-plastic> [<https://perma.cc/JVX9-AGEF>].

58. 18 U.S.C. §§ 922(p)(1)(A), 922(p)(2)(C) (2012).

59. 18 U.S.C. § 923 (a), (d) (2012); 26 U.S.C. § 5822 (2012); 2626 U.S.C. § 5841 (2012); *Does an Individual Need a License to Make a Firearm for Personal Use?*, ATF, <https://www.atf.gov/firearms/qa/does-individual-need-license-make-firearm-personal-use?> [<https://perma.cc/5H3V-DSUC>]. As of 2013, Cody Wilson possesses a Type 7 federal firearms license. Cyrus Farivar, *3D-Printed Gun Maker Now Has Federal Firearms License to Manufacture, Deal Guns*, ARS TECHNICA (Mar. 17, 2013, 9:00 AM), <https://arstechnica.com/tech-policy/2013/03/3d-printed-gunmaker-now-has-federal-firearms-license-to-manufacture-deal-guns> [<https://perma.cc/D3Q8-CF76>]; *see also Federal Firearms Listings*, ATF, <https://www.atf.gov/firearms/listing-federal-firearms-licensees> [<https://perma.cc/JQQ7-6H9Q>] (defining a Type 7 license as “Manufacturer of Firearms Other Than Destructive Devices” of the 11 types listed).

60. 18 U.S.C. § 922.

such as convicted felons and mentally ill persons.⁶¹ These safeguards, however flawed, allow the federal government to regulate firearms, but none are currently applicable to 3D-printed guns.⁶²

D. Judicial Decisions Involving Liability of Gun Manufacturers and Sellers

Gun manufacturers⁶³ in the United States are generally protected from liability when a person commits a crime with their product.⁶⁴ The Protection of Lawful Commerce in Arms Act of 2005 (“PLCAA”) protects gun manufacturers from any civil action “resulting from the criminal or unlawful misuse” of a firearm or ammunition.⁶⁵ However, manufacturers can be held liable for damages in six exceptions, including the following: (1) when a defective product caused the injury; (2) for breach of contract; (3) for criminal misconduct; and (4) when manufacturers had reason to know that a gun was intended for use in a crime, in which case, they may be liable for negligent entrustment⁶⁶ or negligence per se.⁶⁷ In general, courts do not find gun manufacturers liable for injuries

61. *Id.* § 922 (d).

62. *See What Say Does ATF Have in Technology Used to Produce Firearms?*, ATF, <https://www.atf.gov/firearms/qa/what-say-does-atf-have-technology-used-produce-firearms> [<https://perma.cc/48MZ-GT3E>] (stating that ATF does not limit technology or processes that may be used to produce firearms). *See generally* Bryan Schatz, *I Built This AK-47. It’s Legal and Totally Untraceable*, MOTHER JONES (May 23, 2013, 10:00 AM), <https://www.motherjones.com/politics/2013/05/ak-47-semi-automatic-rifle-building-party> [<https://perma.cc/H3TZ-NW4U>] (describing how to build an untraceable AK-47 with a 3D printer).

63. The term “manufacturer” means “[a]ny person engaged in the business of manufacturing firearms or ammunition for purposes of sale or distribution” 18 U.S.C. § 921(a)(10) (2012).

64. 15 U.S.C. § 7901 et seq. (2012); *see, e.g.*, *Camden Cty. Bd. of Chosen Freeholders v. Beretta*, 273 F.3d 536, 541–42 (3d Cir. 2001) (dismissing the plaintiff’s public nuisance claim against a gun manufacturer and concluding that the defendant did not exercise control of the nuisance, which is a required element of a nuisance claim); *Young v. Bryco Arms*, 821 N.E.2d 1078, 1092 (Ill. 2004) (declining to hold defendant gun manufacturers liable for allegedly intentionally creating and maintaining an illegal gun market by oversupplying certain areas with handguns). *See generally A Comprehensive Approach to Preventing Gun Violence*, BRADY CAMPAIGN TO PREVENT GUN VIOLENCE, <https://brady-static.s3.amazonaws.com/globals/BradyPolicyApproach.pdf> [<https://perma.cc/UV5A-GZ7R>] (providing an outline of potential gun law legislation).

65. 15 U.S.C. §§ 7902(a), 7903(4)–(5)(A) (2012).

66. *See id.* § 7903(5)(A). The PLCAA defines “negligent entrustment” as the “[s]upplying of a qualified product by a seller for use by another person when the seller knows, or reasonably should know, the person to whom the product is supplied is likely to, and does, use the product in a manner involving unreasonable risk of physical injury to the person or others.” *Id.* § 7903(5)(B).

67. *Id.* § 7903(5)(A)(ii).

caused by criminal misuse of their products unless the product was defective in some way when it left the hands of the manufacturer.⁶⁸

In rare cases, courts may be able to hold gun manufacturers strictly liable for defects in their products that make the products unreasonably dangerous to foreseeable users.⁶⁹ In *LeMaster v. Glock, Inc.*,⁷⁰ the appellate court reversed summary judgment in favor of the defendant gun manufacturer and held that questions of fact existed as to whether the lack of an external safety device was a product defect that caused the decedent's death.⁷¹ The court expressly rejected the trial court's conclusion that since the gun performed as intended, and as such, was dangerous by its very nature, the gun was not defective.⁷² Further, the court held that the question of proximate cause should have been left up to the jury to decide because "[t]he danger of an individual being shot by someone inadvertently putting pressure on a gun's trigger would not be a remote possibility."⁷³ Similarly, in *Smith v. Bryco Arms*,⁷⁴ the appellate court held that the trial court erred in entering summary judgment in favor of the defendant gun manufacturer and concluded that the lack of a safety device, a mechanism that prevents accidental discharge of a firearm, may constitute a product defect.⁷⁵ In *Smith*, the plaintiff, a teenage boy, accidentally shot a friend when the plaintiff thought the gun was unloaded and subsequently sued the gun manufacturer under

68. See, e.g., *McCarthy v. Olin Corp.*, 119 F.3d 148, 155, 157 (2d Cir. 1997) (holding that the bullet manufacturer could not be held liable under strict liability theories because bullets were not defective, nor were they unreasonably dangerous for their intended purpose); *Perkins v. F.I.E. Corp.*, 762 F.2d 1250, 1252, 1266-68 (5th Cir. 1985) (holding that marketing handguns to the public is not an ultrahazardous activity); *Armijo v. Ex Cam, Inc.*, 656 F. Supp. 771, 773-74 (D.N.M. 1987) (concluding that gun manufacturer cannot be held strictly liable unless the gun malfunctions); *Halliday v. Sturm, Ruger & Co.*, 792 A.2d 1145, 1147-48, 1158 (Md. 2002) (holding that the gun manufacturer was not liable when child shot himself with his father's gun because the handgun did not malfunction and the manufacturer adhered to proper safety standards).

69. *LeMaster v. Glock, Inc.*, 610 So. 2d 1336, 1336, 1338-39 (Fla. Dist. Ct. App. 1992); *K-Mart Enters. of Fla., Inc. v. Keller*, 439 So. 2d 283, 283-88 (Fla. Dist. Ct. App. 1983); *Smith v. Bryco Arms*, 33 P.3d 638, 650 (N.M. Ct. App. 2001).

70. 610 So. 2d 1336 (Fla. Dist. Ct. App. 1992).

71. *Id.* at 1338 (stating that "[w]hen there is evidence that the absence of a safety feature is a defect in a product, summary judgment for the defendant is inappropriate").

72. *Id.* at 1337-38.

73. *Id.* at 1338.

74. 33 P.3d 638 (N.M. Ct. App. 2001).

75. *Id.* at 650. The court noted that "[w]hether a product is unreasonably dangerous, and therefore defective, is ordinarily a question for the jury." *Id.* at 644.

negligence and strict liability theories.⁷⁶ The complaint alleged that the manufacturer was strictly liable under the design defect theory of products liability because the gun did not have a usable safety device that would have prevented his friend's injuries and the gun contained inadequate warnings.⁷⁷ The court allowed both claims to go forward, noting that gun manufacturers, like all other suppliers, are responsible for "risks arising from foreseeable uses of the product, including reasonably foreseeable unintended uses and misuses."⁷⁸

Under the GCA, firearm dealers can be held liable for selling firearms to convicted felons, persons with mental illness, foreign nationals unlawfully present in the United States, and several other restricted classes of persons.⁷⁹ In *K-Mart Enterprises of Florida, Inc. v. Keller*,⁸⁰ the court held that the retail seller was liable for selling a firearm to a purchaser who was both a convicted felon and a habitual drug user.⁸¹ Further, the court concluded that the purchaser's entrustment of the firearm to his brother, who struggled with substance abuse and ultimately shot a police officer, was not an intervening cause that cut off the seller's liability.⁸²

Federal law largely protects gun manufacturers from liability stemming from misuse of their products, but this protection is not unlimited. Manufacturers can still be liable if a gun contained a warning, manufacturing, or a design defect when it left the hands of the company.⁸³ Most notably, in cases where the gun manufacturer failed to incorporate a safety feature that would have made the gun safer, courts are more inclined to impose liability based on the design defect theory of products liability.⁸⁴

76. *Id.* at 641–42.

77. *Id.* at 642.

78. *Id.* at 645 (stating further that "[m]isuse of a product is not of necessity fatal to a products liability cause of action. . . . [D]uty imposed on manufacturers and suppliers of products to use ordinary care includes a duty to consider risks of injury created by foreseeable misuse of the product"); *see also* *Fluor Corp. v. Jeppesen & Co.*, 216 Cal. Rptr. 68, 74 (Cal. Ct. App. 1985) (noting that "a manufacturer is required to 'foresee some degree of misuse and abuse of his product . . . and to take reasonable precautions to minimize the harm that may result from misuse and abuse'" (quoting *Self v. Gen. Motors Corp.*, 116 Cal. Rptr. 575, 579 (Cal. Ct. App. 1974))).

79. 18 U.S.C. § 922(d) (2012).

80. 439 So. 2d 283 (Fla. Dist. Ct. App. 1983).

81. *Id.* at 285–86 (holding that the jury could have found that the shooting was exactly the type of risk the Gun Control Act was designed to prevent).

82. *Id.* at 285, 287.

83. *See supra* note 68 and accompanying text.

84. *LeMaster v. Glock, Inc.*, 610 So. 2d 1336, 1339 (Fla. Dist. Ct. App. 1992) (reversing and remanding the case after stating that if the gun at issue had included a safety in its design, the safety would have been engaged, thus potentially avoiding an

II. TRADITIONAL TORT LAW

Rapid technological advancements, such as development of 3D-printing technologies, are likely to necessitate a change in existing legal frameworks. One of the areas where 3D printing is likely to have the biggest impact is tort liability because the technology is changing the established dynamics between sellers, purchasers, and distributors.⁸⁵ For starters, with respect to 3D-printed products, the courts will have to decide who the “manufacturers” and “sellers” are, what the “product” is, and whether the manufacturer or seller can be liable for an accident involving the product.⁸⁶

A. *Products Liability*

“Products liability” is the umbrella term for the liability of a manufacturer, seller, or supplier of defective products to the person injured by the product.⁸⁷ Liability may stem from a manufacturer or supplier’s negligence or strict liability in tort.⁸⁸ Under the doctrine of strict liability, liability stems not from carelessness or negligence but from the very decision to conduct the activity in the first place.⁸⁹ The doctrine

accidental discharge); *Smith v. Bryco Arms*, 33 P.3d 638, 650 (N.M. Ct. App. 2001) (reversing and remanding the case for a jury to decide if defendant was negligent in failing to adopt a product design, which would have included additional safety features that could have prevented the foreseeable, unintended shooting accident).

85. Beck, *supra* note 27, at 147–48 (arguing that tort law will need to change “in order to continue to maintain its relevance,” in light of the development of 3D printing); Shen Wang, Comment, *When Classical Doctrines of Products Liability Encounter 3D Printing: New Challenges in the New Landscape*, 16 HOUS. BUS. & TAX L.J. 104, 106–07 (2016) (discussing the impact of 3D printing on various legal fields and the potential ambiguity of the identities of market actors that could follow from the increased use of 3D printing technology).

86. Beck, *supra* note 27, at 147–48; Eric Lindenfeld, *3D Printing of Medical Devices: CAD Designers as the Most Realistic Target for Strict, Product Liability Lawsuits*, 85 UMKC L. REV. 79, 91 (2016) (discussing the difficulties in applying traditional tort law to claims related to 3D printing of medical devices).

87. VICTOR E. SCHWARTZ ET AL., PROSSER, WADE, AND SCHWARTZ’S TORTS, CASES AND MATERIALS, 767 (13th ed. 2015). See generally Life Sciences Health Industry Group, *3D Printing of Medical Devices: When a Novel Technology Meets Traditional Legal Principles*, REED SMITH 1, 15–18 (2015), http://www.reedsmith.com/files/Publication/130448b9-7565-4295-a697-5c5d7c6eb516/Presentation/PublicationAttachment/9ba9b53c-2009-488d-ba91-5cc5a19a38f7/3d-printing-white-paper_79444049.pdf [<https://perma.cc/2FH7-546E>] [hereinafter “Life Sciences”] (highlighting 3-D printing and its legal challenges).

88. SCHWARTZ, *supra* note 87, at 767.

89. The doctrine traces back to *Rylands v. Fletcher*, 1 L.R. -Ex. 265, 265 (1866):
We think that the true rule of law is that the person who for his own purposes brings on his lands and collects and keeps there any thing likely to do mischief

has its basis in policy: society mandates that when an actor chooses to engage in hazardous activities, not only must he act with due care, but he also has a duty to prevent injury and should bear the burden of any resulting injuries.⁹⁰ The doctrine is often referred to as “absolute liability” because the actor may be liable regardless of fault.⁹¹ Courts have generally categorized strict liability claims as either design, warning, or manufacturing defects.⁹² The doctrine of strict liability applies only to commercial sellers who introduce a defective “product” into the stream of commerce.⁹³

1. *What is a “product?”*

The *Restatement (Third) of Torts* defines a “product” as “tangible personal property,” but whether something is tangible is not determinative of whether it would qualify as a product for purposes of products liability.⁹⁴ Courts have held that a number of non-tangible items, such as electricity and aeronautical charts, are products.⁹⁵ In

if it escapes, must keep it in at his peril, and if he does not do so, is prima facie answerable for all the damage which is the natural consequence of its escape. Not all, but the majority of jurisdictions follow the rule from *Rylands*. SCHWARTZ, *supra* note 87, at 746.

90. *Greenman v. Yuba Power Prods., Inc.*, 377 P.2d 897, 901 (Cal. 1963) (en banc) (holding that by placing the product on the market, a manufacturer becomes strictly liable for a defect in the product that causes injury to the consumer); RESTATEMENT (SECOND) OF TORTS § 519, cmt. *d* (AM. LAW INST. 1965).

91. SCHWARTZ, *supra* note 87, at 733. Because an actor may be liable without fault, many in the legal community have expressed views that strict liability goes against the fundamental notions of fairness and the generally accepted standard that a guilty person must either have a “guilty mind” or is somehow at fault, usually through negligence. For one view of why the courts should abandon strict liability, see Alan Schwartz, *The Case Against Strict Liability*, 60 *FORDHAM L. REV.* 819, 821 (1992) (arguing that basic assumptions underlying strict liability law are incorrect).

92. SCHWARTZ, *supra* note 87, at 787–88; Lindenfeld, *supra* note 86, at 88.

93. SCHWARTZ, *supra* note 87, at 788. See generally Nora Freeman Engstrom, *3-D Printing and Product Liability: Identifying the Obstacles*, 162 *U. PA. L. REV. ONLINE* 35, 38 (2013) (presenting the obstacles and legal challenges posed by 3-D printing and strict liability).

94. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. 19(a) (AM. LAW INST. 1998); Lindenfeld, *supra* note 86, at 98–99; Life Sciences, *supra* note 87, at 16.

95. See *Brocklesby v. United States*, 767 F.2d 1288, 1295 (9th Cir. 1985) (holding that an aeronautical chart was a defective product for products liability purposes); *Saloomy v. Jeppesen & Co.*, 707 F.2d 671, 676–77 (2d Cir. 1983) (stating that navigational charts are products under the Restatement (Second) of Torts and requiring the defendant to bear the costs of proximately caused accidents); *Bryant v. Tri-County Elec. Membership Corp.*, 844 F. Supp. 347, 352 (W.D. Ky. 1994) (concluding that ordinary electricity is a product); *Hous. Lighting & Power Co. v. Reynolds*, 765 S.W.2d 784, 785 (Tex. 1988) (holding that electricity is a product

Brocklesby v. United States,⁹⁶ the court found that aeronautical charts that graphically depict instrument approach information for airplanes are “products” for purposes of products liability law.⁹⁷ Similarly, in *Aetna Casualty & Surety Co. v. Jeppesen & Co.*,⁹⁸ the court held that the defendant, Jeppesen, was strictly liable for publishing a defective instrument approach chart and that the defect was the proximate cause of the plane crash that killed decedents.⁹⁹

Numerous courts have found that electricity becomes a “consumable product” for purposes of strict liability once it is “sold” into the stream of commerce.¹⁰⁰ In *Ransome v. Wisconsin Electric Power Co.*,¹⁰¹ the court held the defendant electric company liable because the electricity was defective when it left the hands of the defendant because the voltage was too high, making it unreasonably dangerous for customer use in a residential home.¹⁰² Specifically, the electricity had a voltage between 1000 and 4000 volts when it was “sold,” whereas 120 to 240 volts was the voltage normally distributed to residential consumers.¹⁰³ Similarly, in *Bryant v. Tri-County Electric Membership Corp.*,¹⁰⁴ the court concluded

because it can be manufactured, transported, and sold in the stream of commerce); *Ransome v. Wis. Elec. Power Co.*, 275 N.W.2d 641, 648–49 (Wis. 1979) (stating that the company supplying the electricity can be held liable if the electricity was unreasonably dangerous when it left the seller’s hands); Lindenfeld, *supra* note 86, at 91.

96. 767 F.2d 1288, 1296 (9th Cir. 1985) (concluding that “Jeppesen’s chart was a ‘product in a defective condition unreasonably dangerous to the user’ within the meaning of section 402A(1)”).

97. *Id.* at 1292, 1296. Instrument approach charts are printed charts of instrument approach procedures that pilots use to safely navigate the plane. These procedures are published by the Federal Aviation Administration, military services, and other organizations. See *Equipment and Performance Requirement Notes on Instrument Approach Procedures*, AIRCRAFT OWNERS & PILOTS ASS’N, <https://www.aopa.org/advocacy/airports-and-airspace/navigation-and-charting/instrument-approach-procedures> [<https://perma.cc/UQ8Q-K24A>].

98. 642 F.2d 339 (9th Cir. 1981).

99. *Id.* at 341–43.

100. *Bryant v. Tri-County Elec. Membership Corp.*, 844 F. Supp. 347, 352 (W.D. Ky. 1994); *Pierce v. Pac. Gas & Elec. Co.*, 212 Cal. Rptr. 283, 291 (Cal. Ct. App. 1985); *Carbone v. Conn. Light & Power Co.*, 482 A.2d 722, 723 (Conn. Super. Ct. 1984); *Petroski v. N. Ind. Pub. Serv. Co.*, 354 N.E.2d 736, 747 (Ind. Ct. App. 1976); *Hous. Lighting & Power Co. v. Reynolds*, 765 S.W.2d 784, 785 (Tex. 1988); *Ransome v. Wis. Elec. Power Co.*, 275 N.W.2d 641, 648 (Wis. 1979). Electricity is considered “sold” when it passes through the customer’s meter. See *Bryant*, 844 F. Supp. at 350. *But see* *Otte v. Dayton Power & Light Co.*, 523 N.E.2d 835, 838 (Ohio 1988) (holding that strict liability never applies to producers of electricity).

101. 275 N.W.2d at 648.

102. *Id.* at 648–49.

103. *Id.* at 649.

104. 844 F. Supp. at 352.

that “holding electricity to be a ‘product’ sensibly accounts for the fact that electricity is created, harnessed, measured, transported, bought and sold, like products generally.”¹⁰⁵

Moreover, the Ninth Circuit, in *Winter v. G.P. Putnam’s Sons*,¹⁰⁶ rejected the tangible/intangible distinction and instead based its analysis on whether the object is a “highly technical tool.”¹⁰⁷ In *Winter*, two mushroom enthusiasts sued a book publisher when they relied on information in a publication to pick and eat mushrooms that made them critically ill.¹⁰⁸ The plaintiffs argued that the book was similar to aeronautical charts because both “contain representations of natural features and both are intended to be used while engaging in a hazardous activity.”¹⁰⁹ The court rejected this argument by distinguishing aeronautical charts as “highly technical tools” that can be used as a guide or a compass, whereas the book was more like an instruction manual on how to use a technical tool, and not the technical tool in itself.¹¹⁰ Accordingly, the court held that the publisher was not liable and had no duty to investigate the accuracy of the book’s content because thoughts and ideas are not “products.”¹¹¹

Courts have generally declined to find computer software a “product” for the purposes of strict liability.¹¹² In *Sanders v. Acclaim Entertainment Inc.*,¹¹³ the court dismissed the claims of negligence and strict liability against defendant video game manufacturers, holding that video game software is not a “product” and defendants had no duty to two children who killed their classmates and teacher in a school shooting after playing video games for an extended period of time.¹¹⁴ Courts across the country have generally denied liability for similar

105. *Id.* at 352.

106. 938 F.2d 1033 (9th Cir. 1991).

107. *Id.* at 1036.

108. *Id.* at 1034.

109. *Id.* at 1035–36.

110. *See id.* In dictum, the court suggested that computer software is another example of a highly technical tool that may be a product for purposes of product liability. *Id.*

111. *Id.* at 1036.

112. *See Wilson v. Midway Games, Inc.* 198 F. Supp. 2d 167, 174 (D. Conn. 2013) (holding that an interactive video game is not “product”); *In re Sony Gaming Networks & Customer Data Sec. Breach Litig.*, 903 F. Supp. 2d 942, 959 (S.D. Cal. 2012); *Sanders v. Acclaim Entm’t, Inc.*, 188 F. Supp. 2d 1264, 1281–82 (D. Colo. 2002) (holding that computer games are software and not products); *James v. Meow Media, Inc.*, 90 F. Supp. 2d 798, 811 (W.D. Ky. 2000) (rejecting the plaintiff’s claim that video games are software for purposes of strict liability).

113. 188 F. Supp. 2d 1264 (D. Colo. 2002).

114. *Id.* at 1264.

claims,¹¹⁵ but one recent case suggests software can be a product for purposes of products liability.¹¹⁶ In *Corley v. Stryker Corp.*, the plaintiff, Ouita Corley, underwent a knee replacement surgery that involved use of a “disposable, single-use cutting guide” that was intended to assist the surgeon during the course of the knee replacement procedure.¹¹⁷ The cutting guide was created from MRI or CT scans using 3D-imaging software to develop a surgical plan prior to surgery.¹¹⁸ Following the procedure, she experienced a range of issues, including pain, discomfort, limited mobility, and more, and filed suit alleging that these problems were due to her surgeon’s use of the defective cutting guide.¹¹⁹ The court allowed the plaintiff’s products defect claim to go forward, finding that she had “sufficiently alleged that the cutting guide used during Ms. Corley’s surgery was unreasonably dangerous in design due to the alleged software defects.”¹²⁰

2. Design defects

To prevail on a design defect claim, a plaintiff must prove the product was defective, the defect existed when the product left the hands of the defendant, and the defect caused a physical injury to a reasonably foreseeable user.¹²¹ Most courts adopt either the *Restatement (Second) of Torts* or *Restatement (Third) of Torts*, which both require the defendant be a commercial seller or distributor before he can be held liable for any injuries arising from his product.¹²² On the other hand,

115. See *Winter v. G.P. Putnam’s Sons*, 938 F.2d 1033, 1037 (9th Cir. 1991) (holding that book publisher had no duty to investigate the accuracy of contents in the book, thus plaintiffs who became severely ill after eating mushrooms after relying on information in the book could not recover against the publisher under negligence theory); *Meow Media*, 90 F. Supp. 2d at 804, 806 (holding reasonable people could not conclude that the shooter’s exposure to video games made the shooter’s actions foreseeable to the video game makers); *Zamora v. Columbia Broad. Sys.*, 480 F. Supp. 199, 201 (S.D. Fla. 1979) (holding that three television networks could not foresee that a teenager would kill his neighbor after watching violent programming over a ten-year period).

116. No. 6:13-CV-02571, 2014 U.S. Dist. WL 3375596, at *1 (W.D. La. May 27, 2014).

117. *Id.* at *1.

118. *Id.* at *2.

119. *Id.*

120. *Id.* at *4.

121. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §§ 1–2 (AM. LAW INST. 1998); SCHWARTZ, *supra* note 87, at 800.

122. SCHWARTZ, *supra* note 93, at 787–88. The *Restatement (Second) of Torts* defines strict liability as “[o]ne who sells any product in a defective condition unreasonably dangerous to the user or consumer or to his property is subject to liability for physical harm thereby caused . . . if the seller is engaged in the business of selling such a product” RESTATEMENT (SECOND) OF TORTS § 402A (AM. LAW INST. 1965). The *Restatement (Third) of Torts*, however, defines strict liability as “[o]ne engaged in the

courts decline to impose strict liability in cases where the defendant is an occasional seller,¹²³ or if the defendant primarily provides services.¹²⁴ For example, in *San Diego Hospital Ass'n v. Superior Court of San Diego*,¹²⁵ the court declined to hold a hospital liable because “[t]he purpose of imposing strict liability is to ensure the costs of injuries resulting from defective products are placed on the manufacturer and others who place the product on the market”¹²⁶ In *San Diego Hospital*, the hospital’s primary objective was to provide medical care to patients, not to sell equipment.¹²⁷

Courts use one of two tests when determining whether strict liability applies—the “consumer expectations” test and the “risk-utility” balancing test.¹²⁸ The Restatement (Second) primarily uses the “consumer-expectations” test, while the Restatement (Third) exclusively focuses on a “risk-utility” analysis.¹²⁹ A product is “defective” under the Restatement (Second) if “it leaves the seller’s hands, in a condition not contemplated by the ultimate consumer, which will be unreasonably dangerous to him.”¹³⁰ In a landmark strict liability case, *Greenman v. Yuba Power Products, Inc.*,¹³¹ the court employed the “consumer-expectations” test and held the manufacturer liable for an injury caused by a power tool.¹³² The court noted that “[i]mplicit in the machine’s presence on

business of selling or otherwise distributing products who sells or distributes a defective product is subject to liability for harm to persons or property caused by the defect.” RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. § 1 (AM. LAW INST. 1998); *see also* *Greenman v. Yuba Power Prods., Inc.*, 377 P.2d 897, 900–01 (Cal. 1963); *Halliday v. Sturm, Ruger & Co.*, 792 A.2d 1145, 1150 (Md. 2002); *Phipps v. Gen. Motors Corp.*, 363 A.2d 955, 963 (Md. 1976). *See generally* Beck, *supra* note 27, at 153–54 (discussing the differences between the strict liability).

123. *See, e.g.*, *Garcia v. Becker Bros. Steel Co.*, 125 Cal. Rptr. 3d 73, 82 (Cal. Ct. App. 2011) (holding that an occasional seller is not strictly liable for sale of a defective product under California law).

124. *San Diego Hosp. Ass’n v. Super. Ct.*, 35 Cal. Rptr. 2d 489, 493 (Cal. Ct. App. 1994) (holding that the primary objective of the hospital is to provide services for patients and any sale of medical products is secondary to its primary objective); *Gonser v. Decker*, 814 P.2d 1056, 1058–59 (Okla. Civ. App. 1991) (declining to hold defendant strictly liable because he is neither a commercial seller nor distributor and only allows use of equipment as part of providing a service).

125. 35 Cal. Rptr. 2d 489 (Cal. Ct. App. 1994).

126. *Id.* at 492–93.

127. *Id.* at 493.

128. *Halliday v. Sturm, Ruger & Co.*, 792 A.2d 1145, 1150 (Md. 2002); Prosser, *supra* note 87, at 784, 788.

129. Prosser, *supra* note 87, at 784, 788.

130. RESTATEMENT (SECOND) OF TORTS § 402A, cmt. (g) (AM. LAW INST. 1965).

131. 377 P.2d 897 (Cal. 1963).

132. *Id.*

the market, however, was a representation that it would safely do the jobs for which it was built.”¹³³ On the other hand, under the Restatement (Third)’s “risk-utility” test, a product is defective and unreasonably dangerous if the danger posed by the product outweighs its utility.¹³⁴ In such cases, the court must balance whether a safer alternative design exists, and if so, whether the alternative design would make the product safer without negatively impacting its utility.¹³⁵ For example, in *O’Brien v. Muskin Corp.*,¹³⁶ the appellate court held that a pool lined with slippery vinyl may constitute a product defect because it poses an unreasonable risk of injury to the user.¹³⁷ The court employed the risk-utility analysis, finding that a reasonable alternative design existed and would have minimized the risks of injury at minimal inconvenience to the defendant.¹³⁸ Further, in *LeMaster* and *Smith*, both appellate courts reversed lower courts’ holdings and concluded that an absence of an external safety mechanism on a gun may pose a design defect that makes it unreasonably dangerous.¹³⁹ Conversely, in *McCarthy v. Olin Corp.*,¹⁴⁰ the victims of a mass shooting filed a complaint against a bullet manufacturer, alleging that the bullets were unreasonably dangerous because they were designed to enhance the injuries of their victims.¹⁴¹ The court dismissed the claims stating that some products, such as knives and bullets, must, by their very nature, be dangerous to be functional.¹⁴² Because a reasonable alternative design does not exist for a bullet or a knife, the court concluded that

133. *Id.* at 901; *see also* *Voss v. Black & Decker Mfg. Co.*, 450 N.E.2d 204, 206, 207 (N.Y. 1983) (holding defendant manufacturer liable for a defective design when the plaintiff was injured using defendant’s circular power saw).

134. Risk-utility analysis factors that the courts weigh are the (1) usefulness and desirability of the product; (2) the safety of the product, that is the likelihood that it will cause injury; (3) the availability of a substitute product; (4) the manufacturer’s ability to eliminate the unsafe character; (5) the user’s ability to avoid danger; (6) the user’s anticipated awareness of the dangers; (7) the feasibility of spreading the loss; and (8) the state-of-the-art of the product. *See* *Halliday v. Sturm, Ruger & Co.*, 792 A.2d 1145, 1150 (Md. 2002); *O’Brien v. Muskin Corp.*, 463 A.2d 298, 304–05 (N.J. 1983) (discussing the relevant factors in a risk-utility analysis). *See generally* Prosser, *supra* note 87, at 804 (providing a definition of product defectiveness).

135. Prosser, *supra* note 87, at 804.

136. 463 A.2d 298, 304–05 (N.J. 1983).

137. *Id.*

138. *Id.*

139. *Smith v. Bryco Arms*, 33 P.3d 641, 641 (Cal. 2001); *LeMaster v. Glock, Inc.*, 610 So. 2d 1336, 1339 (Fla. Dist. Ct. App. 1992).

140. 119 F.3d 148 (2d Cir. 1997).

141. *Id.* at 151.

142. *Id.* at 155 (stating that “as a matter of law, a product’s defect is related to its condition, not its intrinsic function”).

the manufacturer of bullets could not have reduced the risk without affecting the primary function of the product.¹⁴³

A manufacturer is not liable when the defect in its product is not the legal cause of plaintiff's injury.¹⁴⁴ In other words, the imposition of liability requires a showing that the plaintiff's injuries were caused by an act of the defendant or an instrumentality under the defendant's control.¹⁴⁵ In *O'Neil v. Crane Co.*,¹⁴⁶ the court defined the limits of a manufacturer's duty to prevent foreseeable harm related to his product and held that a manufacturer cannot be strictly liable for harm caused by another manufacturer's product unless the defendant's *own* conduct contributed substantially to the harm, or the defendant participated in harmful combined use of the products.¹⁴⁷

In general, a defendant can be held liable for injuries caused by their products if they are a commercial seller, the product was defective when it left the defendant's control, and the product actually caused the plaintiff's injury. Most courts apply the Restatement (Third)'s risk-utility analysis when determining whether the defendant should be liable.¹⁴⁸ If the risk outweighs the usefulness, the product is likely unreasonably dangerous, and the defendant can be held liable under the design defect theory of products liability.¹⁴⁹

143. *Id.*

144. *See* *O'Neil v. Crane Co.*, 266 P.3d 987, 1006–07 (Cal. 2012); *Anderson v. Owens-Corning Fiberglas Corp.*, 810 P.2d 549, 556 (Cal. 1991) (holding that a defendant in a strict products liability action based on an alleged failure to warn may present evidence to show that the particular risk was neither known nor knowable at the time of manufacture and/or distribution); *Brown v. Super. Ct.*, 751 P.2d 470, 484 (Cal. 1988) (holding that defendant drug manufacturer was not liable for claims that were scientifically unknowable at the time of distribution); *Garcia v. Becker Bros. Steel Co.*, 125 Cal. Rptr. 3d 73, 82 (Cal. Ct. App. 2011) (holding that defendant had no control over the "slitter line" machinery that injured plaintiff and, therefore, owed him no duty of care).

145. *O'Neil*, 266 P.3d at 1007; *Brown*, 751 P.2d at 484.

146. 266 P.3d 987.

147. *Id.* at 1007. In this case the plaintiff's decedent was exposed to asbestos while working on a ship. Though asbestos was found on the internal gaskets and packing originally supplied with defendant's products, those items were manufactured by a third party, and none of the original parts remained present on the ship at the time the plaintiff's decedent was there.

148. *Supra* note 134.

149. *See, e.g., O'Brien v. Muskin Corp.*, 463 A.2d 298, 306 (N.J. 1983).

B. *Strict Liability: Ultrahazardous Activities*

Courts impose strict liability when the actor chooses to engage in an ultrahazardous activity.¹⁵⁰ Most courts have adopted the rule from *Rylands* to impose strict liability when the injury stems from abnormally dangerous conditions and activities.¹⁵¹ The Restatement (Third) states that “[o]ne who carries on an abnormally dangerous activity is subject to liability for harm to the person, land or chattels of another resulting from the activity, although he has exercised the utmost care to prevent the harm.”¹⁵²

Courts generally, as a matter of policy, do not find that guns are unreasonably dangerous.¹⁵³ In *Miller v. Civil Constructors, Inc.*,¹⁵⁴ the court addressed the question of whether the defendant, the owner of a shooting range, was strictly liable when a stray bullet ricocheted during the course of a firearm practice and caused an injury to the plaintiff.¹⁵⁵ The plaintiff argued that the defendant was strictly liable because he had control of the premises, and the use of firearms should be classified as ultrahazardous activity.¹⁵⁶ The court held that the use of firearms is not an ultrahazardous activity and declined to impose liability.¹⁵⁷ Similarly, in *McCarthy*, the plaintiff argued that the defendant bullet manufacturer negligently marketed ammunition for sale to the

150. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §§ 1–2 (AM. LAW INST. 1998).

151. *Rylands v. Fletcher*, 159 Eng. Rep. 737 (Ex. 1865), *rev'd*, 1 L.R.-Ex. 265 (Ex. Ch. 1866), *aff'd*, 3 L.R.-E & I. App. 330 (H.L. 1868) (holding that a person should be held liable for damage that is the natural consequence of his activity).

152. RESTATEMENT (SECOND) OF TORTS: PRODS. LIAB. § 519 (AM. LAW INST. 1977). The Restatement provides six factors the courts look to when determining whether an activity is ultrahazardous: (1) existence of high degree of risk of some harm to the person, land or chattels of others; (2) likelihood that the harm that results from it will be great; (3) inability to eliminate the risk by the exercise of reasonable care; (4) extent to which the activity is not a matter of common usage; (5) inappropriateness of the activity to the place where it is carried on; and (6) the extent to which its value to the community is outweighed by its dangerous attributes. *Id.*

153. *Merrill v. Navegar, Inc.*, 28 P.3d 116, 133 (Cal. 2001) (dismissing the claim against defendant gun manufacturer because state law precluded such claims as a matter of public policy); *Miller v. Civil Constructors, Inc.* 651 N.E.2d at 239, 245 (Ill. App. Ct. 1995).

154. 272 651 N.E.2d at 239.

155. *Id.* at 241; *Rylands v. Fletcher*, 1 L.R.-Ex. 265 (1866).

156. *Miller*, 651 N.E.2d at 244 (stating that the question is “whether the risk created is so unusual, either because of its magnitude or because of the circumstances surrounding it, as to justify the imposition of strict liability even though the activity is carried on with all reasonable care”).

157. *Id.* at 242 (noting in dicta that another court suggested that the use of handguns may be an ultrahazardous activity but concluding that there is no basis for that argument (citing *Martin v. Harrington & Richardson, Inc.*, 743 F.2d 1200 (7th Cir. 1984))).

general public.¹⁵⁸ Because of the severe wounding power of the bullets, the plaintiff argued that the sale and marketing should have been restricted to law enforcement agencies, for whom the bullet was designed.¹⁵⁹ The court held that courts do not impose a duty on manufacturers to control the distribution of potentially dangerous products, such as ammunition, and that, though it may have been foreseeable that a criminal may misuse the bullets, the manufacturer has no duty and is not liable for such misuse.¹⁶⁰

Some state courts have held that gun manufacturers and marketers can be held strictly liable for injuries resulting from the criminal misuse of a certain type of unreasonably dangerous firearms, called “Saturday Night Specials.”¹⁶¹ Saturday Night Specials are low-weight guns of low quality that have short barrels. Most importantly, they are easily concealable and are known for their inaccurate and variable shots.¹⁶² In 1990, the state of Maryland banned their sale, citing concerns over high rates of gun-related homicides.¹⁶³ In *Kelley v. R.G. Industries, Inc.*,¹⁶⁴ the Maryland Court of Appeals held that “it is entirely consistent with public policy to hold the manufacturers and marketers of ‘Saturday Night Special’ handguns strictly liable to innocent persons who suffer gunshot injuries from the criminal use of their products.”¹⁶⁵ Further, the court reasoned that Saturday Night Specials are unfit for

158. *McCarthy v. Olin Corp.*, 119 F.3d 148, 151, 156 (2d Cir. 1997).

159. *Id.*

160. *Id.* at 156–57 (stating that “in tort cases, foreseeability is often confused with duty”). The court also noted in dicta that “[i]t is unreasonable to impose [a] duty where the realities of every day experience show us that, regardless of the measures taken, there is little expectation that the one made responsible could prevent the . . . conduct [of another].” *Id.* (citing *Pulka v. Edelman*, 358 N.E.2d 1019, 1022 (N.Y. 1976)).

161. *City of N.Y. v. A-1 Jewelry & Pawn, Inc.*, 501 F. Supp. 2d 369, 379 (E.D.N.Y. 2007) (discussing “Saturday Night Special” guns and stating that certain brands of cheap handguns are more likely to give rise to public danger when they are in the hands of criminals); *Halliday v. Sturm, Ruger & Co.*, 792 A.2d 1145, 1149–50 (Md. 2002) (discussing *Kelley v. R.G. Indus., Inc.*, 497 A.2d 1143, 1153–54 (Md. 1985)). *But see* *Armijo v. Ex Cam, Inc.*, 656 F. Supp. 771, 773–74 (D.N.M. 1987) (dismissing the claim against gun manufacturer and declining to follow *Kelley*).

162. Daniel W. Webster, Jon S. Vernick & Lisa M. Hepburn, *Effects of Maryland’s Law Banning “Saturday Night Special” Handguns on Homicides*, 155 AM. J. EPIDEMIOLOGY 406 (2002). *But see* “Saturday Night Specials”, NAT’L RIFLE ASS’N INST. FOR LEGIS. ACTION (Apr. 21, 1999), <https://www.nrila.org/articles/19990421/saturday-night-specials> [<https://perma.cc/DHC9-32EX>].

163. Webster, *supra* note 162, at 406; *Maryland Bans Sale of Saturday Night Specials*, L.A. TIMES (May 23, 1988), http://articles.latimes.com/1988-05-23/news/mn-2270_1_night-specials [<https://perma.cc/N7SW-ECJL>].

164. 497 A.2d 1143 (Md. 1985).

165. *Id.* at 1159.

any legitimate use because they are “too inaccurate, unreliable and poorly made for use by law enforcement personnel, sportsmen, homeowners or businessmen.”¹⁶⁶ The court went on to state that the primary value of these types of weapons is in criminal activity due to their easy concealability and low price, but the use of a handgun in a commission of a crime is not a “legitimate” use justified by public policy.¹⁶⁷ The court’s reasoning in *Kelley* suggests that not every gun should be classified the same and that some can be abnormally dangerous depending on their characteristics.

From *Rylands* on, courts have applied this doctrine to a very limited number of activities and have largely declined to expand the scope of activities that are considered abnormally dangerous.¹⁶⁸ In general, courts have declined to classify weapons and bullets as abnormally dangerous, finding instead that despite their inherent danger, the use of guns and bullets is a matter of common usage, and the social utility justifies their use.¹⁶⁹

III. ANALYSIS

As a commercial seller of CAD files, Defense Distributed is subject to the traditional laws applicable to sellers and manufacturers of products and can be held strictly liable for injuries caused by 3D-printed weapons. Specifically, Defense Distributed can be held liable because its product fails to incorporate a necessary safety feature, and such failure makes the 3D-printed guns unreasonably dangerous under the design defect theory of products liability. Additionally, due to the highly hazardous nature of the 3D-printed weapons, and the potential threat to public safety and national security, the public release of the CAD files is an abnormally dangerous activity. Commercial sellers, like Defense Distributed, have a duty to prevent the injury entirely and should be held strictly liable for any harm resulting from such activity.

166. *Id.* at 1158.

167. *Id.*

168. Among others, courts have held that the following activities are abnormally dangerous: blasting (especially if done in a residential area), transportation and storage of toxic chemicals and inflammable liquids, pile driving, crop dusting, fumigation with toxic gases, testing of rockets, fireworks display, and others. *See* Prosser, *supra* note 87, at 755–56.

169. *McCarthy v. Olin Corp.*, 119 F.3d 148, 151, 156 (2d Cir. 1997).

A. *Commercial Sellers of CAD Files Can be Held Strictly Liable for Injuries Caused by 3D-Printed Guns*

In a products liability action against Defense Distributed, a plaintiff would be able to prevail because Defense Distributed's CAD files contain a design defect that makes them unreasonably dangerous. The files allow a user to print an untraceable, un-registerable, plastic weapon that can be used to seriously injure or kill a person and are thus unreasonably dangerous.

Under the traditional laws of products liability, a "product" must cause the injury to a foreseeable user, and the defendant must be a "seller engaged in the business" before he can be held liable.¹⁷⁰ However, the uniqueness of 3D printing poses many legal challenges for those injured by 3D-printed guns.¹⁷¹

One challenge in determining liability for injuries caused by 3D-printed weapons is the difficulty in deciding which specific actor to hold liable.¹⁷² Many actors play a role in the 3D-printing process and may potentially be held liable for an injury caused by a defective product.¹⁷³ There are six potential categories of defendants: (1) the "occasional or hobbyist inventors" who design such files and share them on the internet for free; (2) the commercial sellers who sell CAD files online; (3) third party services that are in the business of printing out the designs for profit; (4) the manufacturers of 3D printers; (5) the computer programmer that writes the code that instructs the 3D printer to print; and (6) the provider of materials used to print the products.¹⁷⁴ Because this Comment only focuses on liability of commercial sellers like Defense Distributed, it will only be addressing the second category of commercial sellers who sell CAD files online.

Another challenge in determining liability for 3D-printed weapons is showing that a CAD file is a "product." The doctrine of strict liability applies only if a defective "product" is introduced into the stream of

170. *Supra* Section II.A.

171. *Supra* Section II.A.

172. *Supra* Section II.A.

173. *See* Lindenfeld, *supra* note 86, at 90–94 (discussing how strict liability will be imposed in the context of 3D printing of medical products).

174. Wang, *supra* note 85, at 106–07, 112 (discussing six possible defendants against whom the plaintiff may bring action); *see also* Giulio Coraggio, *Top 3 Legal Issues of 3D Printing!*, DLA PIPER, <https://www.technologysleage.com/2015/09/top-3-legal-issues-of-3d-printing> [<https://perma.cc/R758-V6GH>]; Life Sciences, *supra* note 87, at 17.

commerce.¹⁷⁵ Otherwise, commercial sellers cannot be held strictly liable for injuries caused by their products.¹⁷⁶

1. *Defense Distributed is a commercial seller*

Defense Distributed is a commercial seller engaged in the business of selling CAD files for 3D-printed guns.¹⁷⁷ To qualify as a “seller,” the company does not need to be engaged exclusively or even primarily in selling or otherwise distributing the blueprints for 3D-printed weapons, but the sale cannot be occasional or casual.¹⁷⁸ Aside from selling the blueprints online, Defense Distributed sells a milling machine used for carving gun components out of aluminum and a variety of supporting hardware and software products.¹⁷⁹ The company began selling the machine online in 2014 through its for-profit subsidiary, the “Ghost Gunner,” for \$2000 per unit and has sold roughly around 6000 units so far.¹⁸⁰ According to its website, Ghost Gunner is a “manufacturing concern managed by Defense Distributed.”¹⁸¹ The sale of the milling machine and the supporting hardware and software products, combined with the sale of blueprints for 3D-printed weapons, show Defense Distributed is not “an occasional seller.”

175. *Supra* Section IIA (noting that a “product” introduced into the stream of commerce is necessary for a finding of strict liability).

176. David W. Lannetti, *Toward a Revised Definition of “Product” Under the Restatement (Third) Of Torts: Products Liability*, 55 BUS. LAW. 799, 806–07 (2000); *see supra* Part II.

177. *See supra* note 50 and accompanying text. Defense Distributed gives users the option to “Buy” blueprints on their website. *Id.*

178. *See Garcia v. Becker Bros. Steel Co.*, 125 Cal. Rptr. 3d 73, 79, 82 (Cal. Ct. App. 2011) (holding that under California law, an occasional seller is not strictly liable for sale of a defective product and noting that defendants were occasional sellers because they were not a “conduit for the production or distribution” of the product); RESTATEMENT (THIRD) OF TORTS: PROD. LIAB. § 20 (AM. LAW INST. 998). *See generally* Lindenfeld, *supra* note 86, at 90–91 (quoting the Restatement to illustrate the point that strict liability does not apply to “the housewife who, on one occasion, sells to her neighbor a jar of jam or a pound of sugar,” but it does apply as long as the sale of the product is “other than occasional or casual”).

179. Defense Distributed sells the “Ghost Gunner” on its sister website, ghostgunner.net, GHOST GUNNER, <https://ghostgunner.net/faq> [<https://perma.cc/ME5A-VZPJ>]. *See generally* Thierer & Marcus, *supra* note 7, at 836 (discussing Defense Distributed’s operations).

180. *See* Andy Greenberg, *The 3-D Printed Gun Machine Rolls on, with or Without Cody Wilson*, WIRED (Sept. 25, 2018, 05:31 PM), <https://www.wired.com/story/cody-wilson-3d-printed-guns-resigns-defense-distributed> [<https://perma.cc/GG4B-4ERL>]; *Products*, GHOST GUNNER, <https://ghostgunner.net/featured-products> [<https://perma.cc/2B-QX-BP25>].

181. *What is Ghost Gunner?*, GHOST GUNNER, <https://ghostgunner.net/faq> [<https://perma.cc/ME5A-VZPJ>].

Defense Distributed's sale of blueprints for 3D-printed guns is similar to the defendant's practice of selling computer software used as a guide for surgical instruments in *Corley v. Stryker Corp.*¹⁸² The defendant in *Corley*, Stryker Corporation, designed and manufactured the "single-use cutting guide" software using 3D imaging data derived from MRI and CT scans, which caused injury to the plaintiff during her surgery.¹⁸³ The fact that Stryker Corporation manufactured a wide range of medical equipment, and the manufacture and sale of this particular type of software was just one part of its business, does not lessen its overall liability as a commercial seller for defects arising out of its products.¹⁸⁴ Similarly, Defense Distributed's status as a commercial seller is not dependent on the amount of revenue each of its products generates.

Unlike the defendant hospital in *San Diego*, Defense Distributed does not provide a service.¹⁸⁵ Courts generally decline to hold defendants strictly liable if the primary goal of their business is to provide a service, and instead only hold them liable on the basis of negligence or intentional misconduct.¹⁸⁶ Unlike commercial sellers of CAD files, a hospital is primarily in the business of providing medical services, and any sale of equipment or medication is incidental to the overriding purpose of providing medical services.¹⁸⁷ Conversely, Defense Distributed's overriding purpose is selling blueprints, milling machines, and supporting equipment, and nothing on its website suggests that it provides any services.¹⁸⁸ Therefore, Defense Distributed is a commercial seller engaged in business for purposes of strict liability and can be held liable for injuries committed with its products.

182. No. 6:13-CV-02571, 2014 U.S. Dist. LEXIS 92002, at *1 (W.D. La. May 27, 2014).

183. *Id.* at *2.

184. *Medical and Surgical Equipment*, STRYKER CORP., <https://www.stryker.com/us/en/about.html> [<https://perma.cc/265H-B4N2>].

185. 35 Cal. Rptr. 2d 489, 491 (Cal. Ct. App. 1994).

186. *Id.* (holding that the primary objective of the hospital is to provide services for patients, and any sale of medical products is secondary to its primary objective); *Gonser v. Decker*, 814 P.2d 1056, 1058–59 (Okla. Civ. App. 1991) (declining to hold defendant strictly liable because he is neither a commercial seller nor distributor and only allows use of equipment as part of providing a service).

187. *San Diego*, 35 Cal. Rptr. 2d at 493; *see also* Lindenfeld, *supra* note 86, at 91–92 (discussing 3D printing liability in the context of medical products and concluding that hospitals will generally not be liable under strict liability because "the primary objective of hospitals is to provide services, and therefore, any sale of medical products is simply ancillary to that primary objective").

188. *Supra* note 50.

2. *A CAD file is a “product” for purposes of tort liability*

CAD files that allow for printing of weapons are necessary parts to an end product such that they can be subject to tort liability. In *Corley v. Stryker Orthopaedics*,¹⁸⁹ the court allowed a products liability claim to go forward where a plaintiff alleged that the tool used to perform her surgery contained a software defect that made it unreasonably dangerous.¹⁹⁰ Accordingly, the court found that the software in question was a “necessary part of the cutting guide,” but that its design was unreasonably dangerous.¹⁹¹ Like the software that was used in Ms. Corley’s surgery, a CAD file used to print a 3D weapon is a necessary part of the end product—the 3D-printed gun. Any defects in its design, such as failure to incorporate a safety device, directly impact the safety and functionality of the end product.

CAD files are highly technical tools similar to aeronautical charts. The court in *Winter v. G.P. Putnam’s Sons*¹⁹² suggested that computer software could be analogous to aeronautical charts, in that both are graphic depictions of technical data and “highly technical tools.”¹⁹³ The court declined to find defendant book publisher liable for ideas and thoughts expressed in his book, concluding that the content of the book is intangible and intangible products are not subject to products liability lawsuits.¹⁹⁴ But, unlike the Encyclopedia of Mushrooms that was the subject of litigation in *Winter*, a CAD file is more like the aeronautical charts in *Brocklesby* and *Aetna* because it depicts technical data and serves as a “guide” in creating the end product—the 3D-printed gun.¹⁹⁵ The charts gather all pertinent aspects of the approach such as distances, minimum altitudes, turns,

189. No. 13-2571, 2014 WL 3125990, at *1 (W.D. La. July 3, 2014).

190. *Id.* at *2–3 (concluding that the plaintiff stated a plausible claim that (1) the ShapeMatch Cutting Guide was “unreasonably dangerous in design and (2) unreasonably dangerous due to inadequate warnings to the extent that *no warnings* were provided along with the product”).

191. *Id.*

192. 938 F.2d 1033 (9th Cir. 1991).

193. *Id.* at 1036 (stating that “[a]eronautical charts are highly technical tools. They are graphic depictions of technical, mechanical data. The best analogy to an aeronautical chart is a compass. . . . Computer software that fails to yield the result for which it was designed may be another [example]”).

194. *Id.*

195. See *Brocklesby v. United States*, 767 F.2d 1288, 1294–95 (9th Cir. 1985); *Aetna Cas. & Sur. Co. v. Jeppesen & Co.* 642 F.2d 339, 341–42 (9th Cir. 1981); see also *supra* note 21 (describing the process of 3D printing; during the FDM process, the CAD file serves as a “guide” for the printer as it contains the data that the printer needs to produce the final object).

procedures to be followed, and others.¹⁹⁶ The CAD file similarly acts as a guide for the 3D printer, which cannot produce the final object without the data from the CAD file.¹⁹⁷

Further, like electricity, CAD files can be made, produced, transmitted, and distributed in the stream of commerce.¹⁹⁸ The “sale” of electricity takes place at the meter where the charges are generally computed, and strict liability does not apply prior to the “sale.”¹⁹⁹ For the defendant to be liable, the electricity must have been in a defective condition when it left the possession of the electric company.²⁰⁰ In *Ransome v. Wisconsin Electric Power Co.*,²⁰¹ the court held the defendant electric company liable because the electricity became a defective product when it left the hands of the defendant in a state that was unreasonably dangerous to the consumer.²⁰² Similarly, a CAD file becomes a product for which a commercial seller must assume liability when it enters the stream of commerce. If it contains a defect that makes it unreasonably dangerous, such as if the file allows the purchaser to print a weapon but it fails to incorporate a safety device or provide adequate warnings, then the commercial seller becomes responsible for injuries caused by their product’s defects.²⁰³

Most courts have so far declined to impose strict liability in cases involving computer software.²⁰⁴ Such claims most frequently arise against video game manufacturers.²⁰⁵ In those cases, courts generally

196. *Brocklesby*, 767 F.2d at 1295.

197. *Supra* note 21.

198. *See* *Bryant v. Tri-County Elec. Membership Corp.*, 844 F. Supp. 347, 352 (W.D. Ky. 1994) (concluding that ordinary electricity is a product); *Hous. Lighting & Power Co. v. Reynolds*, 765 S.W.2d 784, 785 (Tex. 1988) (holding that electricity is a product because it can be manufactured, transported, and sold in the stream of commerce); *Ransome v. Wis. Elec. Power Co.*, 275 N.W.2d 641, 648–49 (Wis. 1979) (stating that the company supplying the electricity can be held liable if the electricity was unreasonably dangerous when it left the seller’s hands).

199. *Ransome*, 275 N.W.2d at 648–49.

200. *Id.* at 648.

201. 275 N.W.2d 641 (Wis. 1979).

202. *Id.* at 649.

203. *See, e.g., supra* note 69 and accompanying text.

204. *See* *Wilson v. Midway Games, Inc.* 198 F. Supp. 2d 167, 173–74 (D. Conn. 2013) (holding that an interactive video game is not “product”); *Sanders v. Acclaim Entm’t, Inc.*, 188 F. Supp. 2d 1264, 1281–82 (D. Colo. 2002) (holding that computer games are software and not products); *James v. Meow Media, Inc.*, 90 F. Supp. 2d 798, 811 (W.D. Ky. 2000) (rejecting the plaintiff’s claim that video games are software for purposes of strict liability).

205. *See, e.g., Wilson*, 198 F. Supp. 2d at 173 (noting the existence of a distinct class of cases involving video game players alleging harm resulting from the intellectual aspect of the electronic medium).

conclude that the computer software is an intangible expression of ideas, thoughts, and images protected under the First Amendment, and not a product for purposes of strict liability.²⁰⁶ Further, courts often find that such claims fail for lack of proximate cause,²⁰⁷ as the link between the injury and defendant's conduct is too attenuated.²⁰⁸ For example, in *Sanders v. Acclaim Entertainment Inc.*,²⁰⁹ two students who killed their classmates and a teacher in a school shooting were heavy consumers of violent video games and movies.²¹⁰ They sued the video game manufacturers alleging that the video game "had the effect of 'harmfully influencing impressionable minors . . . and thereby caused the shooting.'"²¹¹ The court held that video game software is not a product, and that plaintiffs' intentional violent acts were a superseding cause that relieved defendants of liability.²¹² Further, in *James v. Meow Media, Inc.*,²¹³ the court similarly held that "thoughts, ideas, and images" expressed through defendant's movies and video games were not products, and a school shooting was not a response the defendant could have reasonably foreseen.²¹⁴

A commercial seller of CAD files would likely argue that a CAD file is computer software and not a product, and further, that even if the file was a product, the designer should not be held liable for injuries caused by the end product because the customer, not the seller, actually printed the gun. However, CAD files that can be used to print functional, plastic weapons differ from software used in the making of movies and video games. First, the CAD files do not express "thoughts, ideas, and images" protected by the First Amendment and are instead analogous to technical data, such as aeronautical charts.²¹⁵ Second, it is much more foreseeable that someone may use an unregistered, plastic weapon for criminal activity than it is that a video game will compel a consumer to carry out a mass shooting.²¹⁶

206. *Id.* at 181–82.

207. *See Sanders*, 188 F. Supp. 2d at 1276 (quoting *City of Aurora v. Loveless*, 639 P.2d 1061, 1063 (Colo. 1981) (en banc) (defining proximate cause as conduct that produces the claimed injury "in the natural and probable sequence of things")).

208. *Id.*

209. 188 F. Supp. 2d 1264 (D. Colo. 2002).

210. *Id.* at 1268.

211. *Id.* at 1269.

212. *Id.* at 1281–82.

213. 300 F.3d 683 (6th Cir. 2002).

214. *Id.* at 688–89, 693, 701.

215. *Supra* note 193 and accompanying text.

216. *Supra* Section IV.B.

B. 3D-Printed Gun Contains a Product Defect that Makes it Unreasonably Dangerous

A CAD file that can produce an untraceable, un-registerable, plastic weapon contains a design defect because it poses an unreasonably high risk of injury to foreseeable users. By uploading the CAD file on the internet, Defense Distributed places its product in the stream of commerce and becomes strictly liable for any injuries that any manufacturer or seller would be liable for under the current doctrine of products liability.²¹⁷

Failure to incorporate a “safety feature” in its design that would reduce the risk of injury makes Defense Distributed’s design unreasonably dangerous. Under the design defect theory of products liability, a product is defective in design when the foreseeable risks of harm posed by the product could have been reduced or avoided by the adoption of a reasonable alternative design, and the omission of the alternative design renders the product unsafe.²¹⁸ For example, in cases involving gun manufactures, courts have held that an omission of an external safety device may constitute a design defect that makes the product unreasonably dangerous.²¹⁹ In *Smith* and *LeMaster*, both courts concluded that installing a safety was feasible, inexpensive, and would have likely prevented the plaintiffs’ injuries and failure to do so may have constituted a product defect.²²⁰ Similarly, “the Liberator” does not have a safety device that would prevent a user from accidentally firing the gun and injuring someone.²²¹

Defense Distributed could also be held strictly liable for injuries arising out of its product under the Third Restatement’s risk-utility balancing test.²²² The factors weigh strongly in favor of finding that an untraceable, yet functional, 3D-printed weapon poses a much greater

217. See *Greenman v. Yuba Power Prods., Inc.*, 377 P.2d 897, 900 (Cal. 1963) (noting that a “manufacturer is strictly liable in tort when an article he places on the market, knowing that it is to be used without inspection for defects, proves to have a defect that causes injury to a human being”); RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §§ 1–2 (AM. LAW INST. 1998).

218. RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §§ 1–2 (AM. LAW INST. 1998); see *supra* Section III.A.

219. *Smith v. Bryco Arms*, 33 P.3d 638, 650 (N.M. Ct. App. 2001); *LeMaster v. Glock, Inc.*, 610 So. 2d 1336, 1339 (Fla. Dist. Ct. App. 1992).

220. *Smith*, 33 P.3d at 649–50; *LeMaster*, 610 So. 2d at 1338.

221. See Jacob Silverman, *A Gun, a Printer, an Ideology*, NEW YORKER, May 7, 2013, <https://www.newyorker.com/tech/elements/a-gun-a-printer-an-ideology> [<https://perma.cc/RTR7-8ZXA>].

222. See *supra* note 134 and accompanying text (listing the factors courts use when engaging in risk-utility analysis).

risk of harm when compared to the social utility of the product.²²³ The safety concerns are obvious: a fully functional, plastic weapon, not subject to any procedural safeguards normally applicable to gun ownership, is likely to be misused for criminal activity and will severely undermine government efforts to combat terrorism and crime.²²⁴ In fact, in *Washington v. United States Department of State*,²²⁵ the court stated that safety concerns regarding the ready availability of plastic guns far outweigh the utility of allowing their use and that government's interests in protecting national security outweigh its interest in protecting First Amendment rights.²²⁶ On the other hand, the assessment of the utility of the product also takes into consideration the availability of a safer substitute product, or as the courts refer to it, the "state-of-the-art."²²⁷ Such an inquiry relates to both components of the risk-utility equation, meaning that while the focus is on the usefulness of the product, the inquiry must also determine the reasonableness of the manufacturer's conduct in placing the product on the market.²²⁸ The answer will depend on the facts of each case.²²⁹ In this case, Defense Distributed would likely argue that a substitute product is not available because any change in the design that would make it safe would eliminate its inherent characteristic—that of being a functional gun. However, even if it would be hard for a plaintiff to show the availability of a substitute design, the risk-utility analysis is a balancing test, and the risk greatly outweighs the utility of 3D-printed weapons.²³⁰

223. *Washington v. U.S. Dep't of State*, 318 F. Supp. 3d 1247, 1261 (W.D. Wash. 2018). The court noted that

[a] gun made from plastic is virtually undetectable in metal detectors and other security equipment intended to promote public safety and airports, sporting events, courthouses, music venues The portability and ease of a manufacturing process that can be set up virtually anywhere would allow those who are, by law, prohibited from manufacturing, possessing, and/or using guns to more easily evade those limitations.

See supra note 134 and accompanying text (listing the factors the courts use when engaging in risk-utility analysis).

224. *See Washington*, 318 F. Supp. 3d at 1261.

225. *Id.* at 1247.

226. *Id.* at 1261 (suggesting that undetectable guns with no identifying information will hamper government's efforts to prevent and/or investigate crime).

227. *O'Brien v. Muskin Corp.*, 463 A.2d 298, 304–05 (N.J. 1983).

228. *Id.* at 305.

229. *Id.*

230. *See Washington v. U.S. Dep't of State*, 318 F. Supp. 3d 1247, 1254 (W.D. Wash. 2018) (stating that "the balance of hardships and the public interest tip[] sharply in the [government's] favor").

Further, 3D-printed guns are not products that fill a critical need.²³¹ In *O'Brien*, the court noted that the analysis of the utility of a product also involves the consideration of whether the product is considered essential, one that fills a critical need, or a luxury item.²³² But the Court goes on to note that there are still those products, “including some for which no alternative exists, [that] are so dangerous and of such little use that under the risk-utility analysis, a manufacturer would bear the cost of liability of harm to others.”²³³ 3D-printed guns fall in this category because the likelihood that a 3D-printed gun would cause injury to a foreseeable user is high.²³⁴ At least one incident was already reported of a young man threatening to carry out a mass shooting at his school with a 3D-printed weapon because it “could not be traced back to him.”²³⁵ With the rate of mass murders in the United States, it is foreseeable that those who are not legally allowed to purchase a weapon, such as mentally ill persons, terrorists, or convicted felons, would use a plastic untraceable gun to cause injury to others in hopes of avoiding the legal requirements involved in purchasing a traditional weapon.²³⁶

Additionally, the design of the product, specifically the fact that it looks like a children’s toy, makes it even less safe and the probability of injury even higher.²³⁷ With numerous anecdotal examples of children harming themselves after picking up a conventional firearm, it is highly foreseeable that a young child would pick up a plastic 3D-printed gun because he mistook it for a toy.²³⁸

231. See *O'Brien*, 463 A.2d at 306.

232. *Id.*

233. *Id.*

234. See *Washington*, 318 F. Supp. 3d at 1261.

235. Reavy, *supra* note 10.

236. See Fox, *supra* note 3 (noting that “[t]here are more public mass shootings in America than in any other country in the world”).

237. See *Washington*, 318 F. Supp. 3d at 1261 (stating in dicta that “the toy-like appearance [of the gun] increases the risk of unintentional discharge, injury, and/or death”).

238. See, e.g., *Halliday v. Sturm, Ruger & Co.*, 792 A.2d 1145, 1147–48 (Md. 2002) (providing details on how a three-year-old child died after taking a firearm from under a mattress and loading it with a magazine); *Smith v. Bryco Arms*, 33 P.3d 638, 641–42 (N.M. Ct. App. 2001) (detailing the accidental shooting of a fourteen-year-old boy by his fifteen-year-old friend).

C. *Publishing CAD Files Online is an Ultrahazardous Activity*

Publicly releasing files on the internet that allow anyone to print a plastic, undetectable weapon is an abnormally dangerous activity.²³⁹ In *Rylands*, the court held that a defendant who chooses to engage in an ultrahazardous²⁴⁰ activity should bear the costs and be liable for any damage that is the “natural consequence” of his activity.²⁴¹ Generally, courts have declined to hold that use of firearms is ultrahazardous and is a matter of common usage.²⁴² For example, in *Miller*, the court held that even though guns are dangerous, and even highly dangerous, when analyzed under the criteria stated in the Restatement, their use cannot be classified as ultrahazardous.²⁴³ First, the court concluded that the risk of harm to persons and property can be eliminated by exercise of reasonable care, whereas the doctrine of strict liability is applicable to those activities for which “no degree of care can truly provide safety.”²⁴⁴ Second, the court also concluded that the use of firearms is a matter of common usage and the harm comes from improper usage, not from their inherent dangers.²⁴⁵ However, in *Miller*, the court was faced with an issue involving a traditional weapon, but the particular nature of a 3D-printed gun makes it different from a regular gun.²⁴⁶ The doctrine of strict liability should be applicable because no degree of care can truly provide safety in the case of 3D-

239. An activity is abnormally dangerous when it “creates a foreseeable and highly significant risk of physical harm even when reasonable care is exercised by all actors; and the activity is not one of common usage.” RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL & EMOTIONAL HARM § 20 (AM. LAW INST. 2010).

240. Some judicial opinions use the terms “ultrahazardous” and “abnormally dangerous” interchangeably. The first Restatement used the term “ultrahazardous” and applied it to an activity that “necessarily involves a risk of serious harm to the persons, land or chattels of others which cannot be eliminated by the exercise of the utmost care and . . . is not a matter of common usage.” The Second and Third Restatements use the term “abnormally dangerous” and make the decision of whether something is abnormally dangerous depend on the location and that nature of the activity that takes place. See RESTATEMENT (THIRD) OF TORTS: PRODS. LIAB. §§ 1–2 (AM. LAW INST. 1998).

241. *Rylands v. Fletcher*, 1 L.R.-Exch. 265 (1866) (holding that a landowner was strictly liable for all the natural and probable consequences of his activities); see also *Miller v. Civil Constructors, Inc.* 651 N.E.2d 239, 241–42 (Ill. App. Ct. 1995) (stating in dicta that best known applications of *Rylands* rule involve imposing strict liability in relation to storage and use of explosives and flammable materials).

242. See *Miller*, 651 N.E.2d at 242.

243. *Id.* at 243.

244. *Id.* at 245.

245. *Id.*

246. *Id.*; see *Washington v. U.S. Dep’t of State*, 318 F. Supp. 3d 1247, 1261 (W.D. Wash. 2018) (noting the plastic, toy-like appearance of a 3-D-printed weapon is distinct and more dangerous than a conventional firearm).

printed weapons. In other words, as currently designed, 3D-printed guns are dangerous because they are untraceable, plastic, easily mistakable for a children's toy, and anyone could get access to them.²⁴⁷ Additionally, the use of 3D-printed weapons, unlike traditional guns, is not a matter of common usage, nor is it subject to any of the traditional safeguards applicable to regular weapons.²⁴⁸ However, despite the inherent dangers associated with these plastic weapons, based on precedent it is unlikely that the release of the CAD files would be classified as ultrahazardous as the courts have traditionally been very hesitant to expand the pool of activities considered ultrahazardous.²⁴⁹

Further, 3D-printed weapons are similar to "Saturday Night Special" guns, in that they are also poor quality, easy to conceal, easily accessible, and unfit for any legitimate use by law enforcement, sportsmen, or homeowners because they are inaccurate and poorly made.²⁵⁰ In *Kelley*, the court concluded that these types of weapons are more likely to give rise to public danger when they are in the hands of criminals.²⁵¹ Similarly, 3D-printed weapons may likely become prominent among handguns involved in crime because they are easily accessible and undetectable by standard metal detectors.²⁵² In *Washington*, the court expressed great concern that the undetectable and untraceable nature of the 3D-printed guns poses a unique danger, concluding that their further publication "is not harmless."²⁵³ However, Maryland was the only state to actually ban the sale of "Saturday Night Specials," and a subsequent study showed that their ban did not decrease firearm homicide rates which was the primary reason behind the law.²⁵⁴ Additionally, a commercial seller of CAD files could argue that, aside from the lack of a safety feature, a 3D-

247. See *Washington*, 318 F. Supp. 3d at 1263 (noting that "[t]he very purpose for which the private defendants seek to release this technical data is to arm every citizen outside of the government's traditional control mechanisms of licenses, serial numbers, and registration. It is the untraceable and undetectable nature of these small firearms that poses a unique danger").

248. *Supra* Section II.B.

249. *Supra* Section II.B.

250. *Supra* Section II.B (discussing a category of weapons known as "Saturday Night Specials").

251. *Kelley v. R.G. Indus., Inc.*, 497 A.2d 1143, 1153-54 (Md. 1985); see also *City of N.Y. v. A-1 Jewelry & Pawn, Inc.*, 501 F. Supp. 2d 369, 379 (E.D.N.Y. 2007) (discussing "Saturday Night Special" guns and stating that certain brands of cheap handguns are more likely to give rise to public danger when they are in the hands of criminals).

252. See Webster, *supra* note 162, at 406.

253. 318 F. Supp. 3d 1247, 1263 (W.D. Wash. 2018).

254. See Webster, *supra* note 162, at 406.

printed weapon is not different than other weapons which can also be easily concealable, fairly cheap, and easily accessible. It is foreseeable that a criminal would use a fully functional, untraceable, 3D-printed weapon to commit a crime. Courts generally hold that an intervening criminal act by a third party cuts off liability, unless the intentional act is foreseeable.²⁵⁵ Though the court in *McCarthy* dismissed the claims against a bullet manufacturer, concluding that some products, such as knives and bullets, must be, by their very nature, dangerous to be functional, the nature of the 3D-printed gun makes it different than other weapons. In *McCarthy*, the dissent noted that “an intervening act may not serve as a superseding cause, and relieve an actor of responsibility, where the risk of the intervening act occurring is the very same risk which renders the actor negligent.”²⁵⁶ Further, the majority agreed that the criminal act such as a mass shooting is foreseeable and stated that the jury should be the one to decide the issue of proximate cause.²⁵⁷ Similarly, the risk that Defense Distributed is creating by selling blueprints for weapons that anyone can download is the risk that these products are going to be ultimately used to commit crimes.²⁵⁸

The very design of this particular gun makes it even more foreseeable that someone would misuse it. 3D-printed guns are undetectable by standard metal detectors, they do not require a background check or registration, and they are easily accessible, including to those groups of individuals who are barred by law from obtaining a gun, such as children, convicted felons, and the mentally ill.²⁵⁹ For these reasons, it is highly foreseeable that criminals would use the 3D-printed gun for criminal activity, and the defective design is what makes Defense Distributed ultimately liable.

Defense Distributed’s CAD files contain a design defect that makes them unreasonably dangerous to the purchaser because they allow for unregulated self-production of plastic, toy-like, untraceable weapons.

255. See, e.g., *McCarthy v. Olin Corp.*, 119 F.3d 148, 154–55 (2d Cir. 1997); *Young v. Bryco Arms*, 765 N.E.2d 1, 18–19 (Ill. App. Ct. 2001), *rev’d*, 213 Ill. 2d (Ill. 2004). The Restatement is somewhat vague on what constitutes a foreseeable intervening act, and simply states that intervening acts that are “unforeseeable, unusual, or highly culpable” may be outside the scope of the risk. RESTATEMENT (THIRD) OF TORTS: LIAB. FOR PHYSICAL & EMOTIONAL HARM § 34, cmt. e (AM. LAW INST. 2010).

256. *McCarthy*, 119 F.3d at 165 (Calabresi, J., dissenting).

257. See *id.* at 151, 157. The court ultimately declined to grant certification and affirmed the district court’s judgment. *Id.*

258. Though not a products liability case, in *Washington v. United States Department of State*, the court expressed concerns that these weapons will be used for criminal activity and even terrorism due to their characteristics. 318 F. Supp. 3d 1247, 1259, 1263 (W.D. Wash. 2018).

259. See *id.*

These weapons pose an unreasonably high risk of injury to foreseeable users such as young children who might easily mistake a 3D-printed gun for a toy. Strict liability laws dictate that a “commercial seller” that introduces a defective “product” into the stream of commerce can be held strictly liable for injuries arising from defects of his products. Because Defense Distributed meets these criteria, it can be held strictly liable for injuries caused by 3D-printed guns.

CONCLUSION

The invention of 3D-printing has the potential to change our lives—from how we eat and shop, to how we do business and how fast we can cure diseases. Aside from the positive changes, 3D printing poses serious safety concerns because it allows for printing of plastic, untraceable, deadly weapons. This Comment argues that commercial sellers such as Defense Distributed can be held strictly liable for injuries caused by 3D-printed guns under the products liability doctrine because the design of CAD files makes the 3D-printed guns unreasonably dangerous. Furthermore, public policy underlying strict liability justifies holding commercial sellers liable for injuries caused by their products.²⁶⁰ For example, as a commercial seller that sells, manufactures, and markets the blueprints for 3D-printed guns, Defense Distributed took on a special responsibility that requires it to bear the costs of accidents that are proximately caused by defects in its products.

As previously discussed, the printing of 3D firearms is not currently subject to federal regulation, and the few state efforts to pass 3D gun printing laws have so far been largely unsuccessful. While commercial sellers of CAD files should be held strictly liable for injuries caused by 3D-printed guns for reasons discussed in this Comment, doing so would only serve to address liability after the injury has already happened. Further, courts have not yet addressed whether a CAD file is a “product” for the purpose of imposing strict liability and imposing liability under the current law will likely prove challenging because 3D printing technology changes the traditional roles of sellers, manufacturers, and consumers. A commercial seller of CAD files would likely argue that a CAD file is not a product, and even if it were, the designer should not be held liable for injuries arising out of the end product because someone else actually printed the gun.

260. See *Brocklesby v. United States*, 767 F.2d 1288, 1295 (9th Cir. 1985); *Escola v. Coca-Cola Bottling Co.*, 150 P.2d 436, 444 (Cal. 1944); see also *Lindenfeld*, *supra* note 86, at 95 (concluding that holding CAD designers strictly liable for defects in 3D-printed medical devices is most consistent with the policy objectives of strict liability law).

Additionally, if a designer of a CAD file were to change the design to include a safety device, it would seemingly make these weapons safer and potentially allow the designer to avoid being subject to strict liability. For these reasons, and due to the immediate and dangerous potential for serious harm, policymakers should impose restrictions on the manufacture of 3D-printed weapons.²⁶¹ Many states have taken steps to ban 3D-gun printing, and in 2013, Philadelphia became the first city in the United States to do so.²⁶² Congressmen from Rhode Island, New Jersey, California, Massachusetts, and others have plans to introduce bills that would ban 3D-printed guns.²⁶³ Enacting laws that directly ban 3D-gun printing across the nation may be the most direct way to immediately prevent injuries from misuse of such products.²⁶⁴

261. See Thierer & Marcus, *supra* note 7, at 839.

262. Alexis Kleinman, *Philadelphia Is the First U.S. City to Ban 3D Printed Guns*, HUFFINGTON POST (Nov. 26, 2013, 2:49 PM), https://www.huffingtonpost.com/2013/11/26/3d-gun-philadelphia_n_4344733 [<https://perma.cc/8LQ6-8A5F>]; see also Jonathan Danielczyk, *3-D Printed Guns: A Developing Technology with Dangerous Potential*, 17 PITT. J. TECH. L. & POL'Y 17, 27–29 (2017) (analyzing the validity of laws that ban 3D-printed weapons).

263. See Greenberg, *supra* note 39 (stating that New York congressmen have called for renewed legislation to ban any firearm that cannot be detected in a metal detector; *Britain updates rules banning 3-D printer guns*, REUTERS (Dec. 5, 2013, 10:25 AM), <https://www.reuters.com/article/us-britain-guns/britain-updates-rules-banning-3d-printer-guns-idUSBRE9B40OV20131205> [<https://perma.cc/36K8-4ZRA>] (discussing British law that makes 3D printing of guns illegal and punishable by up to 10 years in prison); see also *Firearms Control Legislation and Policy: Singapore*, LIB. OF CONG., <https://www.loc.gov/law/help/firearms-control/singapore.php> [<https://perma.cc/C7C6-NZEP>] (Singapore has the toughest gun control laws in the world, and printing an unlicensed gun is punishable by death).

264. Such legislation would likely face backlash for its potential to infringe on First and Second Amendment rights. Although, in *Washington v. United States Department of State*, the court concluded that the government's interest in protecting national security outweighed interest in protecting First Amendment rights. See 318 F. Supp. 3d 1247, 1263–64 (W.D. Wash. 2018).